Performance Qualification CARD No. 8816

Processes SMAW SMAW Materials (P. No.) 1/1 1/1 1/1

Filler Metal (F. No.) F3 F4 Min. Diameter 25mm OD

Max. Deposited Weld Metal 6mm MAX Position(s) Qualified ALL

Backing OPTIONAL Backing Gas N/A

Progression UPHILL

24 Sept 2012 [illegible signature] E6010

PQ Expiry Date Welding Examiner Signature File No.

6515-C-270-007

Fuel Tanks Piping Supply and Installation

Inspection Deficiency Log

Document Number : AEM-GE-LOG-004
Contract Number : C22466T / C22498E

Number	Description	Initiator	Dept.	Date	Contract No.		Progress Status
Deficiency-001	Broken Handle on man door operator room - Pumping Station Rankin	Promec	Piping	5-Sep-17	C22466T/C22498E		
Deficiency-002	Ripped door hinges - Damage Reported by Andrew Martin AEM - Becancour	AEM/Promec	Piping	5-Sep-17	C22466T/C22498E		
Deficiency-003						N/A	
Deficiency-004						N/A	
Deficiency-005						N/A	
Deficiency-006						N/A	
Deficiency-007						N/A	
Deficiency-008						N/A	
Deficiency-009						N/A	
Deficiency-010						N/A	
Deficiency-011						N/A	
Deficiency-012						N/A	
Deficiency-013						N/A	
Deficiency-014						N/A	
Deficiency-015						N/A	
Deficiency-016						N/A	
Deficiency-017						N/A	
Deficiency-018						N/A	
Deficiency-019						N/A	
Deficiency-020						N/A	
Deficiency-021						N/A	
Deficiency-022						N/A	
Deficiency-023						N/A	
Deficiency-024						N/A	
Deficiency-025						N/A	
Deficiency-026						N/A	
Deficiency-027						N/A	
Deficiency-028						N/A	
Deficiency-029						N/A	
Deficiency-030						N/A	
Deficiency-031						N/A	
Deficiency-032						N/A	
Deficiency-033						N/A	
Deficiency-034						N/A	
Deficiency-035						N/A	
Deficiency-036						N/A	
Deficiency-037						N/A	
Deficiency-038						N/A	
Deficiency-039						N/A	
Deficiency-040						N/A	

Agnico-Eagle Mines Ltd.
Inspection Deficiency Report

ITR Number : AEM-GE-ITR-005
Contract no. : C22466T / C22498E

AGNICO EAGLE

Area: Rankin Inlet	CWP No: C-270-007
Equipment Tag No: Pumping Station Rankin	Inspection Deficiency Report No: 001
Date: 2017-09-05	Page 1 of 4

Reference Drawings: Not applicable

Reference Photos: IMG-0835, IMG-0836, Crushed Gutter_Container Rankin

Description of Deficiency:

Broken Door Handle of man door operator room side, as-found on Rankin Pumping Station Container.

Bump on container top back side wall, as-found on Rankin Container.

Crushed gutter above door on Pumping Station Container, as-found.

Suggested Solution: Purchase and replacement of the handle.
Repair the gutter, if possible, if not, purchase a new one and replacement.
Repair the bump (small puncture)on the wall, if possible.

Engineering Contact Made: Yes ☐ No ☐ Name:

Course of Action:

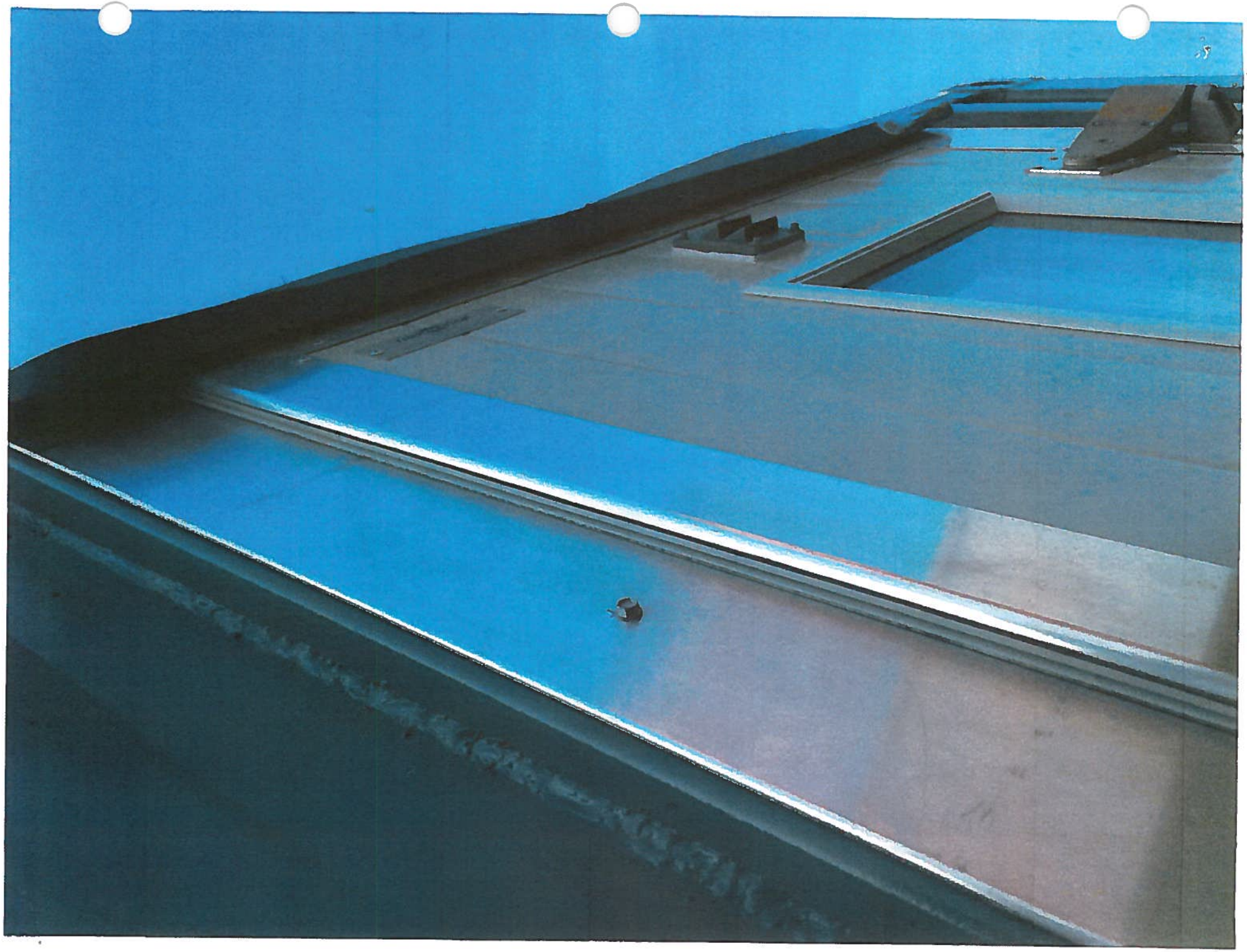
Engineering Follow-up Required: Yes ☐ No ☐ Date Required:

Robbie Lunette
Promec's Representative Print Name

Stephane Gionet
Client's Representative Print Name

Promec's Representative Signature — Date 07/09/17

Client's Representative Signature — Date 07 Sept. 2017



Agnico-Eagle Mines Ltd.
Inspection Deficiency Report

ITR Number : AEM-GE-ITR-005
Contract no. : C22466T / C22498E

AGNICO EAGLE

Area: Rankin Inlet - Port of Becancour	CWP No: C-270-007
Equipment Tag No: Filtration Container	Inspection Deficiency Report No: 002
Date: 2017-09-05	Page 1 of 5
Reference Drawings: Not applicable	
Reference Photos: IMG_1352, IMG_1351, IMG_1350, IMG_1349	

Description of Deficiency:
Damage reported by Andrew Martin, handling in port of Becancour.
Ripped door hinges. See pictures.

Suggested Solution: Purchase and replacement of ripped hinges.

Engineering Contact Made: Yes ☐ No ☐ Name:

Course of Action:

Engineering Follow-up Required: Yes ☐ No ☐ Date Required:

Robbie Kmoth

Promec's Representative Print Name

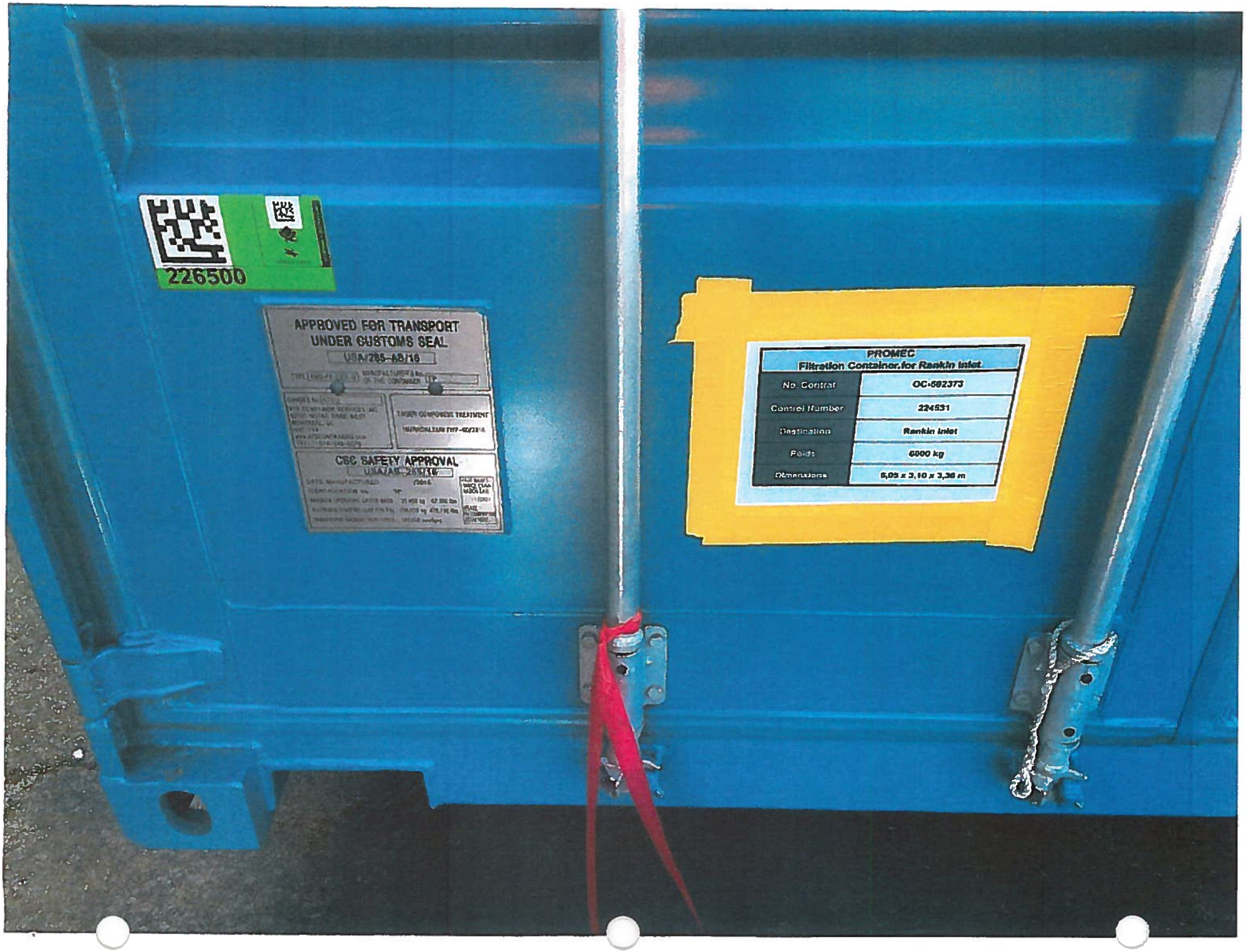
Client's Representative Print Name

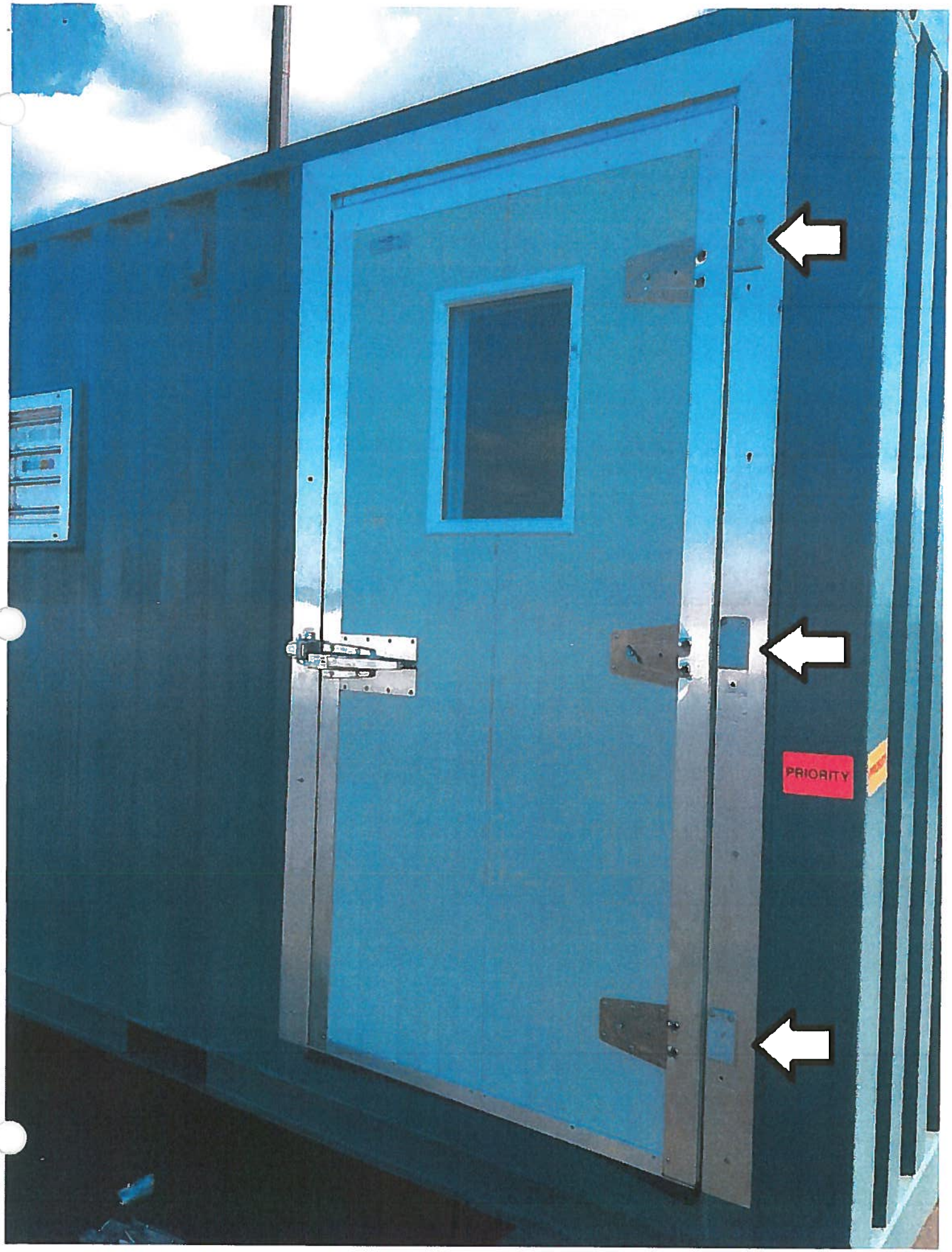
Promec's Representative Signature

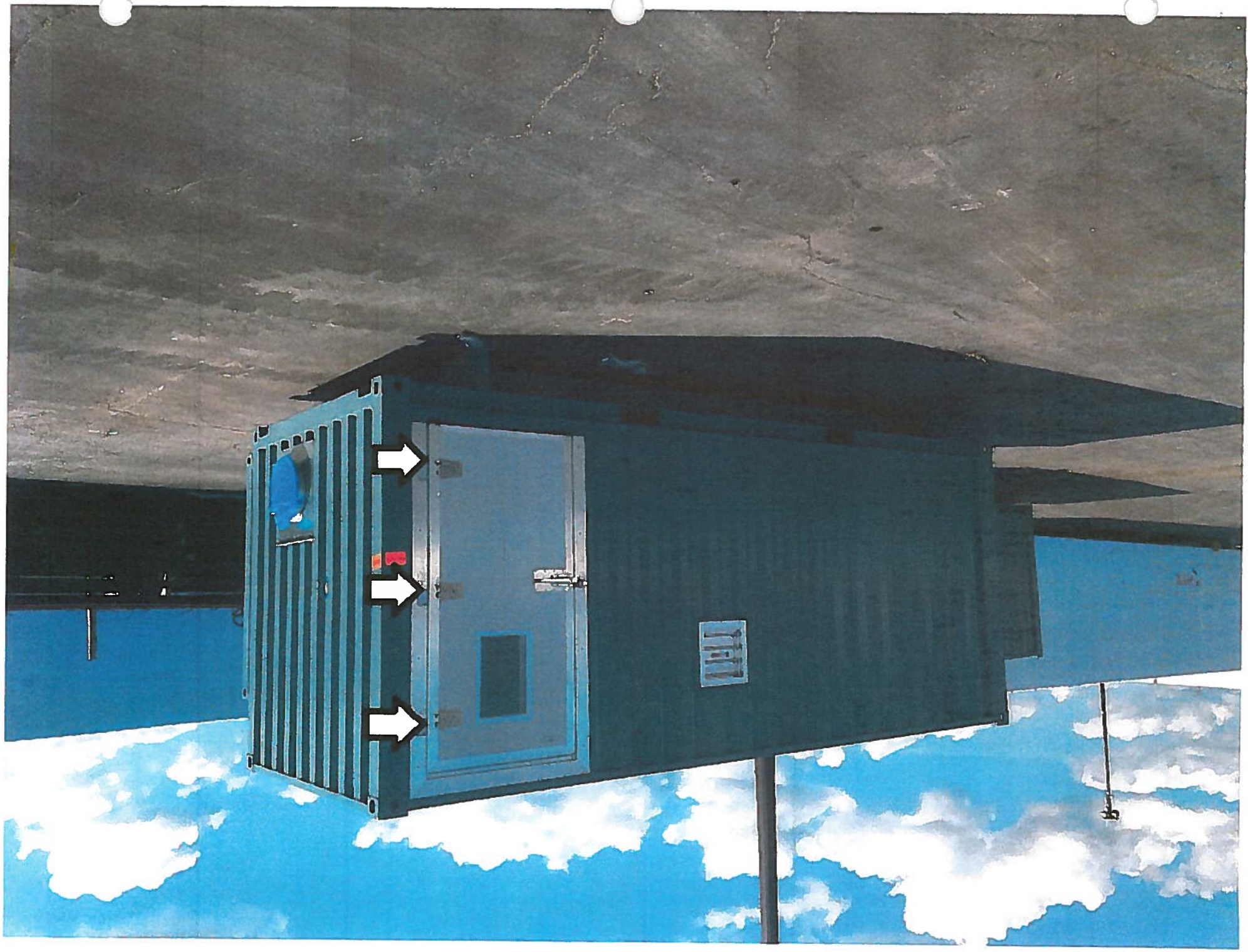
Date

Client's Representative Signature

Date


226500
APPROVED FOR TRANSPORT
UNDER CUSTOMS SEAL
CSC SAFETY APPROVAL
PROMEC
Filtration Container for Rankin Inlet
No. Contrat
OC-592373
Control Number
224531
Destination
Rankin Inlet
Poids
6000 kg
Dimensions
6,05 x 3,10 x 3,36 m


PRIORITY



AGNICO EAGLE

Vendor Document Status

1 ☐ Proceed to next submission and status.

2 ☐ Proceed with exceptions as noted to next submission and status.

3 ☐ Do not proceed.
Revise as noted and resubmit next submission and status.

4 ☑ Complete, no further submission required.

By: Jean-Francois Tremblay Date: 2017-05-02

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Agnico Eagle No. 6515-C-270-007-141-TES-0017 R: Sub001

DOCUMENT FOR INFORMATION

Agnico-Eagle Mines Ltd.
Inspection Deficiency Report

ITR Number : AEM-GE-ITR-005
Contract no. : C22466T / C22498E

Area:	CWP No:
Equipment Tag No:	Inspection Deficiency Report No:
Date:	Page_____ of _____
Reference Drawings:	
Reference Photos:	
Description of Deficiency:	
Suggested Solution:	
Engineering Contact Made: Yes ☐ No ☐	Name:
Course of Action:	
Engineering Follow-up Required: Yes ☐ No ☐	Date Required:

Promec's Representative Print Name		Client's Representative Print Name	
Promec's Representative Signature	Date	Client's Representative Signature	Date

6515-C-270-007

Fuel Tanks Piping Supply and Installation

Inspection Deficiency Log

Document Number : AEM-GE-LOG-004
Contract Number : C22466T / C22984E

Number	Description	Initiator	Dept.	Date	Contract No.		Progress Status
Deficiency-001						N/A	
Deficiency-002						N/A	
Deficiency-003						N/A	
Deficiency-004						N/A	
Deficiency-005						N/A	
Deficiency-006						N/A	
Deficiency-007						N/A	
Deficiency-008						N/A	
Deficiency-009						N/A	
Deficiency-010						N/A	
Deficiency-011						N/A	
Deficiency-012						N/A	
Deficiency-013						N/A	
Deficiency-014						N/A	
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Deficiency-033						N/A	
Deficiency-034						N/A	
Deficiency-035						N/A	
Deficiency-036						N/A	
Deficiency-037						N/A	
Deficiency-038						N/A	
Deficiency-039						N/A	
Deficiency-040						N/A	

Vendor Document Status

AGNICO EAGLE

1 ☐ Proceed to next submission and status.

2 ☐ Proceed with exceptions as noted to next submission and status.

3 ☐ Do not proceed.
Revise as noted and resubmit next submission and status.

4 ☑ Complete, no further submission required.

By: JEAN-FRANCOIS TREMBLAY Date: 2017-05-16

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Agnico Eagle No. 6515-C-270-007-141-TES-0020 R: Sub001

DOCUMENT FOR INFORMATION

AIRMP.CA

Custom HVAC manufactured products

Inspection report – As built unit dimensions

Contract number : Amp17-17 (PS1-103)

Client : Groupe promec inc.

CLIENT IDENTIFICATION:

Monitored points	C	NC	NN	Comments	Reference documents
Validation of dimensions according to plans	☑	☐	☐		

C : complying NC : non-complying NN : not-needed

Verified by : Karen Gendreau-Lacoste **Signature :** Karen G. Lacoste **Date :** 26 mai 2017

Reviewd by : Richard Piquette, Operations director **Signature :** _____ **Date :** _____

AIRMP.CA
Custom HVAC manufactured products

Inspection report - General

Contract number : AMP17-17 (PSI-103)
Client : Groupe promec inc.

CLIENT IDENTIFICATION:

1. General look of the container

Points subject to monitoring	C	NC	NN	Comments	Reference dosumentation
1,1 State of the doores (joints, windows, etc.)	☑	☐	☐		
1,2 General structure state	☑	☐	☐		
1,3 Inside finnish	☑	☐	☐		
1,4 Sticker installation (Coils, units, etc.)	☐	☐	☑		
1,5 Cleanliness	☑	☐	☐		
1,6 Sealant joints	☑	☐	☐		

C : complying NC : non-complying NN : not-needed

2. OTHER INTEGRATED EQUIPMENTS & TESTS					
Points subject to monitoring	C	NC	NN	Comments	Reference dosumentation
2,1 Insulation (Installation as per specification)	☑	☐	☐		
2,2 Vents and piping	☐	☐	☑		
2,3 Watertight containment and drains	☑	☐	☐		
2,4 Filters and framing (state, type, number, arrangements, etc.)	☐	☐	☑		
2,5 Lights, sockets, switches (type, number, etc.)	☐	☐	☑		
2,6 Instrumentation (pressure, flow, temperature, etc.)	☐	☐	☑		
2,7 The state and disposition of other components (burner, water seperator, special filters, humidifier, electrical coils, etc.)	☐	☐	☑		
2,8 Silencers, valves, air scrubbers, etc.	☐	☐	☑		
2,9 Detailed pictures	☑	☐	☐		
2,10 Nameplates	☑	☐	☐		
					C : complying NC : non-complying NN : not-needed

Verified by : Karen Gendreau-Lacoste **Signature :** Karen G. lacoste **Date :** 26 mai 2017

Reviewed by : Richard Piquette, Operations director **Signature :** _____ **Date :** _____

AGNICO EAGLE

Vendor Document Status

1 ☐ Proceed to next submission and status.

2 ☐ Proceed with exceptions as noted to next submission and status.

3 ☐ Do not proceed.
Revise as noted and resubmit next submission and status.

4 ☑ Complete, no further submission required.

By: Joël Morliere Date: 2017-06-05

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Agnico Eagle No. 6515-C-270-007-265-EDS-0034 R: Sub002

DOCUMENT FOR INFORMATION

WSP

SHOP DRAWING DATA SHEET

Affixing this stamp confirms that an administrative approval and/or a verification of compliance with shop drawings or specifications was made, but does not entail the liabiiity of the author of the work or its owner with regards to this shop drawing or data sheet, for which the contractor is the sole responsible.

☑ Reviewed ☐ Reviewed as noted

☐ Rejected ☐ Filed for records

The contractor, supplier and/or sub-contractor is responsible for: comfirming and coordinating all quantities and dimensions; selecting fabrication processes and techniques of construction; coordinating his or her work with that of all other trades and performing all work in a safe and satisfactory manner.

By: J. Morliere Date: 2017/06/05

G-ADM-ZZZ-82-11E-2 Project #: 151-06440-40

AIRMP.CA
Manufacturier de produits CVAC sur mesure

750, rue Saguenay
Rouyn-Noranda (Québec) J9X 7B5

Téléphone : 819 797-1234
Télécopieur : 819 762 3801

PRE FABRICATED BUILDING

TECHNICAL SPECIFICATION

Equipment:	**6515-103, Pumping station**
Date:	**May** 23 **2017**
Client :	**PROMEC**
Responsable:	**Eric Poulin, piping Director**
Contract:	**AMP17-17**
Revision :	For fabrication
Submitted by :	**Francis St-Pierre, Ing.**
Serial number :	**AMP00378**

Table of Contents

1. General characteristics
2. Fabrication characteristics
3. Fabrication characteristics (continued)
4. General arrangement drawings

Nomenclature

AMP -	PFB	2	160	E

BRAND
AMP- AIR MP

MODEL
PFB- PRE FABRICATED BUILDING

AHU- AIR HANDLING UNIT

INSTALLATION
1- INTERIOR
2- EXTERIOR

FT²

TYPE OF BUILDING

E- E-HOUSE
M- MECHANICAL ROOM

1. General characteristics

AIRMP

Manufacturier de produits CVAC sur mesure

Project : 6515-103, Pumping station
Client : Promec

General characteristics

Type of unit

- ☐ Recirculation
- ☐ Cooling
- ☐ Filtration
- ☐ Heating
- ☒ Shelter
- ☐ Evacuation
- ☐ Air compensation

Emplacement

- ☐ Interior
- ☒ Exterior

Dimensions

	Length	Width	Height
Building (mm)	6058	2438	2591
Estimated weight	5 500 kg		

By others

- ☒ Support pilars
- ☒ On site assembly
- ☒ Electrical integration
- ☒ HVAC
- ☒ Lighting services

Notes :

Standard 20' container

2. Fabrication characteristics

AIRMP
Manufacturier de produits CVAC sur mesure

Project : 6515-103, Pumping station
Client : Promec

Fabrication characteristics

Structure : 20 foot standard container

	Tôle				Gauge				Insulation		Thickness			R value
	AL	CP	GA	P	1/8	1	20	26	AI	TI	2"	4"	10"	
Interior finish	☐	☒	☐	☒	☐	☐	☐	☐	☐	☒	☐	☒	☐	26
Exterior finish	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	--
Ceiling	☐	☒	☐	☒	☐	☐	☐	☐	☐	☒	☐	☒	☐	26
Roof	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	--
Floor	☐	☐	☐	☐	☐	☐	☐	☐	☐	☒	☐	☒	☐	26

Finish

	Specification
Structural steel	Prep: Sandblast SSPC6 / Paint: Epoxy Barust 235, 8 to 12 mils dry
Exterior finish	Paint: Solvent clean SSPC1 / Polyurethane "Decthane 359" 2 to 3mils dry, Color: Slate Blue (QC 8260)
Inside finish	Galvanized grating on floor. Cement panels on walls.

AL:	ALuminum checker plate	CP:	Cement panel ½"	GA:	Galv. sheet metal	P:	Plywood ¾"
AI:	Acoustic insulation	TI:	Thermal insulation				

5/10/17 16:31:26

EMAIL PAGE COUVERTURE

==========

Société: Acier Leroux - Amos

5/10/17 16:31:26 Document Sommaire

Page couverture 1

Objet: MILL TEST CERTIFICATE

NO.COMMANDE :89337400

No.Bc Du Client :AIR-1822

City : ROUYN-NORANDA State/Province . QC

Séquence correspondant au(x) MTR imprimé(s):

Description item:	Coulée	MTR
1/8 X 1 19-4 CAILLEBOTIS GALV	LETTRE CONFORME	089026959

FISHER & LUDLOW
A NUCOR Company

CERTIFICAT DE CONFORMITÉ 2017

ACIER LEROUX
1331 Graham Bell
Boucherville, Qc
J4B 6A1

ATTN: Chantal Boisvert

A qui de droit,

Fisher & Ludlow certifie que le matériel utilisé pour la fourniture et/ou la fabrication du caillebotis soudé en acier, décrit ci-dessous, selon votre commande, est conforme à la norme de NAAMM MBG 531-00, NAAMM MBG 532-00.

DESCRIPTION	SPECIFICATION
Caillebotis et attaches	
Non peint, peint noir et galvanisé	ASTM -A1011/A1011M
Aluminium	ASTM -B221/B221M
Acier inoxydable	ASTM - A666
Planches de sécurité Grip Span & Shur Grip	
Pre-galvanise	(G90) - (ASTM - A653)
Aluminium	5052-H32 (ASTM-B209)
Acier inoxydable	(ASTM - A666)
Barreaux d'echelles et feuilles "Shur Step"	
H.R.P.O.	(ASTM - A569/A569M)
Alumnium	5052-H32 (ASTM-B209)
Acier inoxydable	(ASTM - A666)

Fisher & Ludlow Division Nucor
12450, Boul. Industriel Montreal, Pointe-aux-Trembles, Qc H1B 5M5
Tel: 514.640.5085 1.800.268.6277 *Télécopieur/Fax:* 514.640.1115

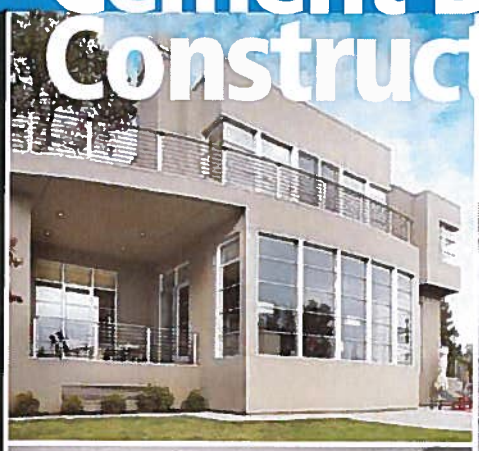
LEROUX

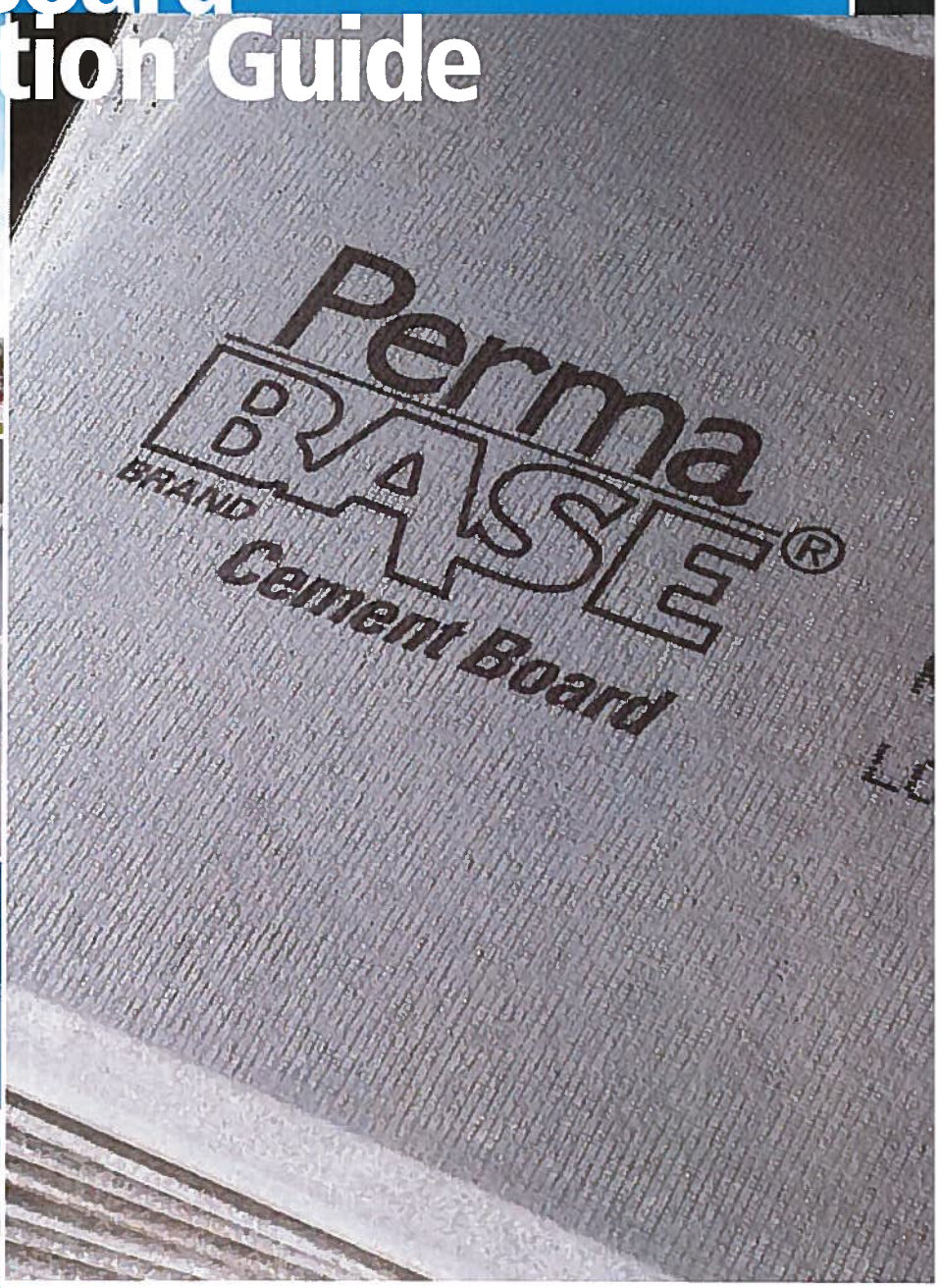
089026959

PermaBase[MD] BRAND

09 28 00/NGC

Cement Board Construction Guide





UNIFIX INC.®

A Subsidiary Of National Gypsum Company

Helping You Build Better

Look Closer At The Best Cement Board Substrate

PermaBase[MD] Product Line At A Glance 4

PermaBase[MD] Cement Board..... 6

PermaBase PLUS[MD] Cement Board..... 9

PermaBase UltraBacker[MD] Cement Board..... 10

PermaBase Flex[MD] Cement Board..... 11

Installation Guide How And Where..... 12

Interior Applications 12

Accessories 12

Exterior Applications..... 15

Ventilate Rainscreen Façade. 16

Cement Board Masonry Veneer Wall Systems (CBMV)..... 17

Heat Shield 18

Fire-Rated Assemblies..... 18

PermaBase Over Foundation Walls..... 19

With High-Quality Products And Resources

Founded in 1925, National Gypsum is one of the world's largest producers of quality building products. For nearly a century, customers like you have looked to us for the best products, service and technical support. With a focus on sustainability, we strive to bring you the finest in construction products, education and resources to meet and exceed your expectations.

With Design That Considers The Environment

Together, we can attain the highest level of ecological responsibility and resource-efficient technology. National Gypsum is committed to developing and implementing sustainable green building policies, standards and practices. Beyond offering products that can help contribute to healthier environments and have achieved GREENGUARD Certification for indoor air quality, we can help you meet the criteria for green programs and LEED credits.

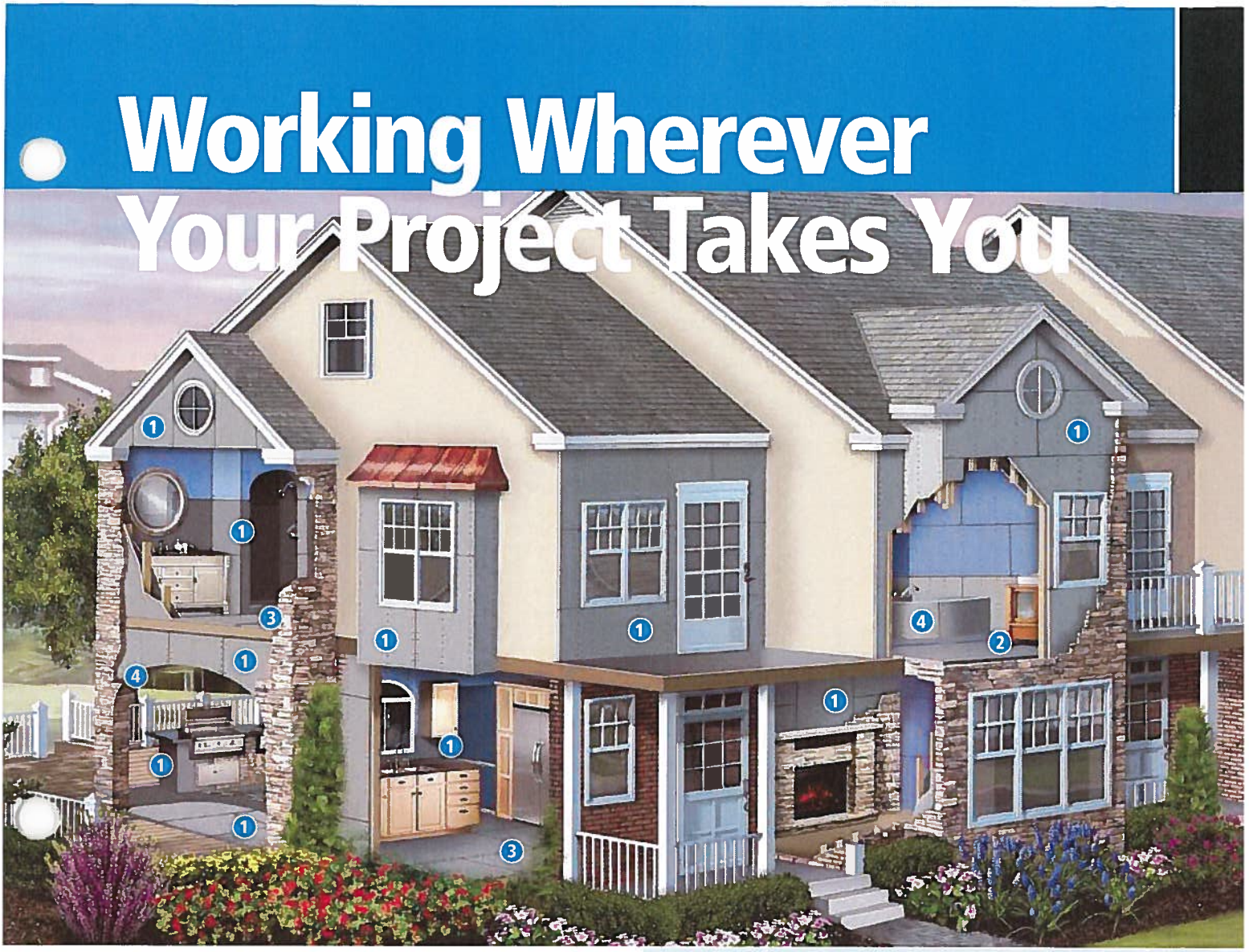
GREENGUARD GOLD

PRODUCT CERTIFIED FOR LOW CHEMICAL EMISSIONS: UL.COM/GG UL 2818

With Technical Support You Can Count On

Great products are nothing without great customer service. For detailed technical information about product applications, installation requirements, code requirements or roof and wall assemblies, call 1-800-NATIONAL[MD]. Talk directly to a technical expert with up-to-date knowledge of products, specifications, building codes and more. Our technical experts can even review your plans and drawings and get back to you with answers to your questions within 48 hours.

Working Wherever Your Project Takes You



Choose From Four Types Of PermaBase[MD] BRAND Cement Board:

More Hard-Working Varieties With Qualities You Can Depend On

With four types of PermaBase[MD] BRAND Cement Board to choose from, you'll find a match for most any project. This durable substrate withstands prolonged exposure to moisture in both interior and exterior applications. Lightweight and easy to install, PermaBase promises to deliver for the long run – with the industry's best warranties. It is also GREENGUARD Certified for low-chemical emissions, which can contribute to healthier indoor environments.

Saving You Time And Money

These exclusive PermaBase features translate to cost savings for you:

EdgeTech[MD] Technology – This patented, reinforced edge allows fasteners to be installed closer to the board's edge and reduces damage from handling.

Polystyrene Beads – Embedded in the PermaBase core, these beads help to lighten the board's weight, improve the ease of cutting, and create lower water absorption, preventing the mortar/finish adhesive from drying prematurely.

Our PermaBase[MD] Product Family

1 PermaBase[MD] Cement Board

The original that set the industry standard.

2 PermaBase PLUS[MD] Cement Board

Weighs 25% less than other cement boards on the market.

3 PermaBase UltraBacker[MD] Cement Board

Provides excellent rigidity for special applications with the lowest water-absorption rate.

4 PermaBase Flex[MD] Cement Board

Very flexible yet strong, and ideal for use around archways, columns, stairwells – wherever an evenly curved surface is required.

APPLICATIONS

Product	Floors	Countertops	Walls	Ceilings	Exteriors
1/4" PermaBase	●	●	○	○	○
1/4" UltraBacker	●	●	○	○	○
7/16" PermaBase PLUS	●	●	●	●	●
1/2" PermaBase	●	●	●	●	●
1/2" PermaBase PLUS	●	●	●	●	●
5/8" PermaBase	●	●	●	●	●
5/8" PermaBase PLUS	●	●	●	●	●
1/2" PermaBase FLEX	○	○	●	●	●

Recommended: ● Yes ○ No

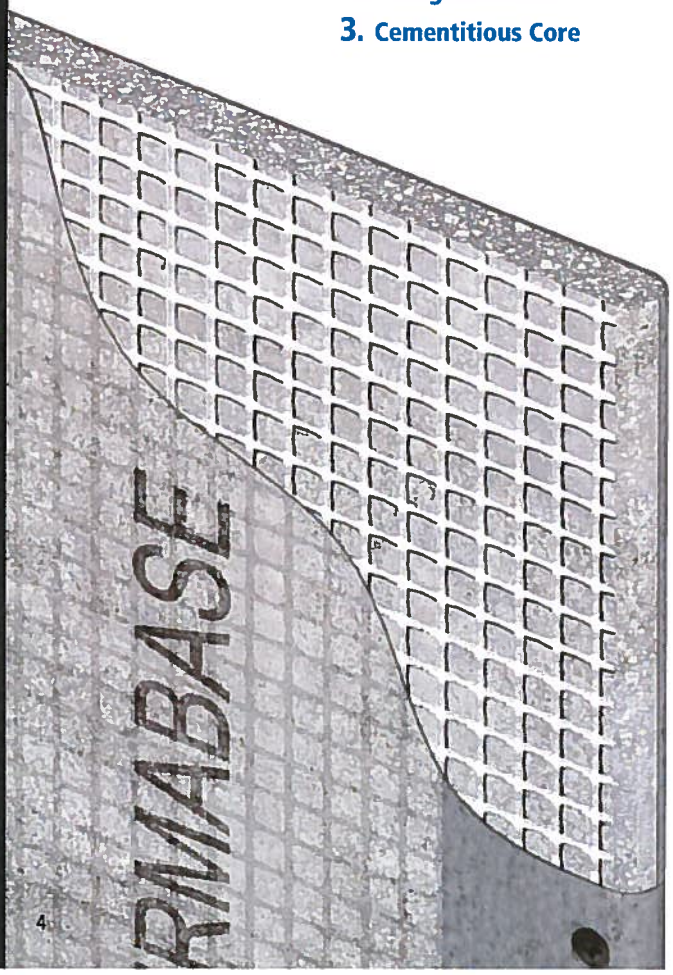
Building In Strength And Quality

Reinforce With The Best Rigid Substrate: PermaBase[MD] BRAND Cement Board

PermaBase[MD] provides a durable surface designed to withstand prolonged exposure to moisture. Made with Portland cement, aggregate and fiberglass mesh, it works well as an underlayment for tub and shower surrounds, countertops, flooring and a variety of other interior and exterior applications. Lightweight and easy to install, our patented EdgeTech[MD] Technology allows a closer nail or screw application.

Quality To The Core

1. **Patented Reinforced Edge**
2. **Fiberglass Mesh**
3. **Cementitious Core**



Resists Moisture Better

- Stays intact when exposed to water: will not rot, disintegrate or swell – built for the long run.
- Achieves the industry's lowest water-absorption rating (ASTM C473) – offering better installation.
- Helps inhibit mold growth with the highest possible score on mold tests (ASTM D3273 and ASTM G21).

Stays Strong And Lasts Long

- Resists impact and remains dimensionally stable – extending the life of your project.
- Holds up to the toughest conditions.

Installs Quickly

- Lightweight and easy to cut – speeding up installation.
- Reduces jobsite waste – easier, cleaner cut.
- Patented EdgeTech[MD] Technology allows for a closer edge fastening and reduces damage from handling.

Works For Interior And Exterior Projects

– One Panel, Many Applications

- Adhere tile, stone or thin brick directly to PermaBase in exterior applications – saving time and money.
- Durable substrate for direct-applied coating systems.
- Meets UL & ULC classifications for one- and two-hour fire-rated assemblies.
- Building code approved – one substrate that does the job of many.

Offers Best In Class Warranty

- Lifetime Limited Warranty: Interior applications.
- 15-Year Limited Warranty: Exterior applications.

What Sets PermaBase[MD] Apart From The Rest?

Physical Feature Benefits	PermaBase Cement Board	Other Cement Boards	Fiber Cement Boards
Low Weight Glass Mesh Cement Board	✓	○	○
Reinforced Edge	✓	○	○
Fastens Near Edge With No Breakout	✓	○	○
Highest Damage Resistancy From Handling	✓	○	○
Cleanest To Score And Snap	✓	○	○
Lowest Water Absorption	✓	○	○
Meets 40 psf Rating Wind Load Test Results (Stud spacing 16" o.c.)	✓	○	○
Cuts With Utility Knife Vs. Power Tools	✓	✓	○
Standard Fasteners Countersink Into Board	✓	✓	○
Can Be Used In Both Residential And Commercial Steam Rooms And Saunas	✓	✓	○
Inorganic Vs. Organic Core	✓	✓	○
Lifetime Limited Warranty For Interior Use	✓	✓	○
15-Year Warranty For Exterior Use	✓	○	○

Product Feature: ✓ Yes ○ No

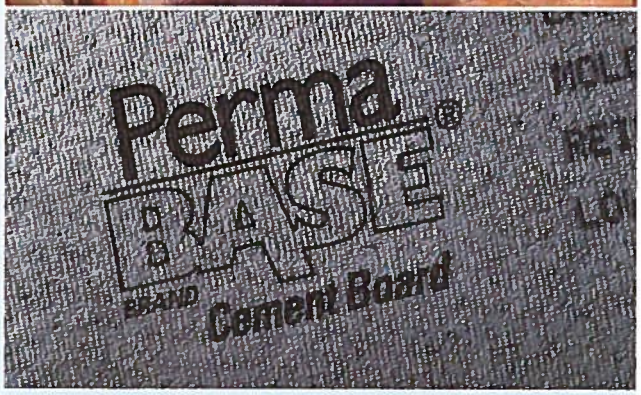
PermaBase[MD] BRAND Cement Board

Expanding Your Project Horizon

Dream Up Your Designs – Interior And Exterior

Install Fast, Cut Costs And Improve Quality With PermaBase[MD] BRAND Cement Board

- Stays strong – manufactured from cement and fiberglass reinforcement.
- Provides consistent quality – produced in a factory controlled environment and meets ASTM C1325.
- Remains dimensionally stable.
- Resists moisture and mold.
- Cuts and handles easily – patented EdgeTech[MD] Technology allows fasteners to be installed closer to the board's reinforced edge and reduces damage from handling.
- Absorbs less water – providing greater open time and increased workability of adhering materials.
- Offers performance enhancement options – stronger and lighter alternative to traditional methods.



Interior Applications

PermaBase[MD] is a superior underlayment for many interior applications, including:

- **Kitchens**
  - Countertops
  - Backsplashes
- **Bathrooms**
  - Shower and tub enclosures
  - Garden and whirlpool tubs
  - Steamrooms and saunas
- **Special Additions**
  - Swimming pool and whirlpool decks and enclosures
- **Flooring**
  - For kitchens and bathrooms
  - For entryways and foyers
  - For laundry rooms
- **Walls**
  - For bathrooms
  - For accent walls
  - For fireplaces

Exterior Applications

PermaBase provides an excellent substrate for many in-demand exterior applications, including Cement Board Masonry Veneer Wall System (CBMV), Cement Board Stucco System (CBSS), Continuous Insulation (CI), and Exterior Insulation and Finish System (EIFS). PermaBase allows the combination of exterior finishes on one continuous wall sheathing, providing greater design flexibility.

- Commercial exteriors
- Residential exteriors
- Outdoor kitchens
- Decks

Cement Board Masonry Veneer Wall System (CBMV)

Combine the strength and durability of PermaBase with the popular beauty of stone and thin brick veneers. Use in residential and low-rise commercial applications.

Cement Board Masonry Veneer Wall System is designed to:

- Offer a complete, engineered solution for installation.
- Provide increased performance by utilizing polymer modified adhesive mortars (designed for hanging materials) vs. type S and N mortars (developed for stacking materials).
- Speed up your schedule – faster, easier and cleaner than traditional metal lath/scratch coat method.
- Offer the ability to incorporate an effective water-management system (type and placement of water barrier will vary based on local codes and/or warranties).

Designs you can achieve with this system:

- Use for a variety of building exteriors with manufactured or natural stone and thin brick veneers.

Note: A code-approved Water/Air Resistive Barrier (WRB) must first be installed to protect the cavity. For limitations, please see page 17 (Installation Guide).

Cement Board Stucco Wall System (CBSS)

Combine the strength and durability of PermaBase with the performance and aesthetics of reinforced base coats and textured finishes. Use in residential and low-rise commercial applications.

Cement Board Stucco Wall System is designed to:

- Provide increased impact and weather resistance (appropriate for all climates).
- Resist dirt, fading, cracking and peeling.
- Speed up your schedule – easier, cleaner installation than traditional stucco.
- Provide drainage system to help prevent water from penetrating behind cladding in frame construction.
- Comply with ASTM D226, protecting approved sheathings/ structural components and helping to evacuate incidental water.

Designs you can achieve with this system:

- Attachment of special pre-molded shapes.
- Variety of finishes – many texture and color options.

Note: A code-approved Water/Air Resistive Barrier (WRB) must first be installed to protect the cavity. See page 17 (Installation Guide).

PermaBase[MD] BRAND Cement Board

More Reasons PermaBase Is Excellent For Exterior Applications

- Allows multiple finishes on one substrate.
- Saves time and labor when compared with field-applied metal lath, brown and scratch coat installations.
- Works rain or shine – less affected by jobsite weather conditions.
- Scores and snaps for quick installation.
- Qualifies for multiple-year system warranties.

PHYSICAL PROPERTIES

Property Method	Test	1/4"	7/16" PLUS	1/2"	5/8"
Water Absorption % By Weight/24 Hours	ASTM C473	<8	10	<8	<8
Flexural Strength (psi)	ASTM C47	>1750	750	750	>1000
Fastener Holding (Wet And Dry, lbs.) (0.400" head diameter)	ASTM D1037	>85	>90	>90	>90
Weight (psf)	ASTM C473	1.8	2.1	2.9	3.65
Freeze/Thaw (Cycles) Per ASTM C666 Procedure B	ASTM C666	100	100	100	100
Flame Spread/Smoke Developed	ASTM E84 CAN/ULC-S102	0/0	0/0	0/0	0/0
Compressive Strength (psi) (Indentation)	ASTM D2394	N/A	N/A	1250	1250
Wind Load (psf, Studs 16" o.c.)	ASTM E330	N/A	30	40	40
Thermal "R"/k Value	Property of Material	0.2/2.7	0.28/2.7	0.37/2.7	0.47/.2.7
Bending Radius (ft.)	Property of Material	N/A	5	5	5
Falling Ball Impact (12" Drop)	ASTM D1037	Pass	Pass	Pass	Pass
Linear Variation (Due to change in moisture content)	ASTM D1037	<0.07%	0.05%	0.05%	0.05%
Fungus Resistance	ASTM G21	(No growth)	(No growth)	(No growth)	(No growth)
Mold Growth On Surface	ASTM D3273*	10	10	10	10

* When tested by an independent laboratory per ASTM D3273 ("Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber"), PermaBase achieved a panel score of 10, the highest score possible, indicating no mold growth under the laboratory test conditions. The use of PermaBase in actual installations may not produce the same results as were achieved in controlled laboratory conditions. No material can be considered "mold proof," nor is it certain that any material will resist mold indefinitely.

SIZES AND PACKAGING

Size: Thickness, Width And Length	# Of Pcs Per Unit
PermaBase Cement Board	
1/2" x 32" x 5' (12.7 mm x 813 mm x 1524 mm)	50
1/2" x 32" x 8' (12.7 mm x 813 mm x 2438 mm)	30
1/2" x 36" x 4' (12.7 mm x 914 mm x 1219 mm)	50*
1/2" x 36" x 5' (12.7 mm x 914 mm x 1524 mm)	50
1/2" x 36" x 6' (12.7 mm x 914 mm x 1829 mm)	50*
1/2" x 36" x 8' (12.7 mm x 914 mm x 2438 mm)	30
1/2" x 48" x 8' (12.7 mm x 1219 mm x 2438 mm)	30
5/8" x 36" x 5' (15.9 mm x 914 mm x 1524 mm)	40
5/8" x 48" x 8' (15.9 mm x 1219 mm x 2438 mm)	24
3/8" x 48" x 8' (9.5 mm x 1219 mm x 2438 mm)	40*
3/4" x 48" x 8' (19.0 mm x 1219 mm x 2438 mm)	20*
PermaBase Underlayment	
1/4" x 48" x 4' (6.4 mm x 1219 mm x 1219 mm)	60
1/4" x 36" x 5' (6.4 mm x 914 mm x 1524 mm)	60

* Special Order

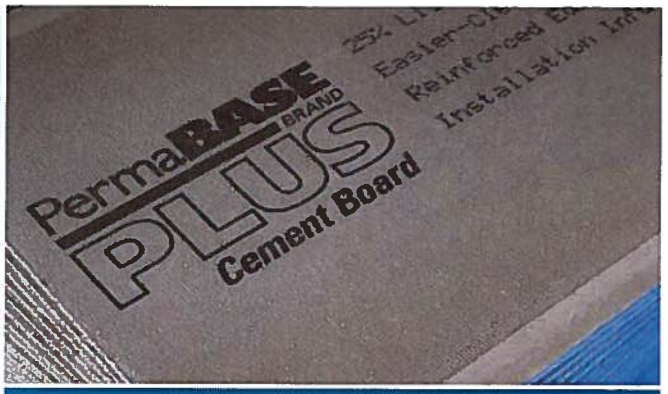
For installation instructions and accessories, see page 12.

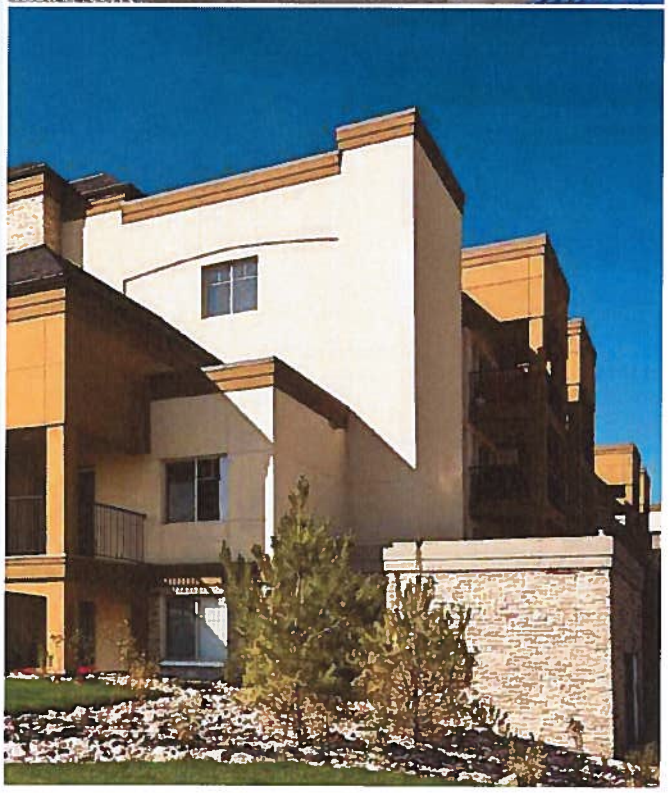
PermaBase BRAND PLUS Cement Board

Lighter, Faster And Easier

When You Want The Best Lightweight Rigid Substrate: PermaBase BRAND PLUS Cement Board

This board has the same exceptional qualities built into PermaBase Cement Board but weighs 25% less. When you need to lighten your load, consider PermaBase PLUS for all interior and exterior applications.





Resists Moisture Better

- Stays intact when exposed to water: will not rot, disintegrate or swell – built for the long run.
- Achieves the industry's lowest water-absorption rating (ASTM C473) – offering better installation.
- Helps inhibit mold growth with the highest possible score on mold tests (ASTM D3273 and ASTM G21).

Stays Strong And Lasts Long

- Resists impact and remains dimensionally stable – extending the life of your project.
- Holds up to the toughest conditions.

Installs Fast And Easy

- Lightweight and easy to cut – speeding up installation.
- Reduces jobsite waste – easier, cleaner cut.
- Patented EdgeTech[MD] Technology allows for a closer edge fastening and reduces damage from handling.

Works For Interior And Exterior Projects

– One Panel, Many Applications

- Great for all interior applications, as well as exterior decks and outdoor kitchens.
- Meets UL & ULC classifications for one- and two-hour fire-rated assemblies.
- Building code approved – one substrate that does the job of many.
- Adhere tile, stone or thin brick directly to PermaBase PLUS in exterior applications – saving time and money.
- Durable substrate for direct-applied coating systems.

Offers Best In Class Warranty

- Lifetime Limited Warranty: Interior applications.
- 15-Year Limited Warranty: Exterior applications.

PermaBASE BRAND PLUS® Cement Board

SIZES AND PACKAGING

Size: Thickness, Width And Length	# Of Pcs Per Unit
7/16" x 36" x 5' (11.1 mm x 914 mm x 1,524 mm)	60
1/2" x 48" x 8' (12.7 mm x 1,219 mm x 2,438 mm)	40
5/8" x 48" x 8' (15.9 mm x 1,219 mm x 2,438 mm)	32

For installation instructions and accessories, see page 12.

PermaBase BRAND UltraBacker Cement Board

Smoother, Stronger, More Stable

When You Want The Best Rigid 1/4-Inch Underlayment That Buys You More Open Time: PermaBase BRAND UltraBacker Cement Board

UltraBacker features a smooth mesh and mat surface. The 1/4-inch thickness eliminates the need to modify adjacent thresholds when abutting it to carpet, hardwood and other common flooring materials.

Resists Moisture Better Than Any Other Cement Board

- Features the *lowest water-absorption rating of <8%* (ASTM C473) – offering better installation.
- Stays intact when exposed to water: will not rot, disintegrate or swell – built for the long run.
- Helps inhibit mold growth with the highest possible score on mold tests (ASTM D3273 and ASTM G21).

Stays Strong And Lasts Long

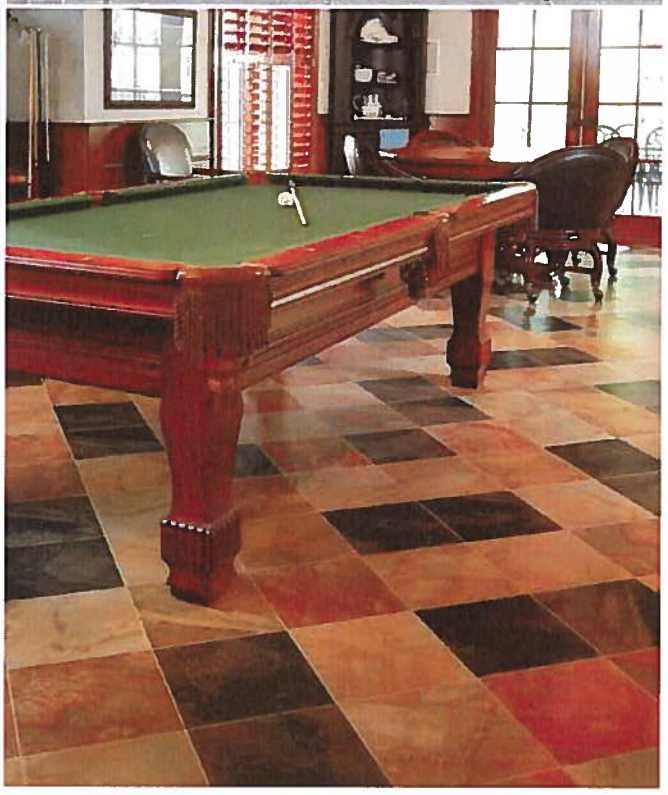
- Resists impact and remains dimensionally stable – extending the life of your project.
- Holds up to the toughest conditions.
- 30% stronger and four times more rigid than competitive 1/4-inch cement board.

Installs Fast And Easy

- Can be applied over new or existing countertops or as a flooring underlayment – pre-manufactured panels save you time.
- Reduces jobsite waste – easier, cleaner cut.
- Patented EdgeTech[MD] Technology allows for a closer edge fastening and reduces damage from handling.

Offers Best In Class Warranty

- Lifetime Limited Warranty: Interior applications.



PermaBASE BRAND ULTRA BACKER® Cement Board

SIZES AND PACKAGING	
Size: Thickness, Width And Length	**# Of Pcs Per Unit**
1/4" x 36" x 5' (6.4 mm x 914 mm x 1524 mm)	60

For installation instructions and accessories, see page 12.

PermaBase BRAND Flex Cement Board

Easy To Bend, Yet Stays Strong

When You Want The Best Substrate That Bends Like No Other: PermaBase[MD] BRAND Flex Cement Board

This very flexible PermaBase substrate is ideal to use around archways, columns, beams, or anywhere you need an evenly curved surface. Consider this also for radius shower walls, tub step-ups and stair construction – the possibilities are almost endless.

Resists Moisture Better

- Stays intact when exposed to water: will not rot, disintegrate or swell – built for the long run.
- Achieves the industry's lowest water-absorption rating (ASTM C473) – offering better installation.
- Helps inhibit mold growth with the highest possible score on mold tests (ASTM D3273 and ASTM G21).

Stays Strong Yet Flexes Like No Other Cement Board

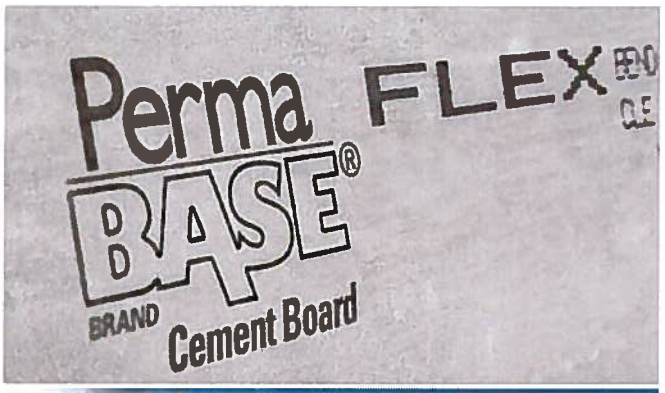
- Holds up to the toughest conditions yet bends like no other.
- Resists impact and remains dimensionally stable – extending the life of your project.

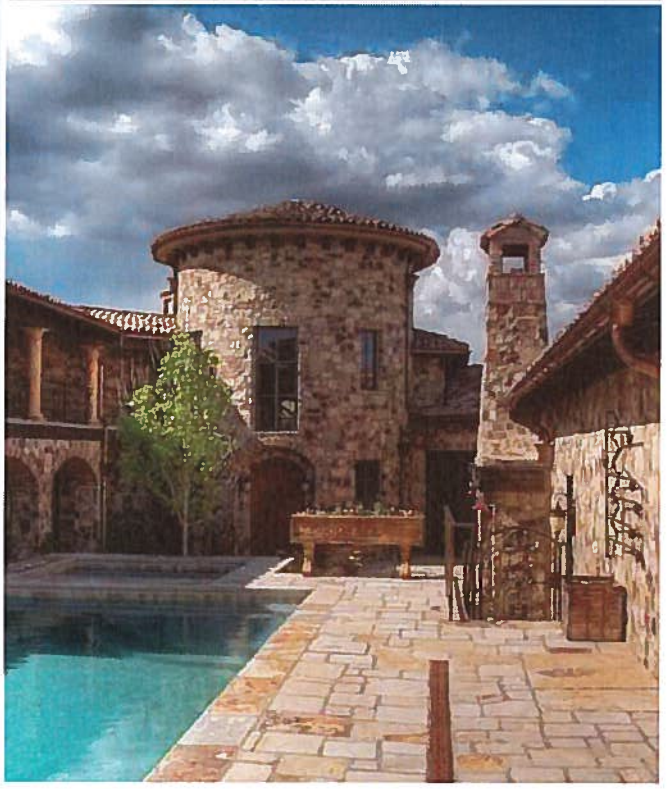
Installs Fast And Easy

- Pre-manufactured panels save you time.
- Bends easily – 6" radius at 90°.
- Reduces jobsite waste – easier, cleaner cut.

Offers Best In Class Warranty

- Lifetime Limited Warranty: Interior applications.
- 15-Year Limited Warranty: Exterior applications.





Installation

Installation recommendations for PermaBase Flex are the same as for PermaBase Cement Board with this exception: framing must be spaced a maximum of 8"o.c. (See page 12 for more information.)

Limitations

PermaBase Flex has the same limitations as PermaBase with the following additions:

- For convex surfaces, PermaBase Flex must be applied with the rough surface and tapered edges exposed.
- For concave surfaces, PermaBase Flex must be applied with the smooth surface exposed.
- PermaBase Flex Cement Board should not be used for fire-rated assemblies.
- Maximum framing spacing should not exceed 8"o.c.
- Maximum fastener spacing should not exceed 8"o.c. for wall and 6"o.c. for ceiling applications.

PermaBASE BRAND FLEX® Cement Board

SIZES AND PACKAGING

Size: Thickness, Width and Length	# Of Pcs Per Unit
1/2" x 36" x 6' (12.7 mm x 914 mm x 1829 mm)	25
1/2" x 48" x 8' (12.7 mm x 1219 mm x 2438 mm)*	30

* Special Order

For installation instructions and accessories, see page 12.

Installation Guide

Interior Applications

An ideal substrate for interior applications, such as:

- Shower and tub enclosures
- Garden/whirlpool tubs
- Countertops
- Backsplashes
- Steamrooms and saunas
- Swimming pool and whirlpool decks and enclosures
- Floor underlayment
  - Entryways
  - Kitchens
  - Bathrooms
  - Foyers
  - Laundry rooms

Installation

General: All framing should comply with local building code requirements and be designed to provide support with a maximum allowable deflection of L/360 under all intended loads. Framing members should be spaced a maximum of 16" o.c.

Cut or score PermaBase on printed side of panel. Use a straightedge and pencil to mark line. Use utility knife to score/cut the glass mesh. Snap the board and cut through the now visible glass mesh on the other side. Install tile and tile setting materials in accordance with current ANSI specifications and Tile Council of North America (TCNA) guidelines.

Control Joints: For interior installations, allow a maximum of 30 lineal feet between control joints. A control joint must be installed but not limited to the following locations: where expansion joints occur in the framing or building (discontinue all cross furring members located behind joint); when boards abut dissimilar materials; where framing material changes; at changes of building shape or structural system; at each story separation. Place control joints at corners of window and door openings, or follow specifications of architect. Control joint cavity shall not be filled with coating or other materials.

Walls And Ceilings

Wall Framing: Edges of PermaBase parallel to framing should be continuously supported. Provide additional blocking when necessary to permit proper PermaBase attachment.

Do not install PermaBase directly over protrusions from stud plane, such as heavy brackets and fastener heads. Studs above a shower floor should either be notched or

Installation Accessories

For a seamless installation, we recommend PermaBase™ Tape and PermaBase™ Screws.

Fasteners

PermaBase corrosion resistant screws or equivalent, 1-1/4" or 2" long, for use with wood framing. Type S-12 screws or equivalent, 1-1/4" or 1-5/8" long, for use with 20 gauge or heavier steel framing.

Galvanized roofing nails, 1-1/2" long with hot dipped galvanized coating for use with wood framing. Nails should meet Federal Specification #FF-N105B/type 2 style 20.

Joint Reinforcement

PermaBase mesh tape must be used on all edges and cuts made to size. Use 2" wide polymer-coated (alkali resistant) mesh tape for interior applications and 3" wide polymer-coated (alkali resistant) mesh tape for exterior applications.

Bonding Materials

Treat joint and set facing material, preferably with latex-Portland cement mortar or with dry-set (thin-set) mortar. All mortars should comply with ANSI A118.1, A118.4 or A118.15 standards. Type 1 organic adhesive meeting ANSI A-136.1 may be utilized for interior use only.

furred to accommodate the thickness of the waterproof membrane or pan. The surround opening for a tub or precast shower receptor should not be more than 1/4" longer than unit to be installed.

Ceiling Framing: The deflection of the complete ceiling assembly due to dead load (including insulation, PermaBase, bonding material and facing material) should not exceed L/360. The dead load applied to the ceiling frame should not exceed 10 psf. Ceiling joist or furring channel should not exceed 16" o.c. (Edges of PermaBase parallel to framing should be continuously supported.) Provide additional blocking when necessary to permit proper PermaBase attachment.

PermaBase Cement Board: Apply PermaBase with ends and edges closely butted but not forced together. Stagger ends joints in successive courses. Drive fasteners into field of cement board first, working toward ends and edges. Space fasteners maximum 8" o.c. for walls, 6" o.c. for ceilings with perimeter fasteners at least 3/8" and less than 5/8" from ends and edges. Ensure PermaBase is tight to framing.

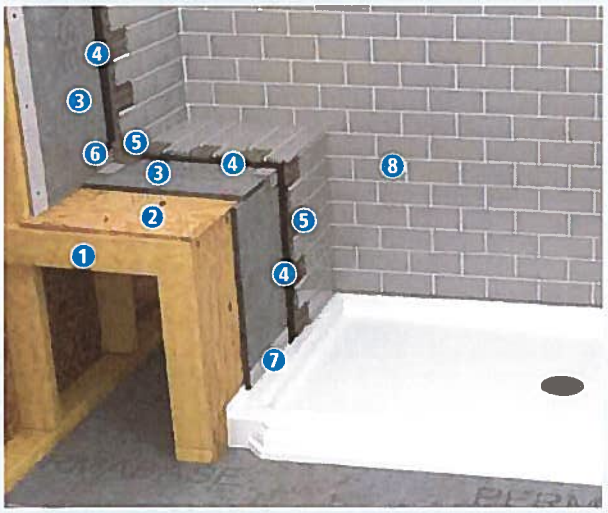
Fasteners must be installed into framing members. Select proper fastener type and length for the application.

Joint Reinforcement: Trowel bonding material to completely fill the tapered recessed board joints and gaps between each panel. On non-tapered joints apply a 6" wide, approx. 1/16" thick coat of bonding material over entire joint. For all joints, immediately embed 2" alkali resistant fiberglass mesh tape fully into applied bonding material and allow it to cure. For outside corners, 3" wide mesh tape is recommended. Same bonding material should be applied to corners, control joints, trims and other accessories. Feather bonding material over fasteners to fully conceal.

Divider Wall Installation

1. **PermaBase Cement Board**
2. **Membrane**
3. **Latex-Portland Cement Mortar**
4. **Alkali-Resistant Mesh Tape**

Shower Installation



1. **Support Framing 1/4" / 12" slope toward drain**
2. **Plywood, Min. 1/2"**
3. **PermaBase™ Cement Board**
4. **Membrane**
5. **Latex-Portland Cement Mortar**
6. **Alkali-Resistant Mesh Tape**
7. **Sealant**
8. **Tile and Grout**

Floors And Counters

Subfloor Or Base: For flooring applications with 16" o.c. floor joists, 5/8" tongue and groove exterior grade plywood or 3/4" tongue and groove exterior grade OSB may be used. For 19.2" o.c. and 24" o.c. floor joists, 3/4" tongue and groove exterior grade plywood or OSB must be used. Tile size for floors with 24" o.c. floor joists must be 12" x 12" or larger. The joist and subfloor assembly must meet L/360 as well as the appropriate code tables for live and dead loads.

Underlayment: Using a 1/4" square-notched trowel, apply a setting bed of polymer-modified mortar (or thin-set mortar) to the subfloor or counter base. Immediately laminate PermaBase to subfloor or base leaving a 1/8" space between boards at all joints and corners. Leave a 1/4" gap along walls. Stagger all joints so that they do not line up with underlying substrate joints. Fasten PermaBase every 8" o.c. throughout board field and around all edges while setting bed mortar is still workable. Around perimeter of each board, locate fasteners 2" from corners and not less than 3/8" from the edges. Fill all joints solid with bonding material. On non-tapered joints such as butt ends, apply a 6" wide, 1/16" thick coat over the entire joint. For all joints, immediately embed 2" fiberglass mesh tape fully into applied bonding material; ensure that tape is centered over joint. Apply bonding material over fasteners to fully conceal. Remove all excess bonding material and allow to cure.

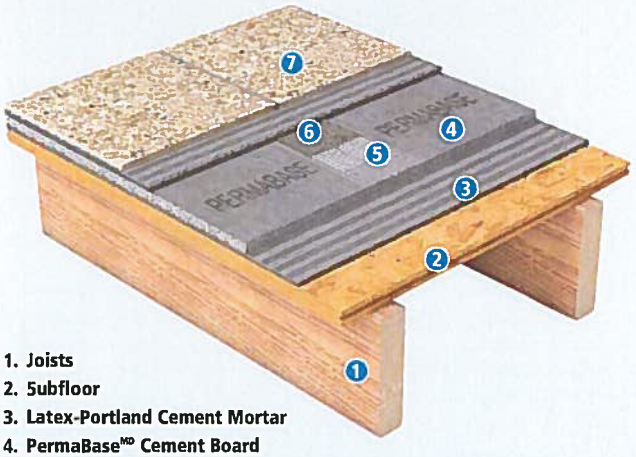
Limitations

- Joints should be treated with alkali resistant fiberglass mesh tape set in a polymer modified mortar.
- Conventional paper drywall tape, joint compound and drywall nails or screws should not be used.
- Maximum wall framing spacing should not exceed 16" o.c. and must be designed to limit deflection to L/360 under all live and dead loads.
- Steel framing must be 20 gauge (galvanized) or heavier – 16" o.c.
- 1/4" PermaBase and 1/4" UltraBacker should not be used on walls or ceilings.
- PermaBase is not a water barrier. Consult local building code for moisture barrier requirements.
- Not recommended for use with vinyl flooring or carpets.
- For exterior and interior finishes applied directly to PermaBase, reinforcing mesh must be embedded in basecoat. Consult finish manufacturer for additional requirements.
- PermaBase should not be exposed to temperatures over 220°F (105°C).
- PermaBase is not a nailing base for other finishes.

Countertop Installation

1. **Plywood**
2. **Latex-Portland Cement Mortar**
3. **PermaBase™ Cement Board**
4. **Fiberglass Mesh Tape (Alkali-Resistant) Embedded in Mortar**
5. **Latex-Portland Cement Mortar**
6. **Tile and Grout**

Floor Underlayment



1. **Joists**
2. **Subfloor**
3. **Latex-Portland Cement Mortar**
4. **PermaBase™ Cement Board**
5. **Fiberglass Mesh Tape (Alkali-Resistant)**
6. **Latex-Portland Cement Mortar**
7. **Tile**

Exterior Applications

An ideal substrate for exterior applications such as:

- Tile applications
- Stucco applications
- Cement board stucco
- Thin brick
- Adhered stone veneer
- Thin porcelain tile
- Ventilated rainscreen facade
- EIFS
- Soffit panels
- Sheathing panels
- Outdoor kitchens/grills

Installation

General: All framing should comply with local building code requirements and be designed to provide support with a maximum allowable deflection of L/360 under all intended live including wind) and dead loads.

Some applications may require stricter deflection requirements. Consult finish manufacturer for recommendations.

Note: Cut or score PermaBase on rough side of panel.

Control Joints: For exterior installations, allow a maximum of 16 lineal feet between control joints. Consult finish manufacturer for other requirements. For exterior tile applications, control joints should be spaced a maximum of every 12'. A control joint must be installed but not limited to the following locations: where expansion joints occur in the framing or building (discontinue all cross furring members located behind joint); when boards abut dissimilar materials; where framing material changes; at changes of building shape or structural system; at each story separation. Place control joints at corners of window and door openings, or follow specifications of architect. Control joint cavity shall not be filled with coating or other materials.

Walls And Ceilings

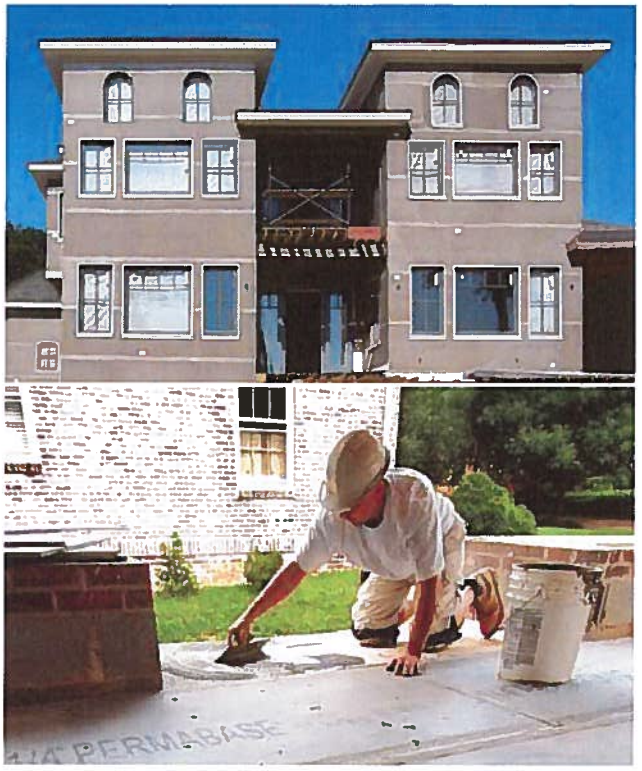
Wall Framing: Studs should be spaced a maximum of 16" o.c. Edges/ends of PermaBase parallel to framing should be continuously supported. Provide additional blocking when necessary to permit proper PermaBase attachment. Do not install PermaBase directly over protrusions from stud plane such as heavy brackets or fastener heads.

Ceiling Framing: The deflection of the complete ceiling assembly due to dead load (including insulation, PermaBase, bonding material and facing material) should not exceed L/360. The dead load applied to the ceiling frame should not exceed 10 psf. Ceiling joist or furring channel should not exceed 16" o.c. (Edges of PermaBase parallel to framing should be continuously supported.) Provide additional blocking when necessary to permit proper PermaBase attachment.

Water Barrier: While PermaBase is unaffected by moisture, a Water/Air Resistive Barrier (WRB) must be installed to protect the cavity. The type and specific placement or location of the water barrier will vary based on local building codes and/or manufacturers warranties. Consult the WRB manufacturer's recommendations for specific installation guidelines.

PermaBase Cement Board: Apply PermaBase with ends and edges closely butted but not forced together. Stagger end joints in successive courses. Drive fasteners into field of cement board first, working toward ends and edges. Space fasteners maximum 8" o.c. for walls, 6" o.c. for ceilings with perimeter fasteners at least 3/8" and less than 5/8" from ends and edges.

Joint Reinforcement: Trowel bonding material to completely fill the tapered recessed board joints and gaps between each panel. On non-tapered joints apply a 6" wide, approximately 1/16" thick coat of bonding material over entire joint. For all joints, immediately embed 3" alkali resistant fiberglass mesh tape fully into applied bonding material and allow to cure. Same bonding material should be applied to corners, control joints, trims or other accessories. Feather bonding material over fasteners to fully conceal.



Decks

Subfloor: Plywood should be securely glued and fastened to floor joists spaced a maximum of 16"o.c. Subfloor should be sloped at a minimum pitch of 1/4" per foot. The floor surface should be true to plane within 1/8" in 10'.

Underlayment: Using a 1/4" square-notched trowel, apply a setting bed of Latex-Portland cement mortar to the subfloor. Immediately laminate PermaBase to subfloor leaving a 1/8" space between boards at all joints and corners. Leave a 1/4" gap along walls. Stagger joints so they do not line up with underlying substrate joints. Fasten PermaBase every 8" o.c. throughout board field and around all edges while setting bed mortar is still workable. Around perimeter of each board, locate fasteners 2" from the corners and not less than 3/8" from the edges. Fill all joints solid with bonding material. On non-tapered joints such as butt ends, apply a 6" wide, 1/16" thick coat over the entire joint. For all joints, embed alkali-resistant fiberglass mesh tape fully into applied bonding material; ensure that tape is centered over joint. Apply bonding material over fasteners to fully conceal. Remove all excess bonding material and allow it to cure.

Waterproof Membrane: Trowel apply waterproof membrane to the entire surface of the cement board, following membrane manufacturer's installation instructions in detail.

Water-Managed, High-Impact Resistant Wall System

Cement Board Ventilated Rainscreen Façade System

Description

The Cement Board Ventilated Rainscreen Facade System is a water managed exterior cladding wall system designed to provide increased high impact and weather resistance and improved dimensional stability.

The Cement Board Ventilated Rainscreen Facade System combines the strength and durability of PermaBase Cement Board with the performance and beauty of reinforced base coats and textured finishes. It includes specific components such as wood or metal furring, latex-modified Portland cement base coat, glass fiber mesh, trims, primer and acrylic textured finish coat. It provides unequaled protection against water penetration and weathering.

The Cement Board Ventilated Rainscreen Facade System allows you to enclose and finish a project in as little as two days, speeding occupancy. It has already been satisfactorily used for over 25 years on thousands and thousands of square meters of exterior walls.

Uses

For all your exterior walls needing high-impact and weather resistance in commercial, institutional and residential applications.

Advantages

Durability/Strength: PermaBase Cement Board provides an exceptionally hard, durable surface that is able to withstand prolonged exposure to moisture and has a proven durability in cold climates.

PermaBase offers a competitive advantage over similar products on the market with its patented EdgeTech[MD] technology. The tapered, reinforced edge design allows for closer nail or screw application to the edge.

Weather Resistance: Acrylic finishes repel weather at the system's surface.

Water-Managed Design: The water-managed design of the system provides positive drainage directly behind the cladding, enabling the escape of incidental water that might enter around or through window or door openings and penetrate behind the cladding in frame construction. It also provides air pressure equilibrium, minimizing the chances of water being driven into the wall cavity by incidental building envelope pressure differential.

Design Options: Cement Board Stucco provides the popular stucco look, including the attachment of special pre-molded shapes and a wide variety of finish texture and color options in standard colors and custom colors.

Contact exterior coatings manufacturer for color and installation instructions.

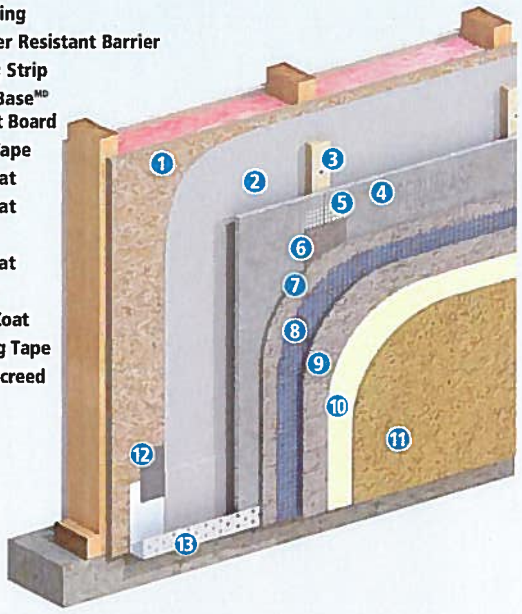
Some exterior wall assemblies including the PermaBase boards were tested according to CAN/ULC-S101. Consult ULC's online directories for details.

Limitations

- Boards shall never be fastened directly on studs.
- Thin veneer construction will tend to reveal planar irregularities in the frame construction.
- Minor cracking at joints might become visible in the finished exterior surface.
- For exterior finishes applied direct to PermaBase, reinforcing mesh must be embedded in basecoat. Consult Unifix's website to get the latest exterior cladding system complete architectural specifications and for detailed installation instructions.
- The cavity between the PermaBase Cement Board and the intermediate sheathing or the insulation board must allow for venting to the exterior, at the bottom and at the top of the wall, in order to provide efficient water drainage and humidity management.

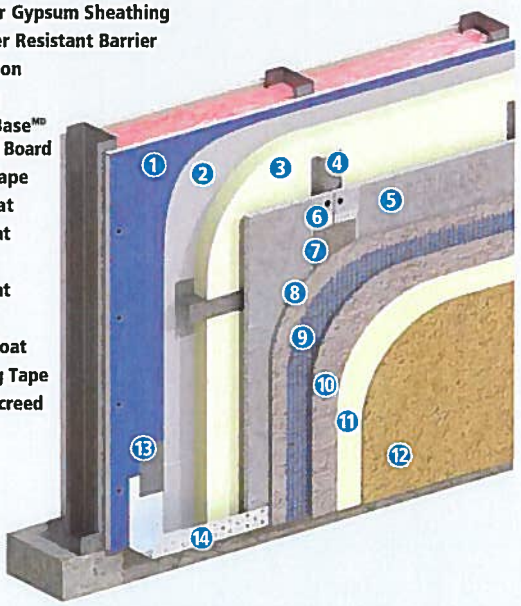
Residential Ventilated Rain Screen Installation

1. Sheathing
2. Weather Resistant Barrier
3. Furring Strip
4. PermaBase[MD] Cement Board
5. Mesh Tape
6. Basecoat
7. Basecoat
8. Mesh
9. Basecoat
10. Primer
11. Finish Coat
12. Flashing Tape
13. Weep Screed



Commercial Ventilated Rain Screen Installation

1. Exterior Gypsum Sheathing
2. Weather Resistant Barrier
3. Insulation
4. Furring
5. PermaBase[MD] Cement Board
6. Mesh Tape
7. Basecoat
8. Basecoat
9. Mesh
10. Basecoat
11. Primer
12. Finish Coat
13. Flashing Tape
14. Weep Screed



Cement Board Masonry Veneer Wall System (CBMV)

PermaBase as a component of CBMV Systems

The use of adhered manufactured stone and thin brick masonry veneers is increasing in popularity. Cement Board Masonry Veneer Wall Systems (CBMV) have been designed to offer complete, engineered solutions for the installation of manufactured and natural stone masonry veneer, as well as thin brick veneers.

These systems have been developed and are marketed by various manufacturers of the adhering materials used to install them as well as the veneer manufacturers themselves. CBMV Systems offer increased performance by utilizing polymer modified adhesive mortars which have been designed for hanging materials versus type S and N mortars that were primarily designed for stacking materials. In some cases these systems offer warranties.

Several of these systems call for the use of an ASTM C1325 cement board. In addition to meeting this requirement, the features and benefits of PermaBase Cement Board make it an ideal component for use in these systems.

Advantages

Durability/Strength: PermaBase Cement Board provides an exceptionally hard, durable surface that is able to withstand prolonged exposure to moisture and has a proven durability in cold climates.

Consistency: PermaBase is produced in a factory controlled environment which provides for a consistent product produced within tighter tolerances than can be achieved with field fabricated substrates.

Cutting and Handling: PermaBase is produced with its patented EdgeTech technology. The tapered, reinforced edge design allows for fastening of nails or screws closer to the edge without crumbling or spinout. The homogeneous core provides a very clean score and snap using a standard drywall knife.

Low Water Absorption: PermaBase has the lowest water absorption of any cement board which provides greater open time and increased workability of the adhering materials used in the application of veneer products.

Limitations

The system shall be engineered to withstand all applicable loads, including live, dead, seismic, positive and negative, etc. CBMV Systems utilize a primary sheathing beneath the PermaBase Cement Board to provide required structural performance. The selection and installation of this sheathing varies according to the type of wall construction.

In the case of exterior walls only, the CBMV Wall System shall not exceed 3 meters (9.8') in height above the foundation walls. Do not use the CBMV System to make soffits or use underground or in frequently submerged areas. Make sure to follow the latest national, provincial or local building code regulations.

Consult Unifix's website to get the latest exterior cladding system complete architectural specifications and for detailed installation instructions.

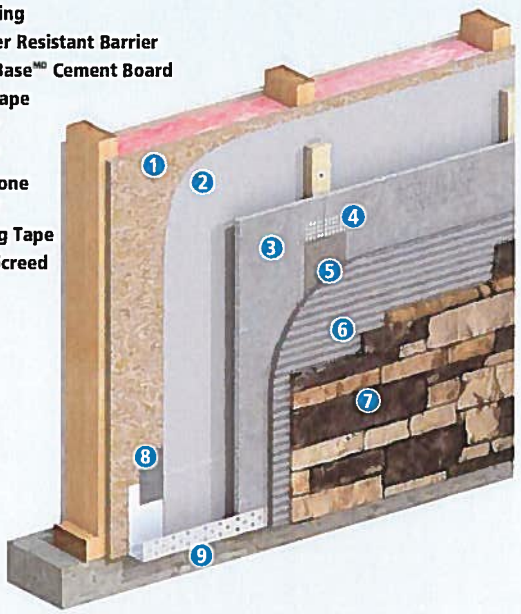
The details provided give a general sense of representative CBMV Systems only.

Water Resistant Barriers (WRB)

While PermaBase is unaffected by moisture, a water resistant barrier (WRB) must be installed to protect the cavity. One of the advantages of CBMV Systems is the ability to incorporate an effective, accountable water management system. The type and specific placement of the water barrier will vary based on local building codes and/or manufacturers warranties.

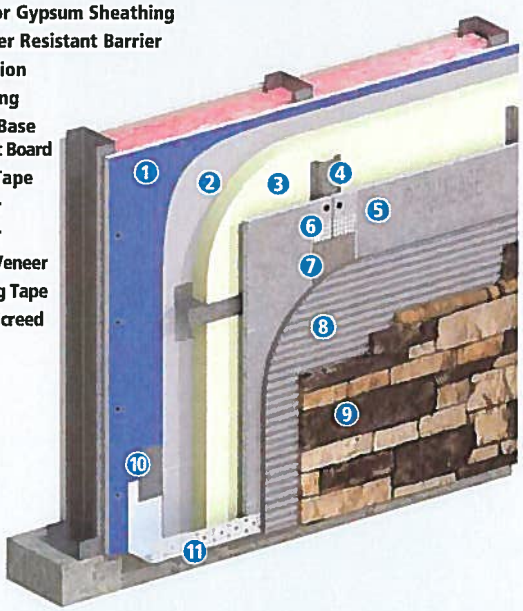
Residential Manufactured Stone Veneer Wall Installation

1. Sheathing
2. Weather Resistant Barrier
3. PermaBase™ Cement Board
4. Mesh Tape
5. Mortar
6. Mortar
7. Thin Stone Veneer
8. Flashing Tape
9. Weep Screed



Commercial Manufactured Stone Veneer Wall

1. Exterior Gypsum Sheathing
2. Weather Resistant Barrier
3. Insulation
4. Z-Furring
5. PermaBase Cement Board
6. Mesh Tape
7. Mortar
8. Mortar
9. Stone Veneer
10. Flashing Tape
11. Weep Screed



This section of the PermaBase Construction Guide provides information on how to utilize PermaBase within both a CBMV System and a Ventilated Rainscreen Facade System. While some typical examples are shown (right) for reference purposes, the specifications and details on how to design and construct individual systems should be obtained from the design professional, or the adhering material or veneer manufacturer of the materials that are being used to complete the system.

For more information go to: **unifixinc.com/applications**

Heat Shield Applications

Features/Benefits

- Protects walls and floors.
- Reduces clearance in back up to 40%.
- Lightweight and easy to install.
- CAN/ULC- S632 & UL1618 tested.

Limitations: Do not apply combustible finishes, such as wallpaper, on the panel surface.

Installation

The heat shield made with PermaBase boards can reduce the required clearance between a heat producing appliance and the wall by up to 40%, except where the clearance includes provision for access or ventilation.

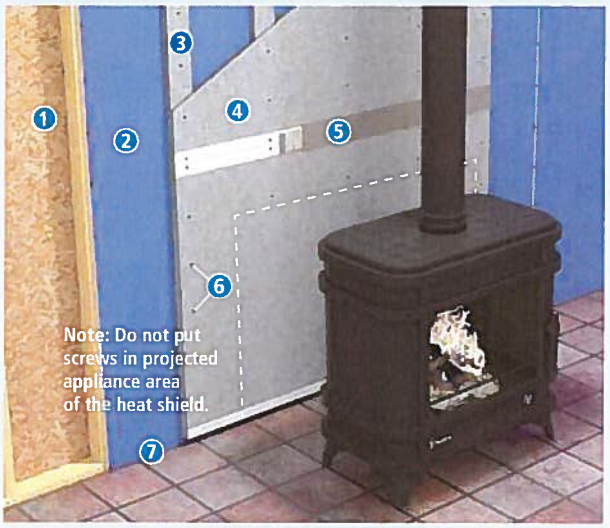
Furring is made by cutting a full PermaBase panel into 4" (100 mm) wide strips. Attach a double layer of these furring strips to the wall studs using cement board screws which provide a minimum penetration of 3/4" (19 mm) into the framing. When installing the panels, leave a minimum 2" (50 mm) gap at the ceiling and a 1"- 2" (25-50 mm) gap at the floor.

Fasten the PermaBase panels to the studs with galvanized roofing nail or cement board screws spaced 8" (200 mm) o.c. Be sure your cement board screws are long enough to go through the furring and into the studs at least 3/4" (19 mm). Do not put any nails or screws into the wall area directly behind the proposed location of the appliance.

Finish the joints with polymer modified Portland cement mortar and alkali resistant fiberglass tape. Cover fasteners with the same mortar. The mortar should be dry before applying any decorative coating.

Heat build-up is reduced by allowing air to enter and exit the cavity between the wall and the heat shield. This air space is required for the good functioning of the heat shield. Do not close or block these openings.

Heat Shield Installation



1. **Studs Spaced 16 in. o.c.**
2. **Existing Gypsum Board**
3. **Two Layers 4 in. wide Furring Strips**
4. **PermaBase[MD] Heat Shield**
5. **Joint Treatment**
6. **Fasteners Spaced 8 in. o.c. Maximum**
7. **1-2 in. Minimum Clearance from the Floor**

PermaBase[MD] heat shielding permits clearance reduction up to 40 percent of the manufacturer's suggested clearance.

UL Listed PermaBase[MD] Cement Board Partitions – Steel Framing

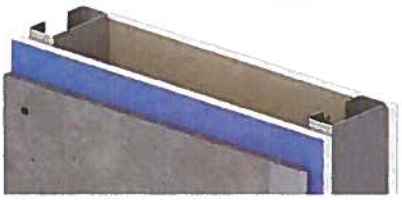
1-hour Fire Rating
V452 UL Design

7/16" PermaBase PLUS or 1/2" PermaBase applied vertically or horizontally to one side of 3-5/8" steel studs 16" o.c. 5/8" Fire-Shield Gypsum Board applied vertically to opposite side. 3" mineral wool insulation in stud cavities.

1-hour Fire Rating
U425 UL Design

7/16" PermaBase PLUS or 1/2" PermaBase applied vertically or horizontally over 5/8" Fire-Shield Gypsum Board applied vertically to each side of 3-1/2", 20-gauge steel studs 16" o.c. PermaBase secured to studs with cement board screws of adequate length to penetrate studs 3/8" spaced 8" o.c.

1-hour Fire Rating
V438 UL Design



7/16" PermaBase PLUS or 1/2" PermaBase applied vertically or horizontally over 5/8" Fire-Shield Gypsum Board applied vertically to each side of 3-5/8" steel studs 16" o.c. PermaBase secured to studs with cement board screws of adequate length to penetrate studs 3/8" spaced 8" o.c.

2-hour Fire Rating
V452 UL Design

7/16" PermaBase PLUS or 1/2" PermaBase applied vertically over 1/2" Fire-Shield C or 5/8" Fire-Shield Gypsum Board, applied vertically to one side of 3-5/8" steel studs 16" o.c. 2 layers 1/2" Fire-Shield C or 5/8" Fire-Shield Gypsum Board applied vertically to opposite side. 3" mineral wool insulation in stud cavities.

PermaBase Over Foundation Walls

Installation

The 1/2" PermaBase boards can be installed below ground level over extruded polystyrene boards that are themselves installed over a foundation wall, under the following conditions.

1. That the PermaBase boards be fully supported, over their entire surface, by the polystyrene boards.

2. That the PermaBase boards be installed using our specially designed PermaBase screws, every 8" o.c. (200 mm), over furring channels (wood or galvanized metal 20 gauge or thicker) that comply with the following requirements:

a. That the furring strips be spaced at a maximum of 24" (610 mm) o.c.

b. That the furring strips have the same thickness (or depth) as the polystyrene board.

c. That the furring strips be in full contact with the foundation wall.

d. That the furring strip be affixed to the foundation wall with the proper fasteners and in sufficient number to provide an adequate support for the board, its finish and other building loads.

e. That the furring strips be corrosion or rot proof.

3. That the extruded polystyrene boards be approved for exterior use, below ground and that they have a compressive strength of 20 psi (140 kPa) or higher when tested according to ASTM D1621.

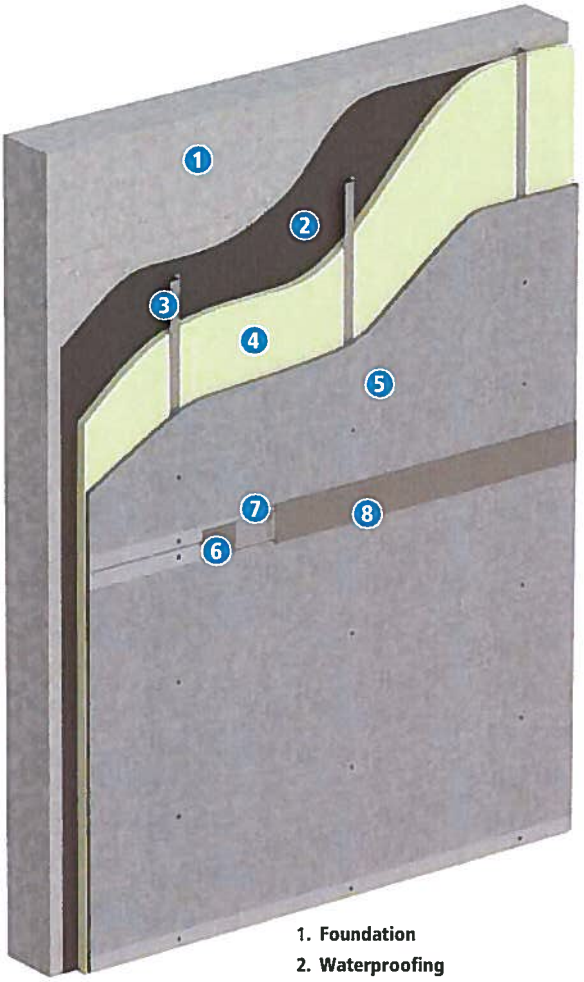
4. That the PermaBase boards are installed below ground at a maximum depth of 10' (3 m).

5. That the water table level be at all times be below the base of the foundation wall.

6. That the base of the foundation wall be properly drained in order to avoid any accumulation of water and consequently an added pressure on the wall.

7. That the wall design be in conformance with the applicable and most up to date local, provincial, and federal building codes where the project is located.

Limitations: The PermaBase boards are resistant to water but are not water impermeable or waterproof and cannot be considered a vapor barrier. Where a wall or cavity must be kept dry, use proper water resistant membranes, in conformance with the applicable and most up to date local, provincial, and federal building codes where the project is located. Some waterproofing compounds, sealants, or adhesives may contain solvents or petroleum distillates. These may damage the polystyrene. Please contact the manufacturers of these products to verify their compatibility with polystyrene and concrete. The PermaBase boards are not structural boards.



1. **Foundation**
2. **Waterproofing**
3. **Furring Strips**
4. **Insulation**
5. **PermaBase™ Cement Board**
6. **Mortar**
7. **Mesh Tape**
8. **Mortar**

LIMITED WARRANTY AND REMEDIES

Products manufactured and sold by National Gypsum Company are warranted by National Gypsum Company to its customers to be free from defects in materials and workmanship at the time of shipment. THIS EXPRESS WARRANTY IS THE ONLY WARRANTY APPLICABLE TO SUCH PRODUCTS, AND IS IN LIEU OF AND EXCLUDES ALL OTHER EXPRESS ORAL OR WRITTEN WARRANTIES AND ALL IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

National Gypsum Company will not be liable for any incidental, indirect or consequential losses, damages or expenses. The customer's exclusive remedy for any type of claim or action for defective products will be limited to the replacement of the products (in the form originally shipped) or, at National Gypsum's option, to a payment or credit not greater than the original purchase price of the products.

National Gypsum Company will not be liable for products claimed to be defective where the defect resulted from causes not within National Gypsum's control, or which arose or occurred after shipment, including but not limited to accidents, misuse, mis-handling, improper installation, contamination or adulteration by other materials or goods, or abnormal conditions of temperature, moisture, dirt or corrosive matter.

Any claim that products sold by National Gypsum Company were defective or otherwise did not conform to the contract of sale is waived unless the customer submits it in writing to National Gypsum within thirty (30) days from the date the customer discovered or should have discovered the defect or non-conformance. No legal action or proceeding complaining of goods sold by National Gypsum may be brought by the customer more than one year after the date the customer discovered or should have discovered the defect or problem of which it complains.

Mold And Mildew Resistance

PermaBase was designed to provide extra protection against mold and mildew. When tested by an independent laboratory, PermaBase received the highest possible ratings on ASTM G21 and D3273. The use of PermaBase in actual installations may not produce the same results as were achieved in controlled laboratory conditions. No material can be considered "mold-proof," nor is it certain that any material will resist mold or mildew indefinitely. When used in conjunction with good design, handling and construction practices, PermaBase can provide increased mold resistance. As with any building material, avoiding water exposure during handling, storage and installation, and after installation is complete, is the best way to avoid the formation of mold or mildew.

Member of TCNA

PRODUCT CERTIFIED FOR LOW CHEMICAL EMISSIONS: UL.COM/GG UL 2818

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UNIFIX INC.
A SUBSIDIARY OF NATIONAL GYPSUM COMPANY

National Gypsum

Safety Data Sheet

SDS No. GB-1504
PermaBase® BRAND
Cement Board Products

Section 1: Product and Company Identification

Product Name
PermaBase® BRAND Cement Board Products

Product Identifiers

PermaBase	***PermaBase UltraBacker***	***PermaBase DEK***
PermaBase Flex	***PermaBase Plus***	

Other means of identification
Tile Backer Board, Cementitous Backer Board (CBU)
Recommended Use
Underlayment for ceramic tile on floors, countertops, EIFS systems. Use per manufacturer's recommendations.
Restrictions on Use
Use in well-ventilated area and avoid breathing dust.
Avoid skin contact.

Manufacturer/Supplier Details
National Gypsum Company
2001 Rexford Road
Charlotte, NC 28211

In Canada:
UNIFIX INC. A subsidiary of National Gypsum Company
35, Unifix Street
Bromont, QC J2L 1N5 CANADA

Emergency Telephone Number
Director Quality Services
(704) 551-5820 - 24 Hour Emergency Response
Website: www.nationalgypsum.com

1-450-534-0955 or toll free 1-800-461-0955 (8h00 -17h00)
e-mail: info@unifixinc.com
Website: www.unifixinc.com

Section 2: Hazards Identification

United States (US)
According to OSHA 29CFR 1910.1200 (HCS)
GHS Classification of the substance or mixture
Carcinogenicity - Category 1A - (H-350)
Specific target organ toxicity, repeated exposure – Category 1 (H-372)
Acute toxicity, inhalation - Category 4 (H-332)
Skin corrosion/irritation Category 2 (H315)
Serious eye irritation – Category 2A (H-319)
GHS Label Elements
Pictogram

Signal Word — **Danger**

Hazard Statements

H-350	May cause cancer.
H-332, 372	Harmful if inhaled. Causes damage to organs (lungs) through prolonged or repeated exposure.
H-315, 319	Causes skin irritation and serious eye irritation

Precautionary Statements
Prevention
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Do not breathe dust.
Use personal protective equipment as required. (See Section 8)
Use engineering controls and wet methods to minimize dust.

Section 2: Hazards Identification (Continued)

Response
If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
If on skin, wash with plenty of soap and water. If skin irritation occurs, get medical attention.
If in eyes, rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if exposed or concerned.

Storage
Store material in a cool, dry, ventilated area, away from excessive heat or sunlight.

Disposal
Dispose of material in accordance with federal, state, and local regulations.

Section 3: Composition/Information on Ingredients

Chemical Name	Common name/ Synonym	Identifiers CAS Number	% (weight)	Impurities
Silicon Dioxide (SiO_2)	Sand, quartz	14808-60-7	<50	
In CANADA- Calcium Carbonate	Limestone, industrial sand	1317-65-3	<50	Crystalline silica (CAS # 14808-60-7)
Mixture-calcium and aluminum silicates	Portland Cement	65997-15-1	<25	Crystalline silica (CAS # 14808-60-7)
Mixture-silicates, aluminates	Pozzolan, fly ash	68131-74-8	<25	Crystalline silica (CAS # 14808-60-7)
Mixture-calcium aluminates	High Alumina Cement	65997-16-2	<6	Crystalline silica (CAS # 14808-60-7)
Mixture-calcium, aluminum silicates, amorphous silica	Fiberglass scrim or fiberglass mat laminate	65997-17-3	<5	
Calcium Hydroxide	Hydrated lime	1305-62-0	<2	Crystalline silica (CAS # 14808-60-7)

Section 4: First-Aid Measures

Inhalation Remove exposed individual to fresh air immediately. If breathing difficulty persists, seek medical attention.

Eye contact Do not rub or scratch eyes. Immediately flush eyes with water for 15 minutes.
Remove contact lenses (if applicable). Seek medical attention if irritation persists.

Skin contact Flush and wash skin with soap and water. Utilize lotions to alleviate dryness if present. Seek medical attention if irritation persists.

Ingestion This product is not expected to be hazardous and no harmful effects are expected upon ingestion of small amounts. Larger amounts may cause abdominal discomfort or possible obstruction of the digestive tract. Seek medical attention if problems persist.

Medical Conditions aggravated by exposure
Pre-existing upper respiratory and lung diseases such as, but not limited to, bronchitis, emphysema and asthma. Pre-existing skin diseases such as, but not limited to, rashes and dermatitis.

Most important symptoms/effects, acute and delayed: See Section 11. (Toxicological Information)

Section 5: Fire-Fighting Measures

Extinguishing Media
Dry chemical, foam, water, or extinguishing media appropriate for surrounding fire.

Unusual Fire and Explosion Hazards
Mixture poses no fire-related hazard.

Special hazards arising from the mixture
None known

Special Protective Equipment and Precautions for Firefighters
A SCBA is recommended to limit exposures to combustion products when fighting any fire.

Section 6: Accidental Release Measures

Personal precautions, protective equipment and emergency procedures
Product is an article composite.
General recommendations:
Wear appropriate Personal Protective Equipment. (See Section 8)
Maintain proper ventilation.

Environmental precautions
This product could be toxic to fish due to its high alkalinity from the Portland Cement.
Dispose of in accordance with applicable federal, state, and local regulations.

Methods and materials for containment and cleaning up
Pick-up larger pieces to avoid a tripping hazard.
Sweep or vacuum remaining material into a waste container for disposal.
Use a light water spray to minimize dust generation.

Section 7: Handling and Storage

Precautions for safe handling
Avoid breathing dust.
Minimize generation of dust.
Provide appropriate exhaust ventilation at places where dust is formed.
Avoid contact with eyes, skin and clothing.
Wear recommended personal protective equipment when handling. (See Section 8)

Conditions for safe storage, including any incompatibilities
Store material in a cool, dry, ventilated area, away from excessive heat or sunlight.
Store panels flat to minimize damage.
Do not stack panels too high when storing to minimize the risk of falling.
Avoid contact with strong acids.

Section 8: Exposure Controls/Personal Protection

Control Parameters

	Exposure Limits	
Component	**OSHA PEL (mg/m3)**	**ACGIH TLV (mg/m3)**
Portland Cement	15 (T) 5 (R)	10 (T)
High Alumina Cement	15 (T) 5 (R)	10 (T)
Pozzolan	15 (T) 5 (R)	10 (T)
Sand	[(10) / (%SiO2+2)] (R); [(30) / (%SiO2+2)] (T)	0.025 (R)
Crystalline Silica (Quartz)[1]	[(10) / (%SiO2+2)] (R); [(30) / (%SiO2+2)] (T)	0.025 (R)
Fiberglass Scrim	15 (T) 5 (R)	1 f/cc (R)
Calcium Hydroxide (Hydrated Lime)	15 (T) 5 (R)	5 (R)
Calcium Carbonate	15 (T) 5 (R)	10 (T)

1 – Present as an impurity in raw materials
T- Total Dust
R- Respirable Dust

Exposure Controls

Appropriate Engineering Controls

Work/Hygiene Practices: Utilize methods to minimize dust production. Utilize wet methods, when appropriate, to reduce generation of dust.

Ventilation: Provide local and general exhaust ventilation sufficient to maintain a dust level below the PEL/TLV.

Personal Protective Equipment

Respiratory Protection

A NIOSH approved particulate respirator is recommended in poorly ventilated areas or if the PEL/TLV is exceeded. OSHA's 29 CFR 1910.134 (Respiratory Protection Standard) must be followed whenever work conditions require respirator use.

Eye Protection

Safety glasses or goggles.

Skin

Gloves, protective clothing and/or barrier creams may be utilized if conditions warrant.

Section 9: Physical and Chemical Properties

(a) Appearance: Gray solid
(b) Odor: Slight organic odor upon opening that dissipates quickly.
(c) Odor threshold: Not available
(d) pH : ~12
(e) Melting point/freezing point: Not Available
(f) Initial boiling point and boiling range: Not Available
(g) Flash point: Not available
(h) Evaporation rate: Not available
(i) Flammability (solid, gas): Not flammable
(j) Upper/lower flammability or explosive limits: Not available
(k) Vapor pressure: Not available
(l) Vapor density: Not available
(m) Relative density: ~1.2
(n) Solubility(ies): Slightly soluble in water
(o) Partition coefficient: n-octanol/water: Not available
(p) Auto-ignition temperature: Not available
(q) Decomposition temperature: Unknown
(r) Viscosity: Not available
(s) VOC (Volatile Organic Compound): N/A

Section 10: Stability and Reactivity

(a) Reactivity: No data available
(b) Chemical stability: Stable in dry environments
(c) Possibility of hazardous reactions: None known
(d) Conditions to avoid (e.g., static discharge, shock, or vibration): Contact with strong acids.
(e) Incompatible materials: Strong acids
(f) Hazardous decomposition products: None known.

Section 11: Toxicological Information

Information on Toxicological effects

Information on likely routes of exposure

Ingestion	May cause gastrointestinal irritation.
Inhalation	Dust may irritate respiratory system. Chronic exposure may result in lung disease. (See below)
Skin contact	May cause irritation, itching or dermatitis. (See below)
Eye contact	Contact with dust may cause mechanical irritation.

Symptoms related to the physical, chemical and toxicological characteristics
Acute exposure to airborne dust concentrations in excess of the PEL/TLV may result in coughing, dyspnea, wheezing, and a burning irritation of the nose, throat, and upper respiratory tract, along with possible impaired pulmonary function. Chronic exposures may result in lung disease. (Silicosis and/or lung cancer)
Contact with wet Portland Cement may cause severe irritation, redness, and possible burns. Continued and prolonged contact may result in drying of the skin. Contact with dust or glass fibers may produce itching, rash and/or redness. Repeated or prolonged exposure may result in dermatitis.

Toxicological data
No toxicological data is available for this product. Toxicological information for components of this product listed below.

Acute toxicity	Not available
Skin corrosion/irritation	Not available
Serious eye damage/eye irritation	Not available
Skin sensitization	Not available
Respiratory sensitization	Not available
Sensitization	Not available
Mutagenicity	Not available
Carcinogenicity	Not available

This product contains crystalline silica. (quartz) The International Agency for Research on Cancer (IARC) classifies crystalline silica inhaled in the form of quartz or cristobalite from occupational sources as carcinogenic to humans, Group 1. The National Toxicology Program (NTP) classifies respirable crystalline silica as a substance which may be reasonably anticipated to be a carcinogen. OSHA does not regulate crystalline silica as a human carcinogen.

Reproductive effects	Not available
Specific target organ toxicity – single exposure	Not available
Aspiration toxicity	Not available

Section 12: Ecological Information

(a) Ecotoxicity (aquatic and terrestrial, where available): This product could be toxic to fish due to its high alkalinity from the Portland Cement. No studies are available.
(b) Persistence and degradability: Unknown
(c) Bioaccumulative potential: Unknown.
(d) Mobility in soil: Unknown
(e) Other adverse effects (such as hazardous to the ozone layer): None known

Section 13: Disposal Considerations

This material is not considered a hazardous waste. Dispose of according to Local, State, Federal, and Provincial Environmental Regulations.

Section 14: Transport Information

This product is not a DOT hazardous material
Shipping Name: Same as product name
ICAO/IATA/IMO: Not applicable

Section 15: Regulatory Information

All ingredients are included on the TSCA inventory.
Federal Regulations
SARA Title III: Not listed under Sections 302, 304, and 313
CERCLA: Not listed
RCRA: Not listed
OSHA: Dust and potential respirable crystalline silica generated during product use may be hazardous.

State Regulations
California Prop 65: Respirable crystalline silica is known to the state of California to cause cancer.
Canada WHMIS
All components of this product are included in the Canadian Domestic Substances List (DSL).
Crystalline silica: WHMIS Classification D2A

Section 16: Other Information

SDS Prepared by: National Gypsum Company
2001 Rexford Road
Charlotte, NC 28211
Phone Number: (704) 551-5820

Date of Preparation: July 16, 2015

Revision indicators and Date
Effective Date Change: 7/16/2015 Supersedes: 6/1/2015
Format Changes: Conforms to OSHA 29CFR 1910.1200 (HCS)
Compliant with the 2015 Canadian Workplace Hazardous Materials Information System (WHMIS 2015), the Canadian Hazardous Products Act, and the Controlled Products Regulations. (CPR)

Key to Abbreviations

ACGIH	American Conference of Governmental Industrial Hygienists
CAS	Chemical Abstract Services Number
CFR	Code of Federal Regulations
DOT	Department of Transportation
EPA	Environmental Protection Agency
HEPA	High Efficiency Particulate Air
HCS	Hazard Communications Standard
HMIS	Hazardous Material Identification System
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IMO	International Maritime Organization
NIOSH	National Institute for Occupational Safety and Health
NFPA	National Fire Protection Association
NTP	National Toxicology Program
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
PPE	Personal Protective Equipment
TLV	Threshold Limit Value
TSCA	Toxic Substance Control Act
TWA	Time Weighted Average
WHMIS	Workplace Hazardous Materials Information System

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind expressed or implied is made with respect to the information contained herein. This safety data sheet was prepared to comply with the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Disclaimer of Liability:
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Spécification

Pratique standardisé

Proposé à :

AIR MP
754, Rue Saguenay
Rouyn-Noranda (Qc) J9X 7B5

A/S : Guillaume Gauthier

Préparé et présenté par :

Danielle Matte

NACE CIP Certifié Niveau 3
#64593

Distribution E.S.
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admin@distributiones.com

1. Système standard

Primer :

ARP Primer Époxy (Kits Gallon)
→Gris pâle
→Satiné

Finition :

Supershield Uréthane (Kits Gallon)
→Toutes les couleurs
→Standard Lustré 80-90% lustre
→Disponible en différents lustres sur demande.

2. Système salin

Projets résistance saline – 3000 heures

Primer :

Guertin EF75122 Époxy (Kits 4 Gallons)
→ Gris Charcoal
→ Semi-Lustre

Finition :

Supershield Uréthane (Kits Gallon)
→Toutes les couleurs
→Standard Lustré 80-90% lustre
→Disponible en différents lustres sur demande.

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PRIMER – Système 1 – Projet standard

Époxy de finition sans sablage ARP 2.1VOC Primer

Ratio : 3 :1 → vendus en kits 1x GALLONS

Partie-A : 83030A01 @ format 2.84 litres
Partie-B : 83030B01 @ format 950 ml

NE PAS DILUER ; PRÊT À L'USAGE

NE PAS PIGMENTER

Résistance saline : >1500hrs

Préparation :

- Bien lire la fiche technique avant d'appliquer
- Le nettoyage au solvant (SSPC-SP1) est nécessaire
- Arrondir tous les coins et adoucir les soudures, retirer les bavures de soudage, contaminants lousses (SSPC-SP2 ET SSPC-SP3)
- Pour acier autre que satiné, effectuer un grenaillage conformément la norme SSPC-SP6

Application :

- Mélanger la Partie A et Partie B indépendamment avant de les mélanger ensemble.
- Combiner les 2 parties ensemble en ratio 3 :1 en mélangeant mécaniquement à basse révolution pendant au moins 2 minutes jusqu'à ce que le mélange ait une consistance uniforme
- Utiliser un mesh 100 pour le filtre
- S'assurer que le taux d'humidité ambiante est en dessous de 80%.

ÉPAISSEURS :
Appliquer entre 4 et 6 mils humide
Vous obtiendrez entre 2.4 et 3.6 mils sec (DFT)

APPLIQUER LA FINITION SUPERSHIELD LA JOURNÉE MÊME, ENTRE 1h et 6h APRÈS

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PRIMER – Système 2 – Résistance Saline

Époxy Haute Performance EF75122

Ratio : 4 :1

Partie-A : EF75112P1-12L @ format 12 litres
Partie-B : EF75061P2-3L @ format 3 litres

NE PAS DILUER ; PRÊT À L'USAGE

NE PAS PIGMENTER

Résistance saline >3000h.

Préparation :

- Bien lire la fiche technique avant d'appliquer
- Le nettoyage au solvant (SSPC-SP1) est nécessaire
- Arrondir tous les coins et adoucir les soudures, retirer les bavures de soudage, contaminants lousses (SSPC-SP2 ET SSPC-SP3)
- Pour acier autre que satiné, effectuer un grenaillage conformément la norme SSPC-SP6

Application :

- Mélanger la Partie A et Partie B indépendamment avant de les mélanger ensemble.
- Combiner les 2 parties ensemble en ratio 4 :1 en mélangeant mécaniquement à basse révolution pendant au moins 3 minutes jusqu'à ce que le mélange ait une consistance uniforme
- Utiliser un mesh 100 pour le filtre
- S'assurer que le taux d'humidité ambiante est en dessous de 80%.

ÉPAISSEURS :
Appliquer entre 7 et 8 mils humide
Vous obtiendrez entre 4.2 et 4.8 mils sec (DFT)

APPLIQUER LA FINITION SUPERSHIELD LA JOURNÉE MÊME, ENTRE 1h et 6h APRÈS

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FINITION URÉTHANE – Système Universel (1 et 2)

Uréthane Supershield sans Isocyanathes formule 3 :1

Ratio : 3 :1

Partie-A : Supershield Intermix @ format 2.83l
Partie-B : SI25002P214 @ format 946ml

NE PAS DILUER ; PRÊT À L'USAGE

Préparation :

- Bien lire la fiche technique avant d'appliquer
- Aucun temps d'induction nécessaire

Application :

- Mélanger la Partie A et Partie B indépendamment avant de les mélanger ensemble.
- Combiner les 2 parties ensemble en ratio 3 :1 (vendu en kits) en mélangeant mécaniquement à basse révolution pendant au moins 2 minutes jusqu'à ce que le mélange ait une consistance uniforme
- Utiliser un mesh 100 pour le filtre
- S'assurer que le taux d'humidité ambiante est en dessous de 80%.
- Appliquer sur le primer en système « wet-on-wet » après 1 heure seulement, et dans un maximum de 6 heures sinon il y aura délamination entre les 2 produits.
- Le produit sera prêt à manipuler après 1 à 3 heures dépendant de la chaleur ambiante.

ÉPAISSEURS :
Appliquer entre 4 et 5 mils humide
Vous obtiendrez entre 2.6 et 3.2 mils sec (DFT)

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MÉTHODE DE PRISE DE MESURE D'ÉPAISSEUR DE PEINTURE

SELON SSPC-PA2

STANDARD DE BASE

- 3 relevés dans un rayon de 4cm à 5 endroits différents pour chaque surface de 100pi2
- Les relevés doivent être mesurés à maximum de 1po d'un rebord
- Total de 15 relevés individuels pour établir 1 mesure
- Un minimum de 5 relevés doit être dans le spectre de DFT requis par la spécification
- Aucun relevé peut représenter une valeur de :
  - Moins de 80% du DFT requis par la spécification
  - Plus de 120% du DFT requis par la spécification
- Si la moyenne des relevés indique une mesure acceptée par la spécification, passer à une autre pièce
- Si la moyenne des relevés indique une mesure hors spécification, la pièce ne doit pas être acceptée par le chargé de projet.

STANDARD SELON GRANDEUR DES SURFACES

- Pour les surfaces de moins de 1000pi2, sélectionner au hasard 3 endroits de 100pi2 et effectuer les prises de mesures conformément au standard de base mentionné ci-haut (45 relevés)
- Pour les surfaces de plus de 1000pi2, mesurer le premier 100pi2 conformément au standard de base mentionné ci-haut (45 relevés), et effectuer par la suite 1 seule mesure (15 relevés) pour chaque section de 100pi2 suivante.
- Lorsqu'une anomalie est détectée, reculer de section (100pi2) et prendre des relevés conformément au standard de base pour les surfaces de moins de 1000pi2 (5 spots de 3 relevés à 3 endroits différents = 45 relevés) jusqu'à ce que les sections respectent la spécification.
- Refaire les pièces défectueuses et recommencer.

LEXIQUE :

Relevé : Prise de mesure individuelle avec la jauge électronique à un endroit précis
Mesure : C'est la mesure du DFT utilisé pour le résultat final. Il est calculé en faisant moyenne des relevés.
DFT : Épaisseur de peinture sèche (dry film thickness)

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INTEGRITY

INNOVATION

PERFORMANCE

GUERTIN
A Division of Cloverdale Paint Inc.

TECHNICAL DATA
EF75122

Description

EF75122 is a grey, high solids, 2.8 VOC, epoxy primer. It is designed to fill blast profiles in a single coat. No induction time is required.

Mixed Coating Properties

Mix Ratio	4 Parts base to 1 Part epoxy part 2
VOC	
EF75060P2	3.00 lbs / gal or 360 grams / litre
EF75061P2	2.80 lbs / gal or 336 grams / litre
Volume Solids	
EF75060P2	57.61%
EF75061P2	60.64%
Sag	
Airless	12 - 15 mils
Air Assist Airless	12 - 15 mils
Air Spray	12 - 15 mils
HVLP	12 - 15 mils
Viscosity @ 70°F (21°C)	25 - 30 Seconds Zahn#2 / 300 cps
Pot Life @ 77°F (25°C)	
EF75060P2	5.00 hours
EF75061P2	4.00 hours
Salt Spray (B1000)	3000 hours @ 4 mils DFT
Theoretical Coverage	
EF75060P2	924 ft^2 / gal (22.6 m^2 / litre) @ 1 mil DFT
EF75061P2	972 ft^2 / gal (23.8 m^2 / litre) @ 1 mil DFT

DFT = Dry Film Thickness

Product Weight - *Container weight not included*

EF75122P1 base	13.82 lbs / gallon or 1.656 kg / litre
EF75060P2 standard cure	7.58 lbs / gallon or 0.909 kg / litre
EF75061P2 fast cure	7.76 lbs / gallon or 0.930 kg / litre

Shelf Life

Shelf Life is applicable only for material stored in unopened and undamaged original factory filled containers at 4°to 38°C (39°to 100°F).

EF75122P1	1 year	EF75060P2	2 years
		EF75061P2	2 years

Subject to reinspection. Store unused material in tightly closed containers. Contents of partially filled containers may show surface skinning after storage. If skinning forms, remove by straining before use.

BENEFITS

- excellent edge coverage
- exceptional corrosion resistance
- excellent adhesion
- excellent sprayability
- humidity resistance

USES

- power transmission & distribution equipment
- containment tanks
- OEM - chemical tankers & trailers
- OEM - oil patch applications
- OEM - fleet applications

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www.cloverdalepaint.com

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TECHNICAL DATA
EF75122

Surface Preparation

SSPC – SP6 Commercial Blast minimum recommended or a minimum of 3-stage to 7-stage phosphate cleaning system.

Mixing Instructions

1) Pre-Mix EF75122P1 Base for 2 minutes with an air-operated Jiffy Mixer®, or equivalent, to produce a uniform consistency within its container

2) Properly ratio material at 4:1 (by volume):

   4 Parts EF75122P1 Base to
   1 Part EF75060P2 Standard Cure Epoxy Part 2 or
   1 Part EF75061P2 Fast Cure Epoxy Part 2

3) Mix material for 3 minutes with an air-operated Jiffy Mixer®, or equivalent, to a uniform consistency before use

4) No induction time required

5) No Thinning required

6) Filter through 100 mesh in line filter

Application Instructions

Application Temperature

Minimum	55°F (10°C)
Maximum	100°F (38°C)

Equipment Settings

Air Spray:	pot pressure:	10 – 20 psi
	atomizing air:	45 – 65 psi
	nozzle set:	1.4 – 1.8
Airless Spray:	fluid pressure:	2000 - 2500 psi
	tip size:	.013 - .019
Air Assist Airless:	fluid pressure:	700 - 1500 psi
	atomizing air:	20 – 60 psi
	tip size:	.013 - .019

- Precision plural component equipment is recommended. All spray equipment including lines and filters must be kept clean at all times to avoid nozzle plugging. When hand mixing follow /Mixing Instructions' procedures.
- Apply in wet coats making even parallel passes. Overlap each pass 50% to minimize holidays, bare areas and pinholes.
- Excess wet film will cause sags and runs.

Recommended dry film thickness is 3 mils above profile.

If thinners are required: *Please contact your Guertin Representative for recommendations.*

Note: Successful application requires following the recommended temperature, humidity conditions and film thickness ranges.

Recoat Window for best D.O.I.

Substrate Temp	70°F (21°C)
Over Itself	up to 3 days
With Urethane Topcoat	4 hours up to 24 hours
With Super-Shield® Topcoat	1 hour to 4 hours

Flash times:
Allow a minimum of 4.0 hours flash off time before applying a two-component urethane topcoat. Higher film builds (>4mils) and/or cooler temperatures will require longer flash times.

The epoxy primer can be recoated with itself up to 3 days. After 3 days the epoxy primer must be scuff sanded.

It can be topcoated with 2K urethane and Super-Shield® topcoats up to 24 hours. After 24 hours the epoxy primer must be scuff sanded.

It is recommended to apply at ambient air and surface temperatures between 55° - 100°F (10° - 38°C). App ly at a relative humidity level below 80%.

Surface temperature must be at least 5°F (3°C) abov e the dew point to ensure that moisture condensation does not occur during application and the drying period.

Higher/lower temperatures & humidity, film thickness, improper activator range and poor air movement will affect the dry time and recoat window.

Equipment Cleanup

Clean application equipment with Guertin's SP02859T0 or SP05127T0.

Safety Precautions

FOR INDUSTRIAL USE ONLY. To be used by professionally trained personnel using proper safety equipment. Use only with adequate ventilation. Warning: this product is flammable, keep away from heat, sparks and open flame. Please refer to material safety data sheets.

Warranty

Guertin Coatings warrants its product to be free from defects in materials and workmanship and will REPLACE ANY PRODUCT PROVED TO BE DEFECTIVE, OR REFUND OF THE ORIGINAL PURCHASE PRICE OF THE QUANTITY PROVED TO BE DEFECTIVE. Requests for refund or replacement of product must be made in writing within one year from the original date of purchase. This Warranty does not apply to defects due, directly or indirectly, to misuse, abuse, negligent application, or acts of God.

GUERTIN COATINGS WILL NOT BE LIABLE FOR DEATH, INJURIES TO PERSONS OR PROPERTY, OR FOR INCIDENTAL, CONTINGENT, SPECIAL OR CONSEQUENTIAL DAMAGES ARISING FROM THE USE OF OUR PRODUCT, INCLUDING DOWNTIME OR LOSS OF USE OF PRODUCT.

All data, statements, and recommendations made herein are based upon information we believe to be reliable, but are made without any representation, guarantee or warranty of accuracy. Our products are sold on the condition that the user himself will evaluate them, as well as our recommendations, to determine their suitability for his own purpose before adoption. Also, statements regarding the use of our products or processes are not to be construed as recommendations for their use in violation of any patent rights or in violation of any applicable laws or regulations.

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F I C H E S I G N A L E T I Q U E

SECTION I - RENSEIGNEMENTS SUR LE PRODUIT

Identificateur du Produit: GREY HIGH BUILD ANTICORROSIVE
NumÉro du Produit: EF75122P1
Usage du Produit: PEINTURE WHMIS CATEGORIE: B2 D2A D2B

NOM DU FABRICANT:
Cloverdale Paint Inc.
50 PANET ROAD
WINNIPEG, MB
R2J 0R9 204/237-0241

NOM DU FOURNISSEUR:
Cloverdale Paint Inc.
50 PANET ROAD
WINNIPEG, MB
R2J 0R9 204/237-0241

PREPARE PAR: Mr Robert Tinsley, 204-237-0241 DATE: 04/10/15

SECTION II - INGREDIENTS DANGEREUX

INGREDIENTS	NUMERO CAS	POURCENTAGE	LIMITES D'EXPOSITION	LC50	LD50
TITANIUM DIOXIDE	13463-67-7	5.0-10.0	10 MG/M3	6.82MG/L RAT	>25G/KGORAL RAT
MAGNESIUM SILICATE(TALC)	13776-74-4	10.0-30.0	5 mg/m3 DUST	N/AV	N/AV
CARBON BLACK	1333-86-4	0.1-1.0	3.5mg/m3DUST	>156 MG/M3 RAT	>240 MG/KG IP
BISPHENOL A DIGLYCIDYL ETHER	25068-38-6	1.0-5.0	NO INFO	N/AV	N/AV
XYLENE; MIXED ISOMERS	1330-20-7	1.0-5.0	100 ppm	5000 PPM RAT	4G/KG RAT ORAL
METHYL AMYL KETONE	110-43-0	1.0-5.0	50 ppm	2000 PPM RAT	1600 MG/KG RAT
METHYL ISOBUTYL KETONE	108-10-1	1.0-5.0	50 ppm	5700 PPM RAT	2080MG/KG RAT
METHYL ETHYL KETONE	78-93-3	5.0-10.0	200 ppm	2000 PPM RAT	2737 MG/KG RAT
N BUTYL ACETATE	123-86-4	1.0-5.0	150 ppm	2000 PPM RAT	14.0 G/KG RAT
GLYCOL ETHER PM ACETATE	108-65-6	1.0-5.0	50 ppm	N/AV	8532MG/KG RAT
PROPYLENE GLYCOL MONOMETHYL ETHER	107-98-2	1.0-5.0	100 ppm	13000 MG/KG RAT	5660 MG/KG RAT
ETHYLBENZENE	100-41-4	1.0-5.0	100 ppm	>4000 PPM RAT	3.5 G/KG RAT

N.A. - SANS OBJET

SECTION III - PROPRIETES PHYSIQUES

POINT D'EBULLITION : 79-260 C
ODEUR :ODEUR PIQUANTE
APPARENCE :LIQUIDE GRIS
SOLUBILITE :2% EAUABLEE
VOLATILES EN VOLUME: 40.0%
PH @ 0.00 % : 7.0
TENSION DE VAPEUR :77.5 mm Hg

DENSITE DE LA VAPEUR:PLUS LOURD QUE L'AIR
TAUX D'EVAPORATION :PLUS RAPIDE QUE ACETATE BUTYLE
DENSITE SPECIFIQUE : 1.584
POINT DE CONGELATION: -40 C

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SECTION IV - RISQUES D'INCENDIE OU D'EXPLOSION

POINT D'ECLAIR: -6 C
(TAGLIABUE C. C.)
CLASS 3, DIV. 1

LEL: 1.0%
UEL: 13.8%

MOYENS D'EXTINCTION: CHIMIQUES SECS CO2 LA MOUSSE BROUILLARD DE L'EAU

RISQUE PARTICULIERE DE LUTTE CONTRE L'INCENDIE: LIQUIDE COMBUSTIBLE (POINT ECLAIR EST INFERIEUR A 100 F/38 C). PEUT FORMER DES MELANGES INFLAMMABLES. LES VAPEURS PEUVENT ETRE EXPLOSIVE DANS L'AIR. ELIMINER TOUTE SOURCE D'IGNITION. TOUT EQUIPMENT DOIT ETRE MIS A LA TERRE. GARDER LE RECIPIENT FERME.

PROCEDURE D'EXTINCTION: LES POMPIERS DOIVENT PORTER UN APPAREIL RESPIRATOIRE AUTONOME ET DES VETEMENTS DE PROTECTION COMPLETS. UTILISER DE L'EAU PULVERIZEE POUR REFROIDER LES STRUCTURES ET LES CONTENANTS EXPOSES AU FEU.

SECTION V - DANGERS POUR LA SANTE

EFFETS DE LA SUREXPOSITION: *** INHALATION: LES VAPEURS PEUVENT IRRITER. L'EXPOSITION A DES VAPEURS TRES CONCENTREES PEUVENT CAUSER DES MAUX DE TETES, DES ETOURDISSEMENTS, DES NAUSEES, UNE DEPRESSION DU SYSTEME NERVEUX CENTRAL. L'EXPOSITION PROLONGEE A DES VAPEURS TRES CONCENTREES PEUT CAUSER L'EVANOUISSEMENT OU LA MORT. *** INGESTION: MODEREMENT TOXIQUE. LE PRODUIT EST NOCIF LORSQU'IL EST INGERE. L'INGESTION DE GRANDES QUANTITES PEUT CAUSER DES MAUX DE TETES, DES NAUSEES, DES VOMISSEMENTS, UNE DEPRESSION DU SYSTEME NERVEUX CENTRAL. UNE PETITE QUANTITE DE CE LIQUIDE ASPIREE DANS LES POUMONS SOIT PAR INGESTION OU PAR VOMISSEMENT, RISQUE D'AVOIR DE GRAVE EFFETS NOCIF POUR LA SANTE (P.EX., PROVOQUER UN OEDEMENT PULMONAIRE). *** PEAU: PEUT CAUSER DE L'IRRITATION MODEREE. PEUT CAUSER LE DEGRAISSMENT ET LA DERMATITE. UNE EXPOSITION PROLONGEE PEUT RESULTER A UNE SENSIBILITE DANS LA PEAU. PEUT PROVOQUER DES BRULURES CHIMIQUES. PEUT ETRE ABSORVER PAR LA PEAU ET PROVOQUER UN RISQUE POUR LA SANTE. *** YEUX: LES VAPEURS PEUVENT IRRITER. LE LIQUIDE ET LES BRUINES IRRITENT LES YEUX ET PEUVENT CAUSER DES BRULURES. *** EFFETS DE LA SUREXPOSITION: CONTIENT SILICE. LA SUREXPOSTION A LONG TERME AU SILICE CAUSE LA SILICOSE ET LA DETERIATION CARDIOPULMONAIRE. LA SUREXPOSITION A LONG TERME AU NOIR DE CARBONE PEUT ENTRAINER DES LESIONS CUMULATIVES AU COEUR ET AUX POUMONS. L'EXPOSITION PROLONGEES OU REPETEES PEUT CAUSER UNE SENSIBILITE DE LA PEAU ET/OU UNE SENSIBILITE RESPIRATOIRE. L'EXPOSITION PROLONGEES OU REPETEES PEUT CAUSER UN MAUVAIS FONCTIONNEMENT DU FOIE, DES REINS, ET/OU DU SYSTEME NERVEUX. L'EXPOSITION PROLONGEES OU REPETEES PEUVENT CAUSER A LA LONGUE DES DOMMAGES AUX SYSTEME SANGUIN, GASTRO-INTESTINAL, NERVEUX, ET/OU REPRODUCTEUR. LES EXPOSITIONS PROLONGEES ET REPETEES PEUVENT PROVOQUER DES EFFETS TOXIQUE. L'EXPOSITION A CE PRODUIT NE DEVRAIT CAUSER AUCUN PROBLEME LORSQUE MANIPULER AVEC SOINS. LE CIRC A CLASSÉ L'ÉTHYLBENZENE PARMI LES SUBSTANCES DU GROUPE 2B EN SE FONDANT SUR DES DONNÉES SUFFISANTES DÉMONTRANT SA CANCÉROGÉNÉCITÉ POUR LES ANIMAUX DE LABORATOIRE, MAIS DE DONNÉES INSUFFISANTES SELON LES RÉSULTATS DE CERTAINES ÉTUDES MENÉES SUR DES ANIMAUX, DE TRES GRANDES EXPOSITIONS AUX XYLENES ON ENTRAINÉ DES EFFETS NÉFASTES SURE LE DÉVELOPPEMENT DES EMBRYONS/FOTUS. CES EFFETS SONT SOUVENT APPARUS A DES NIVEAUX D'EXPOSITION TOXIQUES POUR LA MERE. LA PORTÉE DE CES RÉSULTATS POUR LES HUMAINS N'A PAS ÉTÉ ÉTABLIE. LES EXPOSITIONS EXCESSIVES LONG TERME PEUT CAUSER TALCOSE, FIBROSE PULMONAIRE, QUI A SON TOUR MON ENTRAINER DES DOMMAGES GRAVES ET PERMANENTS AUX POUMONS. UNE ÉTUDE PORTANT SUR L'INHALATION DURANT TOUTE UNE VIE FAIT RESSORTIR QU'UNE EXPOSITION A DE LA POUSSIERE DE DIOXYDE DE TITANE A UNE CONCENTRATION DE 250 MG/M3 A ENTRAINÉ L'APPARITION DE TUMEURS AUX POUMONS CHEZ DES RATS. CES TUMEURS NE SONT APPARUES QU'A DES CONCENTRATIONS DE POUSSIERES QUI DÉPASSENT LA CAPACITÉ DES MÉCANISMES DE CLAIRANCE PULMONAIRE DES ANIMAUX ET SONT DIFFÉRENTES DES TUMEURS PULMONAIRES COMMUNES CHEZ L'ETRE HUMAIN TANT DANS LE TYPE QUE DANS

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SECTION V - DANGERS POUR LA SANTE

L'EMPLACEMENT. LA PERTINENCE DE CES RÉSULTATS SURE LE CANCER (CIRC) A CLASSÉ LE DIOXYDE DE TITANE PARMI LES LES CANCÉROGENES PRÉSUMÉS POUR LES HUMAINS (GROUPE 2B) EN SE FONDANT SURE DES DONNÉES INSUFFISANTES DÉMONTRANT SA CANCÉROGÉNÉCITÉ CHEZ LES HUMAINS ET DE DONNÉES SUFFISANTES DÉMONTRANT SA

CONDITIONS MEDICALES GENERALEMENT AGGRAVEES PAR L'EXPOSITION: LES PROBLEMES CUTANES. LES PROBLEMES OCCULAIRES. LES PROBLEMES RESPIRATOIRE CHRONIQUES. EN 1995 CIRC A CONCLUDE EXISTE DES PREUVES SUFFISANTES CHEZ LES ANIMAUX EXPERIMENTAUX DE LA CANCEROGENICITE DU NOIR DE CARBONE CLASSEMENT BLACK PROBABLEMENT CANCEROGENE AUX HUMAINS.

VOIES PRIMAIRES DE PENETRATION: CONTACT DERMIQUE INHALATION INGESTION

MESURES DE PREMIERS SOINS: *** INHALATION: TRANSPORTER A L'AIR FRAIS. AIDER LA RESPIRATION SI NECESSAIRE. GARDER LA VICTIME AU CHAUD ET CALME. CONSULTER UN MEDECIN. *** INGESTION: NE PAS FAIRE VOMIR OU BOIRE. FAIRE REPOSER. CONSULTER SANS DELAI UN MEDECIN. SI LE VOMISSEMENT SE PRODUIT, GARDER LA TETE DE LA VICTIME BAISSEE AU-DESSOUS DE SES HANCHES POUR EVITER L'ASPIRATION DANS LES POUMONS. *** PEAU: LAVER LA PEAU CONTAMINEE AVEC DE L'EAU. CONSULTER SANS DELAI UN MEDECIN. *** YEUX: RINCER DE L'EAU CLAIRE PENDANT AU MOINS 15 MINUTES ET FAIRE IMMEDIATEMENT APPEL A UN MEDECIN.

SECTION VI - DONNEES SUR LA REACTIVITE

STABILITE: CE PRODUIT EST STABLE DANS DES CONDITIONS NORMALES D'ENTREPOSAGE.

POLYMERISATION DANGERUSE: NE SE PRODUIRA PAS DANS DES CONDITIONS NORMALES.

PRODUITS DE DECOMPOSITION DANGEREUX: OXYDES DE CARBONE. VAPEURS TOXIQUES ET FUMEE. FUMEE INFLAMMABLES.

CONDITIONS A EVITER: CHALEUR, ETINCELLES, FLAMMES.

PRODUITS INCOMPATIBLES: AGENTS OXIDABLE. ACIDES. ALCALINS. AMINES. AGENTS REDUCTEURS. AGENTS D'AZOTES. LES SULFURES. HALOGENES. L'EAU. LES COMPOSES CHLORINES.

SENSIBILITE AUX DECHARGES ELECTROSTATIQUES: PRENDRE DES PRECAUTIONS CONTRE LES DECHARGES STATIQUES.

SECTION VII - MESURES POUR FUITE OU DEVERSEMENT

ACTION A PRENDRE EN CAS DE FUITE OU DE DEVERSEMENT: ELIMINER TOUTE SOURCE D'IGNITION. ARRETER LA SOURCE DE FUITE. ASSURER UN VENTILATION EVACUER TOUT PERSONNEL NON-ESSENTIEL. PORTER LES VETEMENTS NECESSAIRE. ENDIGER L'ENDROIT POUR EMPECHER PROPAGATION. ABSORBER LE LIQUIDE AVEC UN PRODUIT ABSORBANT INERTE. TRANSFERER DANS UN CONTENANT A L'EPREUVE D'IGNITION.

METHODES D'ELIMINATION: NE PAS CONTAMINER LES COURS D'EAU POTABLE, LES LACS, LES ETANGS OU LES RUISSEAUX. SELON REGLEMENTS MUNICIPAUX, LES LOIS PROVINCIAL ET FEDERALES APPLICABLE A VOTRE LOCALITE.

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SECTION VIII - PRECAUTIONS D'EMPLOI

PROTECTION RESPIRATOIRE: UTILISER UN MASQUE RESPIRATOIRE A HAUT RENDEMENT QUI PROTEGE CONTRE LES VAPEURS ORGANIQUES ET LES POUSSIERES TOXIQUES. POUR DES HAUTES CONCENTRATIONS, UTILISER UN MASQUE RESPIRATOIRE A ALIMENTATION D'

VENTILATION: VENTILATION EFFICACE SUR PLACE POUR EVACUER LA POUSSIERE. EMPLOYER UN APPAREILAGE DE VENTILATION ANTIDEFLATION.

GANTS PROTECTEURS: PORTER DES GANTS/VETEMENTS RESISTANTS AUX PRODUITS CHIMIQUES AFIN DE PROTEGER LA PEAU POTENTIELLEMENT EXPOSEE.

PROTECTION YEUX: EVITER LE CONTACT AVEC LES YEUX. PORTER DES LUNETTES PROTECTRICES CONTRE LES PRODUITS CHIMIQUES ET UN ECRAN FACIAL.

AUTRE EQUIPMENT PROTECTEUR: TABLIER ET BOTTES IMPERMEABLES. DOUCHE OCULAIRE ET DOUCHE D'URGENCE.

AUTRE MESURES DE PROTECTION: EVITER TOUT CONTACT AVEC LES YEUX, LA PEAU ET LES VETEMENTS. EVITER DE RESPIRER. NE PAS INGERER. CONSERVER LOIN DE TOUS ALIMENTS. BIEN LAVER LES MAINS APRES AVOIR MANIPULER LA MATIERE. CHANGER ET LAVER LES VETEMENTS CONTAMINES.

RENSEIGNEMENTS SPECAUX EN MATIERE D'EXPEDITION: PEINTURE. LIQUIDE INFLAMMABLE CLASSE:3 UN# 1263 LE GROUPE D'EMBALLAGE II. CANUTEC 24 HOUR EMERGENCY NUMBER: (613) 996-6666

SECTION IX - PRECAUTIONS SPECIALES

PRECAUTIONS A PRENDRE A LA MANIPULATION ET L'ENTREPOSAGE: ENTREPOSER DANS UN ENDROIT FRAIS, SEC ET BIEN VENTILE, A L'ECART DES MATIERES INCOMPATIBLES. NE PAS LAISSER A PROXIMITE D'UNE SOURCE DE CHALEUR, D'ETINCELLES, OU D'UNE FLAMME. GARDER LE RECIPIENT FERME. TOUT EQUIPMENT DOIT ETRE MIS A LA TERRE.

AUTRES PRECAUTIONS: NE PAS COUPER, BROYER, SOUDER OU PERCER SUR OU PRES DE CE CONTENANT.

SECTION X - HMIS INFORMATION

HMIS RATIO: SANTE: 2 FLAMMABILITE: 3 REACTIVITE: 1 PROTECTION PERSONNELLE: K

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INTEGRITY
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Cloverdale INDUSTRIAL • INDUSTRIEL

TECHNICAL DATA
EF25000 SUPER-SHIELD® SERIES
3:1 & 4:1 Mix Ratio

Description

The EF25000 Series is a high performance, isocyanate free urethane system that is VOC compliant at ≤2.8 - 3.5 lbs / gal (≤335 - 420 grams/litre). Each of Cloverdale's Super-Shield® coatings are custom formulated to customer specifications; application and cure properties vary to optimize performance.

Mixed Coating Properties

Mix Ratio	3 Parts base to 1 Part catalyst (faster cure, lower spray viscosity, excellent flow out) 4 Parts base to 1 Part catalyst (STD cure, higher sag resistance, longer open time)
VOC	≤2.8 - 3.5 lbs / gal or ≤335 - 420 grams / litre
Volume Solids	50 - 65%
Sag	
Airless	4 – 5 mils
Air Assist Airless	4 – 5 mils
Air Spray	4 – 5 mils
HVLP	4 – 5 mils
Viscosity @ 70°F (21°C)	30 ± 3 Seconds Zahn#2 (3:1 Mixing) 35 ± 3 Seconds Zahn#2 (4:1 Mixing)
Pot Life @ 77°F (25°C)	2.00 hours
Gloss	
20°	Matte to ultra gloss (to customer specifications)
60°	Matte to ultra gloss (to customer specifications)
Impacts	160+ in/lbs @ 2 mils DFT
Pencil Hardness	HB – F
Theoretical Coverage @ 1 mil DFT	602 - 1042 ft^2 / gal (19.7 – 25.6 m^2 / litre)

DFT = Dry Film Thickness

Product Weight - *Container weight not included*

EF25000 base	8.76 – 11.26 lbs / gallon or 1.050 – 1.350 kg / litre
SI25002P2 catalyst	6.75 lbs / gallon or 0.810 kg / litre

Shelf Life

Shelf Life is applicable only for material stored in unopened and undamaged original factory filled containers at 39°- 100°F (4° to 38°C).

EF25000 series base	2 years	SI25002P2	6 months

Subject to reinspection. Store unused material in tightly closed containers. Contents of partially filled containers may show surface skinning after storage. If skinning forms, remove by straining before use.

BENEFITS
- ISO Free
- outstanding appearance
- excellent DOI
- excellent color & gloss retention
- low VOC
- ultra low HAP's
- meets Canadian auto refinish single stage VOC requirement
- 4:1 meets AIM VOC spec for 'other industrial maintenance coatings'

USES
- fleet finishing applications
- oil field application
- ACE
- electrical transformers
- recreational vehicles
- plastics

Cloverdale Paint Inc.
50 Panet Road • Winnipeg, Manitoba • R2J 0R9 • T 204.237.0241 • F 204.233.5051
www.cloverdalepaint.com

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TECHNICAL DATA
EF25000 Series

Surface Preparation

Properly prepared, primed surface following all application procedures and recoat instructions on primer technical data sheet.

Mixing Instructions

Mixing at 3:1 by volume:

3 Parts SI25000 series base to
1 Part SI25002P2 activator

Mixing at 4:1 by volume:

4 Parts SI25000 series base to
1 Part SI25002P2 activator

Mix thoroughly to uniform consistency before use. Filter through 100 mesh in line filter.

Application Instructions

Application Temperature

Minimum	55°F (10°C)
Maximum	100°F (38°C)

Equipment Settings

Air Spray:	pot pressure:	10 – 20 psi
	atomizing air:	45 – 65 psi
	nozzle set:	1.0 – 1.6
Airless Spray:	fluid pressure:	2000 - 2500 psi
	tip size:	.011 - .015
Air Assist Airless:	fluid pressure:	700 - 1500 psi
	atomizing air:	20 – 60 psi
	tip size:	.011 - .015

- Precision plural component equipment is recommended. All spray equipment including lines and filters must be kept clean at all times to avoid nozzle plugging. When hand mixing smaller quantities, stir thoroughly to a uniform consistency prior to use.
- Apply in wet coat making even parallel passes. Overlap each pass 50% to minimize holidays, bare areas and pinholes.
- Excess wet film will cause sags and runs.

Recommended dry film thickness is 2 – 3 mils.

Supershield® is only recommended to be a finish coat over two component epoxy primers. Never apply over one component or urethane primers.

If thinners are required: *Please contact your Cloverdale Representative for recommendations.*

Note: Successful application requires following the recommended temperature, humidity conditions and film thickness ranges.

Drying Schedule

To customer specifications

Recoat Window for Best DOI

Substrate Temp	70°F (21°C)
Over Itself	15 minutes to 1 day
Over Epoxy Primers	1 hour to 3 days

Flash times: Please refer to specific Cloverdale Primer Technical Data Sheet for appropriate flash times and recoat windows for this topcoat.

It is recommended to apply at ambient air and surface temperatures between 55°- 100°F (10°- 38°C). App ly at a relative humidity level between 33% - 85%.

Surface temperature must be at least 5°F (3°C) abov e the dew point to ensure that moisture condensation does not occur during application and the drying period.

Higher/lower temperatures & humidity, film thickness, improper activator range and poor air movement will affect the dry time and recoat window.

Equipment Cleanup

Clean application equipment with Cloverdale's SP03078TD.

Safety Precautions

FOR INDUSTRIAL USE ONLY. To be used by professionally trained personnel using proper safety equipment. Use only with adequate ventilation. Warning: this product is flammable, keep away from heat, sparks and open flame. Please refer to material safety data sheets.

Warranty

Cloverdale Paint Inc. warrants its product to be free from defects in materials and workmanship and will REPLACE ANY PRODUCT PROVED TO BE DEFECTIVE, OR REFUND OF THE ORIGINAL PURCHASE PRICE OF THE QUANTITY PROVED TO BE DEFECTIVE. Requests for refund or replacement of product must be made in writing within one year from the original date of purchase. This Warranty does not apply to defects due, directly or indirectly, to misuse, abuse, negligent application, or acts of God.

CLOVERDALE PAINT INC. WILL NOT BE LIABLE FOR DEATH, INJURIES TO PERSONS OR PROPERTY, OR FOR INCIDENTAL, CONTINGENT, SPECIAL OR CONSEQUENTIAL DAMAGES ARISING FROM THE USE OF OUR PRODUCT, INCLUDING DOWNTIME OR LOSS OF USE OF PRODUCT.

All data, statements, and recommendations made herein are based upon information we believe to be reliable, but are made without any representation, guarantee or warranty of accuracy. Our products are sold on the condition that the user himself will evaluate them, as well as our recommendations, to determine their suitability for his own purpose before adoption. Also, statements regarding the use of our products or processes are not to be construed as recommendations for their use in violation of any patent rights or in violation of any applicable laws or regulations.

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F I C H E S I G N A L E T I Q U E

SECTION I - RENSEIGNEMENTS SUR LE PRODUIT

Identificateur du Produit: SUPERSHIELD
Numéro du Produit: SI25000-12
Usage du Produit: PEINTURE WHMIS CATEGORIE: B2 D2AD2B

NOM DU FABRICANT:
Cloverdale Paint Inc.
50 PANET ROAD
WINNIPEG, MB
R2J 0R9 204/237-0241

NOM DU FOURNISSEUR:
Cloverdale Paint Inc.
50 PANET ROAD
WINNIPEG, MB
R2J 0R9 204/237-0241

PREPARE PAR: Mr Robert Tinsley, 204-237-0241 DATE: 05/16/13

SECTION II - INGREDIENTS DANGEREUX

INGREDIENTS	NUMERO CAS	POURCENTAGE	LIMITES D'EXPOSITION	LC50	LD50
IRON OXIDE	1309-37-1	5.0-10.0	10 mg/m3	N/AV	N/AV
ACRYLATED URETHANE OLIGOMER	N/AV	5.0-10.0	NO INFO	N/AV	N/AV
XYLENE; MIXED ISOMERS	1330-20-7	1.0-5.0	100 ppm	5000 PPM RAT	4G/KG RAT ORAL
METHYL AMYL KETONE	110-43-0	5.0-10.0	50 ppm	2000 PPM RAT	1600 MG/KG RAT
N-BUTYL ACETATE	123-86-4	10.0-30.0	150 ppm	2000 PPM RAT	14.0 G/KG RAT
ETHYL 3-ETHOXYPROPIONATE	763-69-9	1.0-5.0	50 ppm	>1000 PPM RAT	5000 MG/KG RAT
ETHYLBENZENE	100-41-4	1.0-5.0	100 ppm	>4000 PPM RAT	3.5 G/KG RAT
1,6 HEXANEDIOL DIACRYLATE	13048-33-4	1.0-5.0	NO INFO	N/AV	4.9 G/KG RAT
TRIMETHYLOLPROPANE TRIACRYLATE	15625-89-5	5.0-10.0	NO INFO	N/AV	>5 G/KG RAT

N.A. - SANS OBJET

SECTION III - PROPRIETES PHYSIQUES

POINT D'EBULLITION : 126-170 C
ODEUR :ODEUR PIQUANT
APPARENCE :LIQUIDE EPAIS
SOLUBILITE :NEGLIGEABLE
VOLATILES EN VOLUME: 32.7%
PH @ 0.00 % : 7.0
TENSION DE VAPEUR :18.8 mm Hg

DENSITE DE LA VAPEUR:PLUS LOURD QUE L'AIR
TAUX D'EVAPORATION :PLUS RAPIDE QUE ACETATE BUTYLE
DENSITE SPECIFIQUE : 1.100
POINT DE CONGELATION: -40 C

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SECTION IV - RISQUES D'INCENDIE OU D'EXPLOSION

POINT D'ECLAIR: 15 C
(TAGLIABUE C. C.)
CLASS 3, DIV. 2

LEL: 1.0%
UEL: 12.1%

MOYENS D'EXTINCTION: CO2 CHIMIQUES SECS LA MOUSSE

RISQUE PARTICULIER DE LUTTE CONTRE L'INCENDIE: LIQUIDE COMBUSTIBLE (POINT ECLAIR EST INFERIEUR A 100 F/38 C). PEUT FORMER DES MELANGES INFLAMMABLES. LES VAPEURS PEUVENT ETRE EXPLOSIVE DANS L'AIR. ELIMINER TOUTE SOURCE D'IGNITION. TOUT EQUIPMENT DOIT ETRE MIS A LA TERRE. GARDER LE RECIPIENT FERME.

PROCEDURE D'EXTINCTION: LES POMPIERS DOIVENT PORTER UN APPAREIL RESPIRATOIRE AUTONOME ET DES VETEMENTS DE PROTECTION COMPLETS. UTILISER DE L'EAU PULVERIZEE POUR REFROIDIR LES STRUCTURES ET LES CONTENANTS EXPOSES AU FEU.

SECTION V - DANGERS POUR LA SANTE

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CONDITIONS MEDICALES GENERALEMENT AGGRAVEES PAR L'EXPOSITION: LES PROBLEMES CUTANES. LES PROBLEMES RESPIRATOIRE CHRONIQUES.

VOIES PRIMAIRES DE PENETRATION: INHALATION CONTACT DERMIQUE

MESURES DE PREMIERS SOINS: *** INHALATION: TRANSPORTER A L'AIR FRAIS. AIDER LA RESPIRATION SI NECESSAIRE. GARDER LA VICTIME AU CHAUD ET CALME. CONSULTER UN MEDECIN. *** INGESTION: NE PAS FAIRE VOMIR OU BOIRE. FAIRE REPOSER. CONSULTER SANS DELAI UN MEDECIN. SI LE VOMISSEMENT SE PRODUIT, GARDER LA TETE DE LA VICTIME BAISSEE AU-DESSOUS DE SES HANCHES POUR EVITER L'ASPIRATION DANS LES POUMONS. *** PEAU: LAVER LA PEAU CONTAMINEE AVEC DE L'EAU. CONSULTER SANS DELAI UN MEDECIN. *** YEUX: RINCER DE L'EAU CLAIRE PENDANT AU MOINS 15 MINUTES ET FAIRE IMMEDIATEMENT APPEL A UN MEDECIN.

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POLYMERISATION DANGERUSE: NE SE PRODUIRA PAS DANS DES CONDITIONS NORMALES.

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PRODUITS INCOMPATIBLES: AGENTS OXIDABLE. ACIDES. ALCALINS. AGENTS REDUCTEURS. LES SULFURES. LES METAUX ACTIFS, IONS DE METAUX. LE CUIVRE. HALOGENES. L'EAU.

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METHODES D'ELIMINATION: NE PAS CONTAMINER LES COURS D'EAU POTABLE, LES LACS, LES ETANGS OU LES RUISSEAUX. SELON REGLEMENTS MUNICIPAUX, LES LOIS PROVINCIAL ET FEDERALES APPLICABLE A VOTRE LOCALITE.

SECTION VIII - PRECAUTIONS D'EMPLOI

PROTECTION RESPIRATOIRE: UTILISER UN MASQUE RESPIRATOIRE A HAUT RENDEMENT QUI PROTEGE CONTRE LES VAPEURS ORGANIQUES ET LES POUSSIERES TOXIQUES. POUR DES HAUTES CONCENTRATIONS, UTILISER UN MASQUE RESPIRATOIRE A ALIMENTATION D'AIR.

VENTILATION: VENTILATION EFFICACE SUR PLACE POUR EVACUER LA POUSSIERE. EMPLOYER UN APPAREILAGE DE VENTILATION ANTIDEFLATION.

GANTS PROTECTEURS: PORTER DES GANTS/VETEMENTS RESISTANTS AUX PRODUITS CHIMIQUES AFIN DE PROTEGER LA PEAU POTENTIELLEMENT EXPOSEE.

PROTECTION YEUX: EVITER LE CONTACT AVEC LES YEUX. PORTER DES LUNETTES PROTECTRICES CONTRE LES PRODUITS CHIMIQUES ET UN ECRAN FACIAL.

AUTRE EQUIPMENT PROTECTEUR: TABLIER ET BOTTES IMPERMEABLES. DOUCHE OCULAIRE ET DOUCHE D'URGENCE.

AUTRE MESURES DE PROTECTION: EVITER TOUT CONTACT AVEC LES YEUX, LA PEAU ET LES VETEMENTS. EVITER DE RESPIRER. NE PAS INGERER. CONSERVER LOIN DE TOUS ALIMENTS. BIEN LAVER LES MAINS APRES AVOIR MANIPULER LA MATIERE. CHANGER ET LAVER LES VETEMENTS CONTAMINES.

RENSEIGNEMENTS SPECAUX EN MATIERE D'EXPEDITION: PEINTURE. LIQUIDE INFLAMMABLE CLASSE:3 UN# 1263 LE GROUPE D'EMBALLAGE II. CANUTEC 24 HOUR EMERGENCY NUMBER: (613) 996-6666

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SECTION IX - PRECAUTIONS SPECIALES

PRECAUTIONS A PRENDRE A LA MANIPULATION ET L'ENTREPOSAGE: ENTREPOSER DANS UN ENDROIT FRAIS, SEC ET BIEN VENTILE, A L'ECART DES MATIERES INCOMPATIBLES. NE PAS LAISSER A PROXIMITE D'UNE SOURCE DE CHALEUR, D'ETINCELLES, OU D'UNE FLAMME. GARDER LE RECIPIENT FERME. TOUT EQUIPMENT DOIT ETRE MIS A LA TERRE.

AUTRES PRECAUTIONS: NE PAS UTILISER DE PRESSION POUR VIDER LE CONTENANT. NE PAS COUPER, BROYER, SOUDER OU PERCER SUR OU PRES DE CE CONTENANT. TOUS LES CONTENANTS CONTIENNENTDES RESIDUS ET DES VAPEURS. MANIPULER LES CONTENANTS VIDES COMME S'ILS ETAIENT PLEINS.

SECTION X - HMIS INFORMATION

HMIS RATIO: SANTE: 2 FLAMMABILITE: 3 REACTIVITE: 1 PROTECTION PERSONNELLE: E

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DATA SHEET

Industry Approvals	
Auto Refinish: ✓	Category 1
Env. Canada:	Exempt
MPI:	N/a
AWWA:	N/a

2.1 VOC ARP Primer

Automotive Primer

General Properties

A high performance epoxy primer for vehicle refinish applications requiring a primer with less than 250 gr/lt VOC. The 83030 primer has superior corrosion resistance when applied to prepared steel. No induction time required. 83030 has excellent sanding capability, but provides a finish so smooth that sanding is often not required.

Recommended Uses

For use in vehicle refinish applications, truck boxes & bodies, power distribution equipment, tanks, agricultural equipment, and general industrial priming.

Product Information

GENERIC TYPE
Amine Cured Epoxy

PIGMENT TYPE
Anti-corrosive

COLOR
Grey

BASES
N/a

FINISH
Flat

AVERAGE VOLUME SOLIDS
60.2%

AVERAGE WEIGHT SOLIDS
77.0%

RECOMMENDED FILM THICKNESS
Wet: 3.3-5.0 mils (82 - 125 microns)
Dry: 2-3 mils (50 - 75 microns)
See your Cloverdale Representative for project recommendations.

THEORETICAL COVERAGE
965 ft^2/gal @ 1 mil (25 microns) DFT
23.7 m^2/L @ 1 mil (25 microns) DFT
Actual coverage may vary depending on substrate and application methods.

MIXED RATIO
3 Parts 83030A; 1 Part 83030B

INDUCTION TIME
No induction time required

POT LIFE
7 hours at 25°C (77°F) (less at higher temperatures)

VISCOSITY MIXED
57 - 63 KU

TEMPERATURE RESISTANCE (DRY)
93°C (200°F) Continuous
120°C (250°F) Intermittent

V.O.C. MIXED
250 gm./lit. (2.1 lb./gal.)
**refer to MSD sheet for current VOC values*

THINNER
Use as supplied.

ACCELERATOR
A-65

Methods of Application

AIRLESS SPRAY	1500 - 200 psi with tip sizes .011" - .013" or equivalent
H.V.L.P.	Tip size 1.4 - 1.6 mm. 8 - 10 psi cap pressure
CONVENTIONAL	40 - 50 psi gun pressure
BRUSH / ROLLER	Not recommended

Drying Time - Temperature, Relative Humidity, and Film Thickness will affect dry and re-coat times.

Substrate Temperature	Touch Dry	Hard Dry	Overcoat Interval with Armourshield Minimum	Maximum	Normal
25°C (77°F)	3.5 hours	6 hours	2 hours	3 days	4 hours

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Recommended Topcoats

Most Cloverdale Conventional and High Performance Coatings. Note: Only the 837 and 839 series urethanes should be used for ARP applications.

Surface Preparation

Area to be painted should be thoroughly cleaned with a detergent solution in water followed by a wash using a wax and grease remover. Sand the bare metal areas using 80-180 grit abrasive. Old, existing finishes should be sanded using 320 – 400 grit paper. Sanded areas should be re-cleaned and primed as quickly as possible after drying.

Limitations

Not recommended for immersion service. For best results apply when substrate temperature is above 10°C (50°F), and at a minimum of 3°C (5°F) above the dew point. Do not apply when the relative humidity is above 85%.

Mixing Instructions

Mix 83030 base A component and curing agent 83030 activator B separately with good agitation. Add curing agent to base component and mix thoroughly until homogenous. If thinning is necessary or required proceed only after recommended induction time has passed.

Safety Precautions

This product is for industrial use only. **Refer to Material Safety Data Sheet for proper health and safety information.**

Storage and Handling

FLASH POINT	-20°C (-4°F) TCC
PRODUCT WEIGHT	1.435 kg/lt mixed (container extra)
STORAGE	Cool, dry, secure location. See your Cloverdale Paint Representative.
PACKAGE SIZE	1 gal kit - 3 qts 83030A and 1 qt. 83030B 4 gal kit - 3 gal 83030A and 1 gal 83030B

Some package sizes or colors may be by special order only. Please check with your Cloverdale Representative when ordering.

Warranty Disclaimer

Cloverdale Paint manufactures quality products. In the event that this product is defective or in any way unsuitable for the application for which it is sold, Cloverdale Paint Inc. will replace the product free of charge. The warranty provided by this data sheet is the only warranty or guarantee of quality made in respect of this product by Cloverdale Paint Inc. By purchasing this product the customer accepts this warranty in lieu of all others, and waives all claims to any other remedy arising from any warranty or guarantee of quality, whether such warranty or guarantee of quality was made expressly to the customer or implied by any applicable law.

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Web Site: www.cloverdalepaint.com Email: helpdesk@cloverdalepaint.com
Phone: 604 596 6261 Fax: 604 597 2677

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PERFORMANCE CRITERIA

1. Abrasion Resistance

Method: ASTM D4060 Abrasion Resistance of Organic Coating by Taber Abrader, 1000 gram load, CS-17 Wheel, 1000 Cycles

Coating System: 1 coat 83030

Results: 161 mg.

2. Adhesion

Method: ASTM D4541, method "E"

Coating System: 83030 primer, 839 Armourshield topcoat

Results: >900 psi

3. Chemical Resistance

Method: Covered spot test for 1 week at room temperature

Coating System: 1 coat 83030

Coating was exposed to - 5% Sodium Hydroxide Solution; 5% Sulfuric Acid Solution; 5% Hydrochloric Acid; 5% Mono Basic Sodium Phosphate Solution; 5% Sodium Hypochlorite Solution; Heavy Duty Liquid Detergent

Results: Unaffected - slight discoloration permitted

4. Recoating Window

Method: Internal method - Minimum = the time to >80% gloss @ 20 degree angle. Maximum = longest time tested with 5B adhesion of topcoat

Coating System: 83030 primer, 839 Armourshield topcoat

Results: 2 hrs to >72 hrs

5. Salt Spray (Fog)

Method: ASTM B117

Coating System A: 1 coat 83030

Results:>1000 hrs

Coating System B: 1 coat 83030, 1 coat 83904

Results: >1500 hrs

6. Flexibility

Method: ASTM D522 Cylindrical Mandrel Bend

Coating System: 1 coat 83030

Results: Not less than 9% elongation

7. Pencil Hardness

Method: ASTM D3363

Coating System A: 1 coat 83030

Results: pass 2H

Check for recent amendments to this data sheet at www.cloverdalepaint.com

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MATERIAL SAFETY DATA SHEET

SECTION I - PRODUCT IDENTIFICATION AND USE

Product Identifier: 2.1 VOC ARP PRIMER BASE
Identification Number: B3030A
Product Use: PAINT
WHMIS Class: B2 D1B D2A

MANUFACTURER:
Cloverdale Paint Inc.
50 PANET ROAD
WINNIPEG, MB
R2J 0R9 204/237-0241

SUPPLIER:
Cloverdale Paint Inc.
50 PANET ROAD
WINNIPEG, MB
R2J 0R9 204/237-0241

PREPARED BY: Mr Robert Tinsley, 204-237-0241 DATE: 03/19/14

SECTION II - HAZARDOUS INGREDIENTS

CHEMICAL NAME	CAS NUMBER	WT. PERCENT RANGE	EXPOSURE LIMIT	LC50	LD50
TITANIUM DIOXIDE	13463-67-7	10.0-30.0	10 MG/M3	6.82MG/L RAT	>25G/KGORAL R
MAGNESIUM SILICATE(TALC)	13776-74-4	10.0-30.0	5 mg/m3 DUST	N/AV	N/AV
BISPHENOL A DIGLYCIDYL ETHER	25068-38-6	10.0-30.0	NO INFO	N/AV	N/AV
ALKYL GLYCIDYL ETHER	68609-97-2	1.0-5.0	NO INFO	N/AV	>19.2 G/KG RA
XYLENE, MIXED ISOMERS	1330-20-7	1.0-5.0	100 ppm	5000 PPM RAT	4G/KG RAT ORA
METHYL ISOBUTYL KETONE	108-10-1	1.0-5.0	50 ppm	5700 PPM RAT	2080MG/KG RAT
METHYL ETHYL KETONE	78-93-3	5.0-10.0	200 ppm	2000 PPM RAT	2737 MG/KG RA
ACETONE	67-64-1	1.0-5.0	750 ppm	16000 PPM RAT	7400 MG/KG RA
PROPYLENE GLYCOL MONOMETHYL ETHER	107-98-2	1.0-5.0	100 ppm	13000 MG/KG RAT	5660 MG/KG RA
FURFURYL ALCOHOL	98-00-0	1.0-5.0	NO INFO	233 MG/KG RAT	177 MG/KG RAT
TER BUTYL ACETATE	504-88-5	1.0-5.0	NO INFO	3230 MG/M3 RAT	4100 MG/KG RA

N.A. - NOT APPLICABLE

SECTION III - PHYSICAL DATA

BOILING RANGE : 56-260 C
ODOR : AROMATIC
APPEARANCE : GREY LIQUID
VOLATILE BY WEIGHT: 18.6%
VOLATILE BY VOLUME: 35.7%
PH @ 0.00 % : 7.0
VAPOR PRESSURE : 184 mm Hg

VAPOR DENSITY : IS HEAVIER THAN AIR
EVAPORATION RATE: IS FASTER THAN BUTYL ACETATE
SOLUBILITY : 8% WATER SOLUBLE
SPECIFIC GRAVITY: 1.483
FREEZING POINT : -40 C

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SECTION IV - FIRE AND EXPLOSION DATA

FLASH POINT: -18 C
(TAGLIABUE C. C.)
CLASS 3, DIVISION 1

LEL: 1.0%
UEL: 16.3%

EXTINGUISHING MEDIA: DRY CHEMICAL CARBON DIOXIDE FOAM WATER FOG

UNUSUAL FIRE AND EXPLOSION HAZARDS: FLAMMABLE LIQUID (FLASH POINT LESS THAN 100 F/38 C). MAY FORM FLAMMABLE MIXTURES. VAPORS MAY BE EXPLOSIVE IN AIR. ELIMINATE IGNITION SOURCES. GROUND ALL EQUIPMENT. KEEP CONTAINER CLOSED.

SPECIAL FIREFIGHTING PROCEDURES: FIREFIGHTERS SHOULD WEAR SELF CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE CLOTHING. USE WATER SPRAY TO COOL NEARBY CONTAINERS AND STRUCTURES EXPOSED TO FIRE.

SECTION V - HEALTH HAZARD DATA

EFFECTS OF OVER EXPOSURE: *** INHALATION: VAPORS MAY BE IRRITATING. EXPOSURE TO HIGH VAPOR CONCENTRATIONS MAY CAUSE HEADACHES, DIZZINESS, NAUSEA, AND CENTRAL NERVOUS SYSTEM DEPRESSION. PROLONGED EXPOSURE TO HIGH VAPOR CONCENTRATIONS MAY CAUSE UNCONSCIOUSNESS OR DEATH. *** INGESTION: MODERATELY TOXIC. HARMFUL IF SWALLOWED. SWALLOWING LARGE QUANTITIES CAUSES HEADACHES, NAUSEA, VOMITING, AND CENTRAL NERVOUS SYSTEM DEPRESSION. MAY CAUSE LIVER AND/OR KIDNEY DAMAGE. SMALL AMOUNTS OF LIQUID DRAWN INTO THE LUNGS FROM SWALLOWING OR VOMITING MAY CAUSE SEVERE HEALTH AFFECTS (E.G.PULMONARY EDEMA). *** SKIN: CAN CAUSE MODERATE IRRITATION. CAN CAUSE DEFATTING AND DERMATITIS. PROLONGED EXPOSURE MAY CAUSE SKIN SENSITIZATION. CAN CAUSE CHEMICAL BURNS. CAN BE ABSORBED THROUGH THE SKIN CAUSING A HEALTH HAZARD. *** EYES: VAPORS MAY IRRITATE. LIQUID AND MISTS WILL IRRITATE AND MAY BURN THE EYES. *** CHRONIC AFFECTS OF OVEREXPOSURE: CONTAINS SILICA. LONG TERM EXPOSURE TO SILICA DUST MAY CAUSE SILICOSIS AND CARDIOPULMONARY IMPAIRMENT. REPEATED OR PROLONGED EXPOSURES MAY CAUSE SKIN AND/OR RESPIRATORY SENSITIZATION. REPEATED OR PROLONGED EXPOSURES MAY CAUSE LIVER, KIDNEY, AND/OR NEURAL DYSFUNCTION. REPEATED OR PROLONGED EXPOSURES MAY CAUSE DELAYED EFFECTS INVOLVING BLOOD, GASTRO-INTESTINAL, NERVOUS AND/OR REPRODUCTIVE SYSTEMS. LONG TERM EXPOSURE TO DUSTS CAN LEAD TO RESPIRATORY IMPAIRMENT. HIGH EXPOSURES TO XYLENES IN SOME ANIMAL STUDIES HAVE BEEN REPORTED TO CAUSE HEALTH EFFECTS ON THE DEVELOPING EMBRYO/FETUS. THESE EFFECTS WERE OFTEN AT LEVELS TOXIC TO THE MOTHER. THE SIGNIFICANCE OF THESE FINDINGS TO HUMANS HAS NOT BEEN DETERMINED. LONG-TERM EXCESSIVE EXPOSURES MAY CAUSE TALCOSIS, PULMONARY FIBROSIS, WHICH IN TURN MAY LEAD TO SEVERE AND PERMANENT DAMAGE TO THE LUNGS. IN A LIFETIME INHALATION STUDY, EXPOSURE TO 250 MG/M3 TITANIUM DIOXIDE DUST RESULTED IN THE DEVELOPMENT OF LUNG TUMOURS IN RATS. THESE TUMOURS OCCURRED ONLY AT DUST LEVELS THAT OVERWHELMED THE ANIMALS' LUNG CLEARANCE MECHANISMS AND WERE DIFFERENT FROM COMMON HUMAN LUNG TUMOURS IN BOTH TYPE AND LOCATION. THE RELEVANCE OF THESE FINDINGS TO HUMANS IS UNKNOWN. THE INTERNATIONAL AGENCY FOR RESEARCH ON CANCER (IARC) HAS CLASSIFIED TITANTIUM DIOXIDE AS POSSIBLY CARCINOGENIC TO HUMANS (GROUP 2B) BASED ON INADEQUATE EVIDENCE OF CARCINOGENICITY IN HUMANS AND SUFFICIENT EVIDENCE OF CARCINOGENICITY IN EXPERIMENTAL ANIMALS. ACCORDING TO THE INTERNATIONAL AGENCY FOR RESEARCH ON CANCER (IARC), METHYL ISOBUTYL KETONE IS POSSIBLY CARCINOGENIC TO HUMANS (GROUP 2B)

MEDICAL CONDITIONS PRONE TO AGGRAVATION BY EXPOSURE: SKIN DISORDERS. EYE DISORDERS. CHRONIC RESPIRATORY DISORDERS.

PRIMARY ROUTE(S) OF ENTRY: DERMAL INHALATION INGESTION

EMERGENCY AND FIRST AID PROCEDURES: *** INHALATION: REMOVE TO FRESH AIR. ASSIST

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SECTION V - HEALTH HAZARD DATA

BREATHING IF NECESSARY. KEEP VICTIM WARM AND QUIET. SEEK MEDICAL ATTENTION. *** INGESTION: DO NOT INDUCE VOMITING OR GIVE FLUIDS. KEEP AT REST. GET PROMPT MEDICAL ATTENTION. IF VOMITING OCCURS, KEEP VICTIM'S HEAD BELOW HIPS TO PREVENT ASPIRATION INTO THE LUNGS. *** SKIN: FLUSH CONTAMINATED SKIN WITH WATER. GET PROMPT MEDICAL ATTENTION. *** EYES: FLUSH WITH CLEAN WATER FOR AT LEAST 15 MINUTES AND IMMEDIATELY GET MEDICAL ATTENTION.

SECTION VI - REACTIVITY DATA

STABILITY: THIS PRODUCT IS STABLE UNDER NORMAL STORAGE CONDITIONS.

HAZARDOUS POLYMERIZATION: COULD OCCUR UNDER NORMAL CONDITIONS. CARE MUST BE EXERCISED.

HAZARDOUS DECOMPOSITION PRODUCTS: OXIDES OF CARBON. TOXIC FUMES AND SMOKE. FLAMMABLE FUMES.

CONDITIONS TO AVOID: HEAT, SPARKS OR FLAME.

INCOMPATABILITY: OXIDIZING AGENTS. ACIDS. ALKALIES. AMINES. SULFIDES. ALDEHYDES. HALOGENS. CHLORINATED COMPOUNDS.

SENSITIVITY TO STATIC DISCHARGE: TAKE PRECAUTIONARY MEASURES AGAINST STATIC DISCHARGES.

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: ELIMINATE IGNITION SOURCES. STOP SOURCE OF SPILL. VENTILATE AREA. EVACUATE ALL NON ESSENTIAL PERSONNEL. WEAR APPROPRIATE PROTECTIVE EQUIPMENT. DIKE SPILL TO KEEP FROM SPREADING. COVER WITH INERT ABSORBENT. REMOVE TO DISPOSAL CONTAINER.

WASTE DISPOSAL METHOD: DO NOT CONTAMINATE ANY LAKES, PONDS, STREAMS, OR UNDERGROUND WATER SUPPLIES. DISPOSE OF IN ACCORDANCE WITH LOCAL, PROVINCIAL AND FEDERAL REGULATIONS IN YOUR AREA.

SECTION VIII - SAFE HANDLING AND USE INFORMATION

RESPIRATORY PROTECTION: USE A COMBINATION ORGANIC VAPOR/TOXIC PARTICULATE HIGH EFFICIENCY FILTER RESPIRATOR. FOR HIGH CONCENTRATIONS, USE AIR SUPPLIED RESPIRATOR.

VENTILATION: EFFICIENT LOCAL EXHAUST VENTILATION IS REQUIRED. USE EXPLOSION PROOF VENTILATION EQUIPMENT.

PROTECTIVE GLOVES: WEAR APPROPRIATE CHEMICAL RESISTANT GLOVES/CLOTHING TO PREVENT SKIN CONTACT.

EYE PROTECTION: DO NOT GET IN EYES. WEAR SAFETY GLASSES/GOGGLES OR A FACE SHIELD.

OTHER PROTECTIVE EQUIPMENT: IMPERMEABLE APRON AND BOOTS. EYE BATH AND SAFETY

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SECTION VIII - SAFE HANDLING AND USE INFORMATION

SHOWER.

HYGENIC PRACTICES: DO NOT GET IN EYES, SKIN OR CLOTHING. AVOID INHALING. DO NOT SWALLOW. KEEP AWAY FROM FOOD PRODUCTS. WASH HANDS THOROUGHLY AFTER HANDLING. CHANGE AND WASH CONTAMINATED CLOTHING.

SPECIAL SHIPPING INFORMATION: PAINT. FLAMMABLE LIQUID CLASS:3 UN#1263 PACKING GROUP II. CANUTEC 24 HOUR EMERGENCY NUMBER: (613) 996-6666

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: STORE IN A COOL, DRY, WELL VENTILATED AREA, AWAY FROM ALL INCOMPATIBLE MATERIALS. KEEP AWAY FROM HEAT, SPARKS AND FLAME. KEEP CONTAINER CLOSED. GROUND ALL EQUIPMENT.

OTHER PRECAUTIONS: DO NOT USE PRESSURE TO EMPTY CONTAINERS. DO NOT CUT, GRIND, WELD OR DRILL ON OR NEAR THIS CONTAINER. CONTAINERS WILL RETAIN PRODUCT RESIDUES AND VAPORS. HANDLE EMPTY CONTAINERS AS IF THEY WERE FULL. DO NOT PUNCTURE, INCINERATE, BURN OR STORE ABOVE 45 C. SOME OR ALL OF THE LISTED COMPONENTS OF THIS PRODUCT MAY PRESENT A HEALTH THREAT IN THE FORM OF DUSTS.

SECTION X - HMIS INFORMATION

HMIS: HEALTH: 2 FLAMMABILITY: 3 REACTIVITY: 1 PERSONAL PROTECTION: K

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MATERIAL SAFETY DATA SHEET

SECTION I - PRODUCT IDENTIFICATION AND USE

Product Identifier: 2.1 VOC ARP PRIMER ACTIVATOR
Identification Number: 83030B
Product Use: PAINT ADDITIVE
WHMIS Class: B2 D1AD2AE

MANUFACTURER:
Cloverdale Paint Inc.
50 PANET ROAD
WINNIPEG, MB
R2J 0R9 204/237-0241

SUPPLIER:
Cloverdale Paint Inc.
50 PANET ROAD
WINNIPEG, MB
R2J 0R9 204/237-0241

PREPARED BY: Mr Robert Tinsley, 204-237-0241 DATE: 02/03/16

SECTION II - HAZARDOUS INGREDIENTS

CHEMICAL NAME	CAS NUMBER	WT. PERCENT RANGE	EXPOSURE LIMIT	LC50	LD50
XYLENE: MIXED ISOMERS	1330-20-7	1.0-5.0	100 ppm	5000 PPM RAT	4G/KG RAT ORAL
METHYL ISOBUTYL KETONE	108-10-1	1.0-5.0	50 ppm	5700 PPM RAT	2080MG/KG RAT
ACETONE	67-64-1	5.0-10.0	750 ppm	16000 PPM RAT	7400 MG/KG RAT
N-BUTYL ALCOHOL	71-36-3	1.0-5.0	100 ppm	8000 PPM RAT	790 MG/KG RAT
2-BUTOXYETHANOL	111-76-2	1.0-5.0	50 ppm SKIN	925 PPM MOUSE	470 MG/KG RAT
DIMETHYLAMINOMETHYL PHENOL	90-72-2	1.0-5.0	NO INFO	N/AV	1200 MG/KG RAT
ETHYLBENZENE	100-41-4	1.0-5.0	100 ppm	>4000 PPM RAT	3.5 G/KG RAT
BENZYL ALCOHOL	100-51-6	10.0-30.0	NO INFO	1400 PPM RAT	1230 MG/KG RAT
ALIPHATIC POLYAMIDE	106906-26-1	10.0-30.0	NO INFO	N/AV	N/AV

N.A. - NOT APPLICABLE

SECTION III - PHYSICAL DATA

BOILING RANGE : 56-206 C
ODOR : AROMATIC
APPEARANCE : CLEAR LIQUID
VOLATILE BY WEIGHT: 13.2%
VOLATILE BY VOLUME: 20.8%
PH @ 0.00 % : 7.0
VAPOR PRESSURE : 184 mm Hg

VAPOR DENSITY : IS HEAVIER THAN AIR
EVAPORATION RATE: IS FASTER THAN BUTYL ACETATE
SOLUBILITY : 7% WATER SOLUBLE
SPECIFIC GRAVITY: 1.295
FREEZING POINT : -40 C

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SECTION IV - FIRE AND EXPLOSION DATA

FLASH POINT: -18 C
(TAGLIABUE C. C.)
CLASS 3, DIVISION 1

LEL: 1.0%
UEL: 12.8%

EXTINGUISHING MEDIA: DRY CHEMICAL CARBON DIOXIDE FOAM WATER FOG

UNUSUAL FIRE AND EXPLOSION HAZARDS: FLAMMABLE LIQUID (FLASH POINT LESS THAN 100 F/38 C). MAY FORM FLAMMABLE MIXTURES. VAPORS MAY BE EXPLOSIVE IN AIR. ELIMINATE IGNITION SOURCES. GROUND ALL EQUIPMENT. KEEP CONTAINER CLOSED.

SPECIAL FIREFIGHTING PROCEDURES: FIREFIGHTERS SHOULD WEAR SELF CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE CLOTHING. USE WATER SPRAY TO COOL NEARBY CONTAINERS AND STRUCTURES EXPOSED TO FIRE.

SECTION V - HEALTH HAZARD DATA

EFFECTS OF OVER EXPOSURE: *** INHALATION: VAPORS AND MISTS ARE EXTREMELY CORROSIVE. BRONCHITIS, PULMONARY EDEMA, AND CHEMICAL PNEUMONITIS MAY OCCUR. *** INGESTION: HIGHLY TOXIC. MAY BE FATAL. SWALLOWING LARGE QUANTITIES CAUSES HEADACHES, NAUSEA, VOMITING, AND CENTRAL NERVOUS SYSTEM DEPRESSION. MAY CAUSE LIVER AND/OR KIDNEY DAMAGE. VAPORS, MISTS, AND LIQUID ARE CORROSIVE. SWALLOWING CAN CAUSE DEATH. SMALL AMOUNTS OF LIQUID DRAWN INTO THE LUNGS FROM SWALLOWING OR VOMITING MAY CAUSE SEVERE HEALTH AFFECTS (E.G.PULMONARY EDEMA). *** SKIN: VAPORS, MISTS AND LIQUID ARE EXTREMELY CORROSIVE. CAN CAUSE DEFATTING AND DERMATITIS. PROLONGED EXPOSURE MAY CAUSE SKIN SENSITIZATION. CAN CAUSE CHEMICAL BURNS. CAN BE ABSORBED THROUGH THE SKIN CAUSING A HEALTH HAZARD. *** EYES: VAPORS, LIQUID AND MISTS ARE EXTERMELY CORROSIVE. BRIEF CONTACT WILL BE SEVERELY IRRITATING AND MAY DAMAGE THE EYES AND CAUSE PEMANENT INJURY OR BLINDNESS. *** CHRONIC AFFECTS OF OVEREXPOSURE: REPEATED OR PROLONGED EXPOSURES MAY CAUSE SKIN AND/OR RESPIRATORY SENSITIZATION. REPEATED OR PROLONGED EXPOSURES MAY CAUSE LIVER, KIDNEY, AND/OR NEURAL DYSFUNCTION. REPEATED OR PROLONGED EXPOSURES MAY CAUSE DELAYED EFFECTS INVOLVING BLOOD, GASTRO-INTESTINAL, NERVOUS AND/OR REPRODUCTIVE SYSTEMS. ETHYL BENZENE HAS BEEN CLASSIFIED BY THE IARC AS A GROUP 2B SUBSTANCE ON THE BASIS OF SUFFICIENT EVIDENCE FOR CARCINOGENICITY IN LABORATORY ANIMALS BUT INADEQUATE EVIDENCE FOR CANCER IN HUMANS. HIGH EXPOSURES TO XYLENES IN SOME ANIMAL STUDIES HAVE BEEN REPORTED TO CAUSE HEALTH EFFECTS ON THE DEVELOPING EMBRYO/FETUS. THESE EFFECTS WERE OFTEN AT LEVELS TOXIC TO THE MOTHER. THE SIGNIFICANCE OF THESE FINDINGS TO HUMANS HAS NOT BEEN DETERMINED. CARCINOGENICITY IN EXPERIMENTAL ANIMALS. ACCORDING TO THE INTERNATIONAL AGENCY FOR RESEARCH ON CANCER (IARC), METHYL ISOBUTYL KETONE IS POSSIBLY CARCINOGENIC TO HUMANS (GROUP 2B) 2-BUTOXYETHANOL MAY CAUSE REPRODUCTIVE EFFECTS BASED ON STUDIES IN LABORATORY ANIMALS AT HIGH GENERALLY TOXIC DOSES. 2-BUTOXYETHANOL MAY CAUSE TERATOGENIC/EMBRYTOXIC EFFECTS BASED ON IN STUDIES IN LABORATORY ANIMALS

MEDICAL CONDITIONS PRONE TO AGGRAVATION BY EXPOSURE: ALLERGIES. SKIN DISORDERS. EYE DISORDERS. CENTRAL NERVOUS SYSTEM DISORDERS. CHRONIC RESPIRATORY DISORDERS.

PRIMARY ROUTE(S) OF ENTRY: INHALATION DERMAL INGESTION

EMERGENCY AND FIRST AID PROCEDURES: *** INHALATION: REMOVE TO FRESH AIR. ASSIST BREATHING IF NECESSARY. KEEP VICTIM WARM AND QUIET. SEEK MEDICAL ATTENTION. *** INGESTION: DO NOT INDUCE VOMITING OR GIVE FLUIDS. KEEP AT REST. GET PROMPT MEDICAL ATTENTION. IF VOMITING OCCURS, KEEP VICTIM'S HEAD BELOW HIPS TO PREVENT ASPIRATION INTO THE LUNGS. *** SKIN: FLUSH CONTAMINATED SKIN WITH WATER. GET PROMPT MEDICAL ATTENTION. *** EYES: FLUSH

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104-A, 5e Ave Est
La Sarre (Qc) J9Z 2Y1
T.819.339.2101
admin@distributiones.com

SECTION V - HEALTH HAZARD DATA

WITH CLEAN WATER FOR AT LEAST 15 MINUTES AND IMMEDIATELY GET MEDICAL ATTENTION.

SECTION VI - REACTIVITY DATA

STABILITY: THIS PRODUCT IS STABLE UNDER NORMAL STORAGE CONDITIONS.

HAZARDOUS POLYMERIZATION: COULD OCCUR UNDER NORMAL CONDITIONS. CARE MUST BE EXERCISED.

HAZARDOUS DECOMPOSITION PRODUCTS: OXIDES OF CARBON. OXIDES OF NITROGEN. TOXIC FUMES AND SMOKE.

CONDITIONS TO AVOID: HEAT, SPARKS OR FLAME.

INCOMPATABILITY: DIRECT SUNLIGHT AVOID EXTENDED CONTACT WITH AIR OR OXYGEN HEATING IN AIR MAY PRODUCE IRRITATING ALDEHYDES, ACIDS AND KETONES BASES. SODIUM HYDROXIDE ALUMINUM AND ITS ALLOYS OXIDIZING AGENTS. ACIDS. ALKALIES. AMINES. CYANIDES, ISOCYANATES. SULFIDES. ALDEHYDES. HALOGENS. WATER

SENSITIVITY TO STATIC DISCHARGE: TAKE PRECAUTIONARY MEASURES AGAINST STATIC DISCHARGES.

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: ELIMINATE IGNITION SOURCES. STOP SOURCE OF SPILL. VENTILATE AREA. EVACUATE ALL NON ESSENTIAL PERSONNEL. WEAR APPROPRIATE PROTECTIVE EQUIPMENT. DIKE SPILL TO KEEP FROM SPREADING. COVER WITH INERT ABSORBENT. REMOVE TO DISPOSAL CONTAINER.

WASTE DISPOSAL METHOD: DO NOT CONTAMINATE ANY LAKES, PONDS, STREAMS, OR UNDERGROUND WATER SUPPLIES. DISPOSE OF IN ACCORDANCE WITH LOCAL, PROVINCIAL AND FEDERAL REGULATIONS IN YOUR AREA.

SECTION VIII - SAFE HANDLING AND USE INFORMATION

RESPIRATORY PROTECTION: USE A COMBINATION ORGANIC VAPOR/TOXIC PARTICULATE HIGH EFFICIENCY FILTER RESPIRATOR. FOR HIGH CONCENTRATIONS, USE AIR SUPPLIED RESPIRATOR.

VENTILATION: EFFICIENT LOCAL EXHAUST VENTILATION IS REQUIRED. USE EXPLOSION PROOF VENTILATION EQUIPMENT.

PROTECTIVE GLOVES: WEAR APPROPRIATE CHEMICAL RESISTANT GLOVES/CLOTHING TO PREVENT SKIN CONTACT.

EYE PROTECTION: DO NOT GET IN EYES. WEAR SAFETY GLASSES/GOGGLES OR A FACE SHIELD.

OTHER PROTECTIVE EQUIPMENT: OVERALLS, APRON. EYE BATH AND SAFETY SHOWER.

HYGENIC PRACTICES: DO NOT GET IN EYES, SKIN OR CLOTHING. AVOID INHALING. DO NOT

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SECTION VIII - SAFE HANDLING AND USE INFORMATION

SWALLOW. KEEP AWAY FROM FOOD PRODUCTS. WASH HANDS THOROUGHLY AFTER HANDLING. CHANGE AND WASH CONTAMINATED CLOTHING.

SPECIAL SHIPPING INFORMATION: PAINT RELATED MATERIAL. FLAMMABLE LIQUID CLASS:3 UN#1263 PACKING GROUP II. CANUTEC 24 HOUR EMERGENCY NUMBER: (613) 996-6666

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: STORE IN A COOL, DRY, WELL VENTILATED AREA, AWAY FROM ALL INCOMPATIBLE MATERIALS. KEEP AWAY FROM HEAT, SPARKS AND FLAME. GROUND ALL EQUIPMENT.

OTHER PRECAUTIONS: DO NOT CUT, GRIND, WELD OR DRILL ON OR NEAR THIS CONTAINER. DO NOT PUNCTURE, INCINERATE, BURN OR STORE ABOVE 45 C.

SECTION X - HMIS INFORMATION

HMIS: HEALTH: 3 FLAMMABILITY: 3 REACTIVITY: 1 PERSONAL PROTECTION: K

Polyisocyanurate Foam Sheathing Continuous Insulation

AP™ FOIL-FACED

Johns Manville

PRODUCT DATA SHEET

DESCRIPTION

Johns Manville AP™ Foil-Faced Foam Sheathing board consists of a uniform closed-cell polyisocyanurate foam core bonded on each side to a foil facer. One side has a reflective foil facer and the other side has a white non-reflective foil facer to suit your building needs.

Polyiso provides one of the highest R-values per inch of any rigid insulation (R-6.0 at 1 inch). Furthermore, when properly installed, AP Foil-Faced Foam Sheathing functions as a water-resistive barrier, vapor barrier and air barrier, eliminating the need to install additional components.

AP Foil-Faced Foam Sheathing is produced with an EPA-compliant hydrocarbon-based blowing agent that has zero Ozone Depletion Potential (ODP) and virtually no Global Warming Potential (GWP); it also meets both CFC- and HCFC-free specification requirements. Polyiso is one of North America's most widely used insulation products and has been cited by the EPA for its responsible impact on the environment.

AP Foil-Faced Foam Sheathing provides exceptional heat, moisture and air control to protect your building's exterior wall assembly.

INSTALLATION

AP Foil-Faced Foam Sheathing is lightweight and can be easily cut with a utility knife or saw. Use maximum board lengths to minimize the number of joints. Vertical joints should be staggered. Butt joints should be centered over framing. To create a water-resistive barrier or an air barrier, treat seams and penetrations as instructed in the installation guide and in accordance with manufacturer's guidelines. Once installed, AP Foil-Faced Foam Sheathing may be left exposed for up to 60 days. Consult your local building department for code requirements.

COMPLIANCES

- ASTM C1289 Type 1, Class 1
- CAN/ULC S704, Type 1, Class 1
- ICC-ES Evaluation Report ESR-3398
- Canadian Construction Materials Centre 13104-L
- Air Barrier Association of America Evaluated Air Barrier Material, Assembly & Water Resistive Barrier
- International Building Code
- International Residential Code
- International Energy Conservation Code
- ENERGY STAR
- ASHRAE 90.1
- California State Insulation Quality Standards

PERFORMANCE STANDARDS

- ASTM C1289, Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board
- CAN/ULC-S704, Standard for Thermal Insulation, Polyurethane and Polyisocyanurate, Boards, Faced
- ASTM E84, Test for Surface Burning Characteristics of Building Materials
- CAN/ULC S102, Standard Method of Test for Surface Burning Characteristics of Building Materials and Assemblies
- NFPA 259, Standard Test Method for Potential Heat of Building Materials
- NFPA 285, Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components
- AC 71, Acceptance Criteria for Foam Plastic Sheathing Panels Used as Water-Resistive Barriers
- ASTM E331, Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference
- AATCC Test Method 127, Water Resistance: Hydro Static Pressure Test
- ASTM E1233, Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights, and Curtain Walls by Cyclic Air Pressure Differential
- ASTM E2178, Standard Test Method for Air Permeance of Building Materials
- ASTM E2357, Standard Test Method for Determining Air Leakage of Air Barrier Assemblies

AVAILABILITY

AP Foil-Faced Foam Sheathing is available in the sizes shown in Table 1 (see reverse). For additional information or special size inquiries, please consult a sales representative at 800-654-3103.

PERFORMANCE ADVANTAGES

Thermal Insulation: inch for inch, polyiso has one of the highest energy efficiencies. R-values for AP Foil-Faced Foam Sheathing are shown in Table 1, and physical properties are shown in Table 2 (see reverse). R means resistance to heat flow. The higher the R-value, the greater the insulating power.

Water-Resistive Barrier: when properly installed as part of a Johns Manville Wall System, AP Foil-Faced Foam Sheathing meets the ICC-ES AC71 acceptance criteria for foam plastic sheathing used as a water-resistive barrier. Please see the installation guide for qualifying assemblies and detailed instructions.

Vapor Barrier: at a minimum thickness of one inch, AP Foil-Faced Foam Sheathing has a vapor permeance of 0.05 perms and qualifies as a Class I vapor retarder.

Air Barrier: when properly installed as part of a Johns Manville Wall System, AP Foil-Faced Foam Sheathing meets the Air Barrier Association of America boardstock criteria for materials and assemblies. Please see installation guide for qualifying assemblies and detailed instructions.

Noncorrosive: does not accelerate corrosion of pipes, wiring or metal studs.

Lightweight: easy to handle, can be cut with a utility knife or saw.

ENERGY, QUALITY & ENVIRONMENT

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Polyisocyanurate Foam Sheathing Continuous Insulation

PRODUCT DATA SHEET **AP™ FOIL-FACED**

STORAGE
Store AP Foil-Faced Foam Sheathing elevated above the floor or ground and standing water. If stored outdoors, keep dry by covering completely with a waterproof tarpaulin.

LIMITATIONS
AP Foil-Faced Foam Sheathing is nonstructural. The walls must be braced in accordance with the requirements of the applicable code.

WARRANTY
All Johns Manville products are sold subject to Johns Manville's Limited Warranty and Limitation of Remedy. For a copy of these documents, call 800-654-3103.

WARNING
AP Foil-Faced Foam Sheathing is combustible and shall only be used as specified by the local building code with respect to flame spread classification and to the use of a suitable thermal barrier when required.

TECHNICAL SERVICES
Johns Manville can provide technical information to assist in addressing questions regarding AP Foil-Faced Foam Sheathing. Please call 800-654-3103 for technical assistance.

PERFORMANCE DATA

THERE ARE 2 LAYERS OF 2" THICK INSULATING PANELS, FOR A TOTAL OF 4" ALL AROUND. APPLIED ON WALLS, CEILING AND FLOOR.

Table 1: Thermal Performance

THICKNESS (inches)	R-VALUE U.S.[1] (°F•ft²•h/BTU)	THICKNESS (mm)	RSI-VALUE[1] (°K•m²/W)	BOARD SIZE (ft)	R-VALUE WITH REFLECTIVE AIR SPACE[2]		
					½" Air Space	¾" Air Space	1" Air Space
0.50	2.7	13	0.48	4 x 8, 9, or 10	5.2	5.5	5.4
0.625	3.5	16	0.62	4 x 8, 9, or 10	6.0	6.3	6.2
0.75	4.4	19	0.77	4 x 8, 9, or 10	6.8	7.1	7.0
0.85	5.0	22	0.91	4 x 8, 9, or 10	7.4	7.7	7.6
1.00	6.0	25	1.06	4 x 8, 9, or 10	8.5	8.8	8.7
1.50	9.3	38	1.63	4 x 8, 9, or 10	11.7	12	12
1.65	10	42	1.82	4 x 8, 9, or 10	12	12	12
2.00	13	51	2.21	4 x 8, 9, or 10	15	15	15
2.50	16	64	2.79	4 x 8, 9, or 10	18	19	19
3.00	19	76	3.36	4 x 8, 9, or 10	22	22	22
3.50	22	89	3.94	4 x 8, 9, or 10	25	25	25
4.00	26	102	4.52	4 x 8, 9, or 10	28	28	28
4.50	28	114	5.09	4 x 8, 9, or 10	30	31	31

[1]Aged R-value at 75° F in accordance with ASTM C1289.
[2]Only applies when an ideal reflective air space and horizontal heat flow conditions exist. The shiny foil side of product must face the air space. Determined in accordance with FTC 16 CFR Part 460 requirements and published ASHRAE air space R-values. Refer to the 2009 ASHRAE Handbook of Fundamentals, Chapter 26, Table 3, for details.

Table 2: Physical Properties

PROPERTY	UNITS	TEST METHOD	RESULT
Thermal Resistance, 1 inch	°F•ft²•hr/BTU	ASTM C518*	6.0
Compressive Strength	psi	ASTM D1621	≥ 16
Flexural Strength	psi	ASTM C203	≥ 40
Water Absorption	% by volume	ASTM C209	0.1
Water Vapor Permeance	perms	ASTM E96	0.05
Surface Burning Characteristics**			
Flame Spread[1]	index	ASTM E84	≤ 25
Smoke Developed[1]	index	ASTM E84	≤ 450
Service Temperature	°F		-100 to 250

**Aged R-value at 75° F in accordance with ASTM C1289.*
***Numerical ratings are not intended to reflect hazards present in actual fire conditions.*
[1]Foam core tested at 4 inches.

Visit our website at **www.JM.com** or call **800-654-3103** | **Building Insulation Division** P.O. Box 5108 | Denver, CO 80217-5108

Data as shown in this literature is intended to be used as a general guideline only. The physical and chemical properties of AP Foil-Faced Polyisocyanurate Foam Sheathing listed herein represent typical, average values obtained in accordance with accepted test methods and are subject to normal manufacturing variations. They are supplied as a technical service and are subject to change without notice. Any references to numerical flame spread or smoke developed ratings are not intended to reflect hazards presented by these or any other materials under actual fire conditions. Check with the sales office nearest you for current information. All Johns Manville products are sold subject to Johns Manville's Limited Warranty and Limitation of Remedy. For a copy of the Johns Manville Limited Warranty and Limitation of Remedy or for information on other Johns Manville thermal and acoustical insulation and systems, visit the website or call the 800 number above. 717 17th Street Denver CO, 80202

BID-0151 7/15

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3. Fabrication characteristics (continued)

Fabrication characteristics (continuation)

Identification tag

FABRICATION MEP	
TAG NO:	6515-103, Pumping station
MODEL:	AMP-PFB-2-160-E
SERIE:	AMP00378

Pedestrian door

Description:

(1x) 42'' x 84''

4'' insulated freezer style

Warning informations

☒ Risk of electrocution

Entrance®

GLACE-GUARD
Cold Storage Doors

ISO 9001 2008 CERTIFIED

The high performance entrance door!

The Glace-Guard™ Entrance door combines insulation performance and durability, while being attractive and virtually maintenance free. This entrance door, available in 3" or 4" thickness, is made of high quality metal skins. Its panels are insulated with a rigid polyurethane foam core, providing the highest insulation value. Its hardware is engineered to withstand an intensive usage, while providing safety and smoothness of operation.

The Glace-Guard™ Entrance door is operated by industrial cam-lift hinges, heavy duty pull handle and heavy gauge steel automatic door closer, ensuring trouble-free operation and effortless firm closing.

The Glace-Guard™ Entrance door is suitable for coolers and freezers, for both interior and exterior applications. It is your best door investment when performance, durability and low maintenance costs are criteria of selection.

The Glace-Guard™ Entrance door is ideal for applications such as:

- Supermarkets
- Restaurants
- Cold storage distribution warehouses
- Grocery distribution warehouses
- Food processing plants

Cold storage entrance door
Model Glace-Guard™ Entrance ET-300

Entrance®/ Glace-Guard™

ET-300, ET-400 Series

Section 08326

Well insulated:

The Glace-Guard™ Entrance ET-300 (3" thick) and ET-400 (4" thick) doors are insulated with a rigid polyurethane foam core.

Designed for energy savings:

Full perimeter magnetic vinyl gasket and bottom double U-shaped rubber gasket to ensure airtight joints.

Built to last with superior quality materials:

Proven experience and expertise achieve a perfect adherence of the polyurethane foam to the metal skins, ensuring panel strength, rigidity and preservation of insulation value over time. The high quality 26 gauge galvanized steel with superior 25-micron polyester top coat, ensures durability and resistance to corrosion.

Heavy duty hardware for long lasting use and smooth operation:

Industrial cam-lift hinges, heavy duty pull handle and heavy gauge steel door closer, combined with a variety of accessories, provide trouble-free operation, safety and durability.

THERMOSTOP
Tradition of quality

CFC-FREE 3" 4" POLYURETHANE INSULATION

Entrance® GLACE-GUARD Cold Storage Doors		
	Entrance ET-300	3" (75mm) thick
	Entrance ET-400	4" (100mm) thick

Technical specifications

Section 08326

Reference product:
Glace-Guard™ Entrance ET-300 or Glace-Guard™ Entrance ET-400, as manufactured by Thermostop Inc., www.thermostop.com

Temperature range:
-20°F to +120°F (-29°C to +49°C)

Standard dimensions:
- 36" x 84" (914mm x 2134mm)
- 60" x 84" (1524mm x 2134mm)

Other dimensions available upon request.

Thickness:
- Glace-Guard™ Entrance ET-300: 3" (75mm) thick
- Glace-Guard™ Entrance ET-400: 4" (100mm) thick

Panels:
Insulated with rigid polyurethane, foamed in place under high pressure between two metal skins. Standard 26ga. steel skins, white stucco finish. For other skin options, please consult ***Metal skins options***. Panel frame is made with heavy duty aluminum extrusions.

Door frame and thermal barrier:
Door frame is made of shock-proof 5/32" (4mm) thick exterior and interior extruded aluminum angles. The exterior aluminum angle has an incorporated resin thermal break.

Hinges:
- For doors with width under 60" (1524mm): Self-closing and reversible high pressure die-cast zinc hinges with self-lubricating nylon cams. Brushed chrome finish.

- For doors with width of 60" (1524mm) and greater: Heavy duty self-closing and reversible high pressure die-cast zinc flanges, 3/16" (5mm) thick steel strap. Gray finish.

Pull handle:
High pressure die-cast zinc cylinder locking handle, complete with emergency inside release system. Brushed chrome finish.

Door closer:
Heavy gauge steel mechanical door closer, complete with extra-wide hook. Chrome finish.

Perimeter magnetic gasket:
A full perimeter magnetic vinyl gasket insures that the door is airtight and vapour-proof on the perimeter joint.

Bottom door gasket:
Extruded aluminum retainer with two U-shaped rubber gaskets to insure airtight joints.

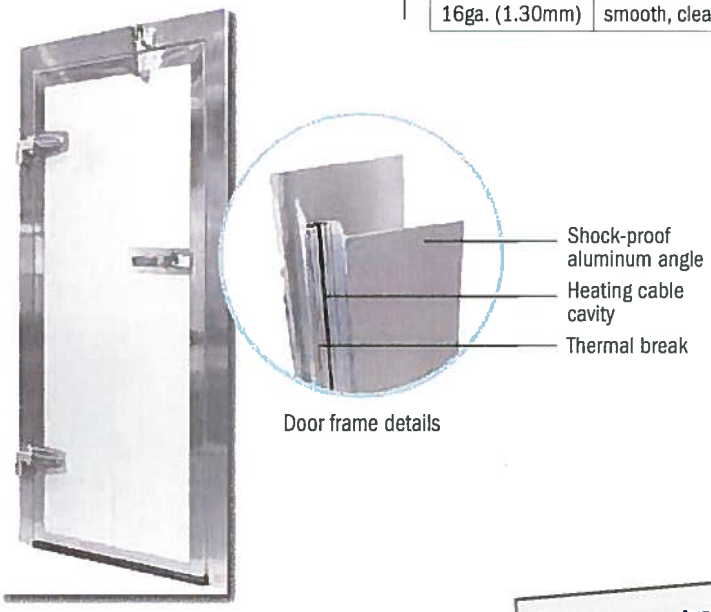
Heat trace (optional):
For freezer applications, the door is equipped with a heat trace on four (4) sides of the door, preventing ice or frost accumulation and eliminating the need to have a heated threshold.

Kick plate (optional):
36" (914mm) high steel kick plate, on full door width, to protect the door bottom against forklift impacts.
- 16ga. galvanized steel, smooth finish
- 18ga. stainless steel, #304 finish

Metal skins options:

Steel	Finish
26ga. (0.41mm)	stucco, white
20ga. (0.86mm)	smooth, white
16ga. (1.42mm)	smooth, painted

Aluminum	Finish
24ga. (0.60mm)	stucco, white or grey RAL-9006
16ga. (1.30mm)	smooth, clear anodized



Door frame details

THERMOSTOP
Tradition of quality

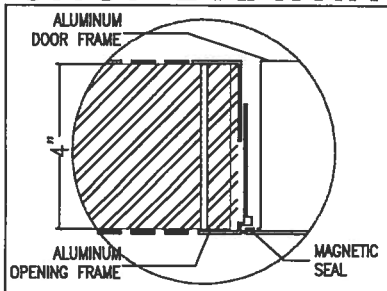
3775 Losch Blvd.
Longueuil (Quebec)
Canada
J3Y 5T7

Phone: **450.678.8666**
Toll free: 866.678.0123
Fax: 450.678.7765
thermostop.com

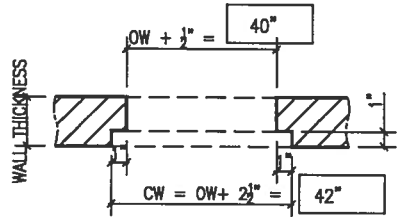
Warranty
Thermostop doors and hardware carry a warranty of one (1) year against any defects or faulty workmanship. The door panels carry a ten (10) year limited warranty against perforation due to rusting, and a five (5) year limited warranty on delamination, under normal operational conditions.

THERMOSTOP

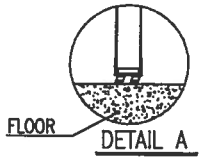
SHOP DRAWING - COOLER ENTRANCE DOOR GLACE-GUARD ET-400



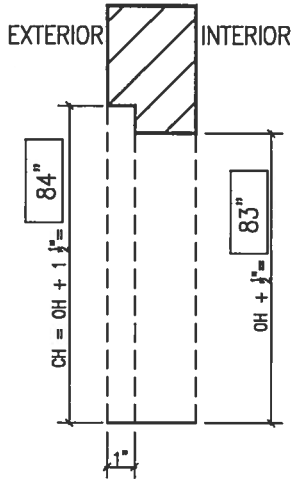
DOOR FRAME DETAIL



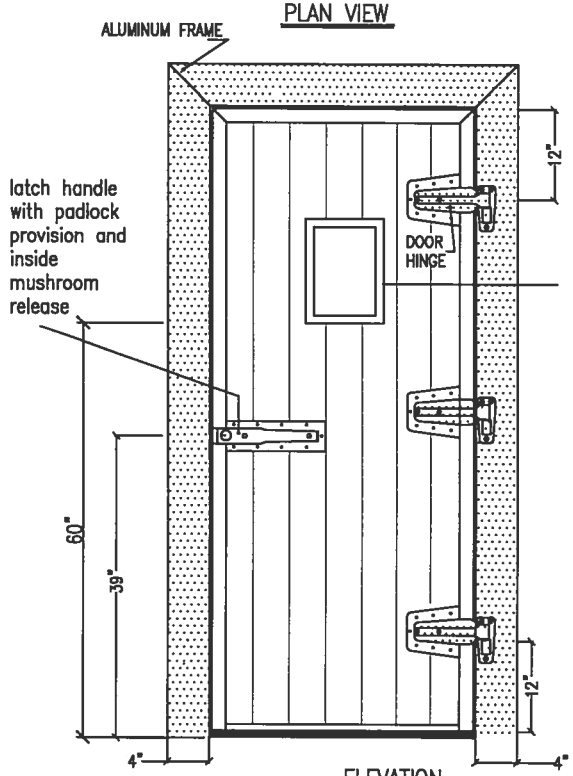
PLAN VIEW



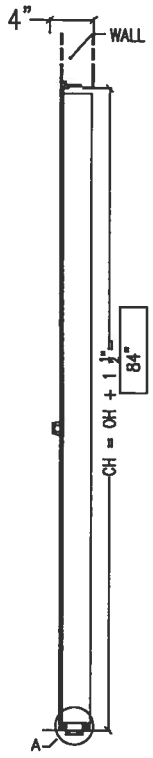
DETAIL A



SECTION



ELEVATION



SECTION

Specifications:

☒ ET-400: 4"(100mm)
☒ Cooler application (36°F and above)

Standard Features:

*Polyurethane insulated panels
*20ga galvanized steel, white, smooth finish with ribs
*Heavy-duty mirror frame 5/32" (4mm) in two extruded angles. Aluminium mill finished.
*Magnetic seals on door frame perimeter.
*Bottom double blade seal on door panel.
* 3 (three) 10" cam-lift hinges.
* 1 (one) LATCH handle with padlock provision (padlock by others) & inside MUSHROOM release

Latch handle is chrome finished steel. Hinges are brush chrome finished steel

Others features:

* Exterior chain with S hook and eye bolt
* Interior storm door chain with spring

DIMENSIONS	QTY	FINISHED OPENING		REQUIRED CLEARANCE		APPROVED FOR MANUFACTURING BY:
		WIDTH (OW)	HEIGHT (OH)	WIDTH (CW)	HEIGHT (CH)	Name: Date:
	4	39.50"	82.50"	42"	84"	Signature:

Legend

OW = OPENING WIDTH
OH = OPENING HEIGHT
CW = CLEARANCE WIDTH
CH = CLEARANCE HEIGHT

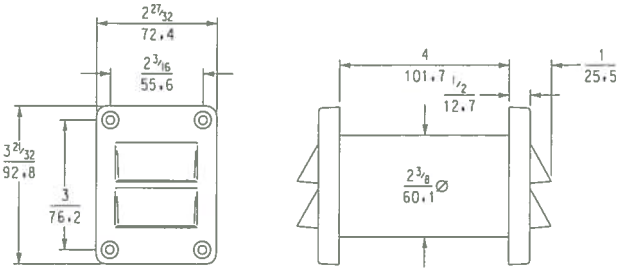
GLACE-GUARD Cold Storage Doors

THERMOSTOP INC.

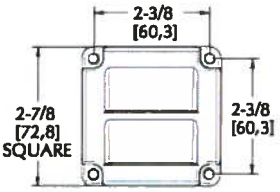
3775, boulevard Losch, Longueuil (Québec), Canada J3Y 5T7,
Tel.: (450) 678-8666, Fax: (450) 678-7765,www.thermostop.com

Distributor: AIRMP INC.	Date: 05-09-2017	Drawn by: F.L.	Verify by: L.H.	Page: 1/2	**Note :** *Drawings not to scale
Customer:	Revision:				

STANDARD LOUVER



SQUARE LOUVER



US Patent No. 6,176,776

ITEM # 1825

NSF · c UL us · RoHS Compliant

1825 NARROW JAMB HEATED VENT

- Exclusive, patented Kason ventilator seals tight and opens at lowest pressure of any competitive vent.
- Lightweight, springless valves provide greater air flow at lower pressure than spring-loaded valves.
- Lower pressure allows doors to open and close with ease and reduces stress on walk-in enclosure joints, reducing chance of leaks.
- Computer-designed heater eliminates valve freezing.
- Narrow profile unit mounts in door jamb.
- Port installs through 2 1/2" (63.5mm) diameter hole with minimal wiring.
- Poppet valves close tightly to prevent air leakage.
- Engineered to optimize the self-closing potential of Kason Walk-in hinges, latches and door closers.

PERFORMANCE TESTED

Comprehensive performance tests show that Kason 1825 pressure relief ports provide better air flow at lower pressure and greater frost resistance than competitive ventilators.

SPECIFICATIONS

MATERIAL:
Gray ABS plastic valve body and louvers, PVC tube, internal aluminum and stainless steel parts.

POWER:
.04 amp @ 120 VAC; 4W heater.
.02 amp @ 230 VAC; 4W heater.

UL LISTING:
File No. E57306

SELECTION:
See Quantity Selector Chart, page B-59.

MOUNTING:
No. 1825 only mounts horizontally. Drilled for No. 10 (5.0mm) screws. Requires 2-1/2" (63.5mm) diameter hole.

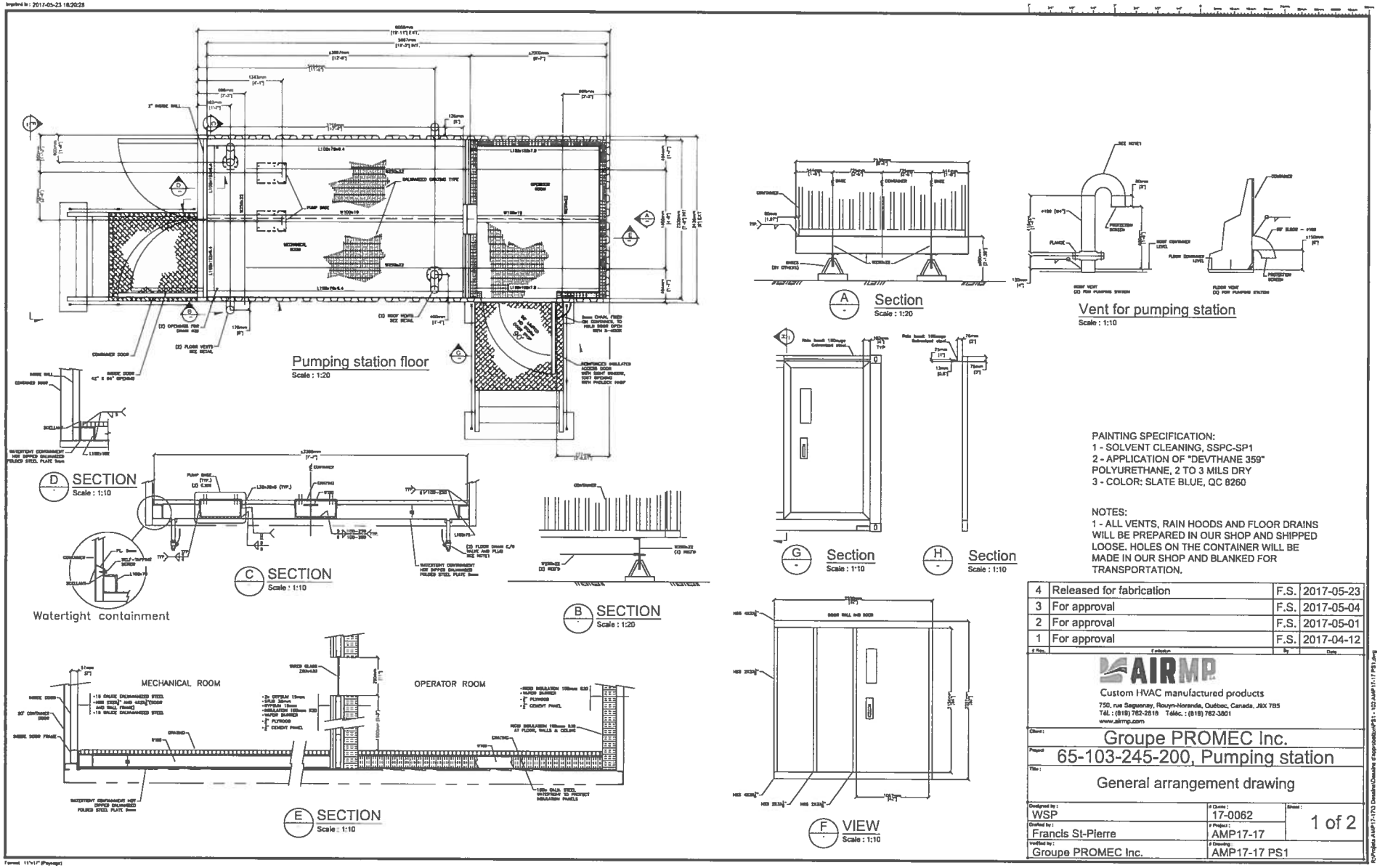
Model No.	Item	Qty/Carton	Wgt./Carton
11825000004	Heated Vent, 120 VAC, 4" Wall	10	7 lb. (3.2 kg)
11825000006	Heated Vent, 230 VAC, 4" Wall	10	7 lb. (3.2 kg)
11825S00004	Heated Square Louver Vent, 120 VAC, 4" Wall	10	7 lb. (3.2 kg)
11825S00006	Heated Square Louver Vent, 230 VAC, 4" Wall	10	7 lb. (3.2 kg)
11825000008	Unheated Vent, 4" Wall	10	7 lb. (3.2 kg)

*Other thicknesses available. Contact factory.

 © 2016 Kason Industries, Inc.

4. General arrangement drawings

Imprimé le : 2017-05-23 16:20:28



PAINTING SPECIFICATION:
1 - SOLVENT CLEANING, SSPC-SP1
2 - APPLICATION OF "DEVTHANE 359" POLYURETHANE, 2 TO 3 MILS DRY
3 - COLOR: SLATE BLUE, QC 8260

NOTES:
1 - ALL VENTS, RAIN HOODS AND FLOOR DRAINS WILL BE PREPARED IN OUR SHOP AND SHIPPED LOOSE. HOLES ON THE CONTAINER WILL BE MADE IN OUR SHOP AND BLANKED FOR TRANSPORTATION.

# Rev.	Fabrication	By	Date
4	Released for fabrication	F.S.	2017-05-23
3	For approval	F.S.	2017-05-04
2	For approval	F.S.	2017-05-01
1	For approval	F.S.	2017-04-12

AIRMP
Custom HVAC manufactured products
750, rue Saguenay, Rouyn-Noranda, Québec, Canada, J9X 7B5
Tél. : (819) 762-2818 Téléc. : (819) 762-3801
www.airmp.com

Client : Groupe PROMEC Inc.

Project : 65-103-245-200, Pumping station

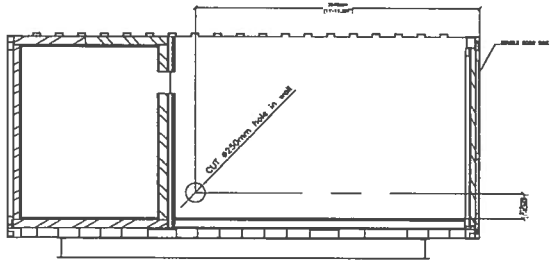
Title : General arrangement drawing

Designed by : WSP	# Quote : 17-0062	Sheet : 1 of 2
Drafted by : Francis St-Pierre	# Project : AMP17-17	
Verified by : Groupe PROMEC Inc.	# Drawing : AMP17-17 PS1	

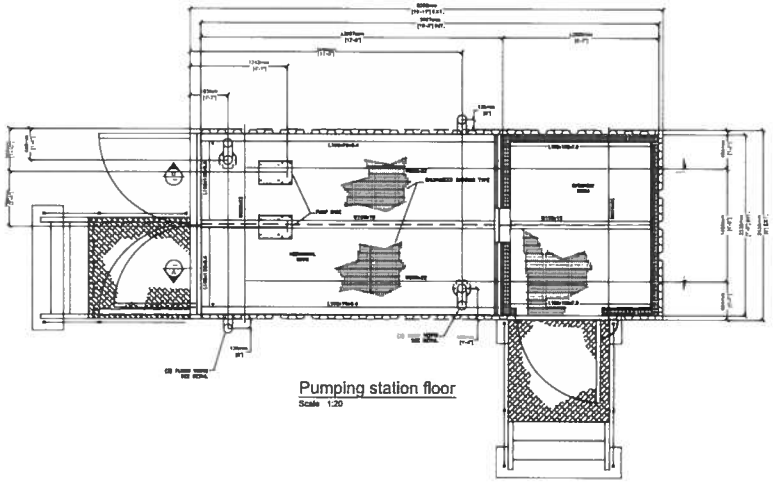
R:\Projets\AMP17-17\3 Dessins\Dessins d'approbation\PS1 - 103 AMP17-17 PS1.dwg

Format : 11"x17" (Paysage)

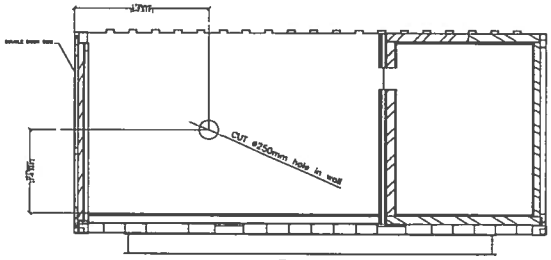
Imprimé le : 2017-05-23 16:18:41



B SECTION
Scale : 1:20



Pumping station floor
Scale 1:20



A SECTION
Scale : 1:20

# Rev.	# Révision	By	Date
3	Released for fabrication	F.S.	2017-05-23
2	For approval	F.S.	2017-05-09
1	For approval	F.S.	2017-04-12

AIRMP
Custom HVAC manufactured products
750, rue Saguenay, Rouyn-Noranda, Québec, Canada, J9X 7B3
Tél. : (819) 762-2818 Téléc. : (819) 762-3801
www.airmp.com

Client : Groupe PROMEC Inc.

Project : 65-103-245-200, Pumping station

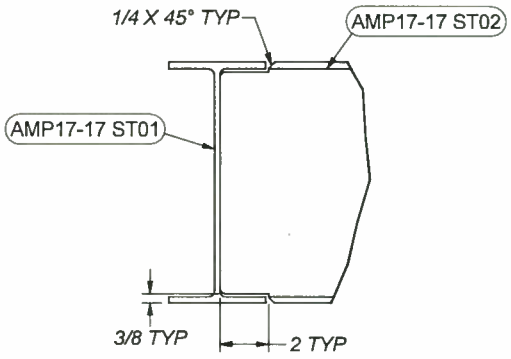
Title : Wall opening location

Designed by : WSP	# Quote : 17-0062	Sheet : 2 of 2
Drafted by : Francis St-Pierre, Ing.	# Project : AMP17-17	
Verified by : Groupe PROMEC Inc.	# Drawing : AMP17-17 PS1	

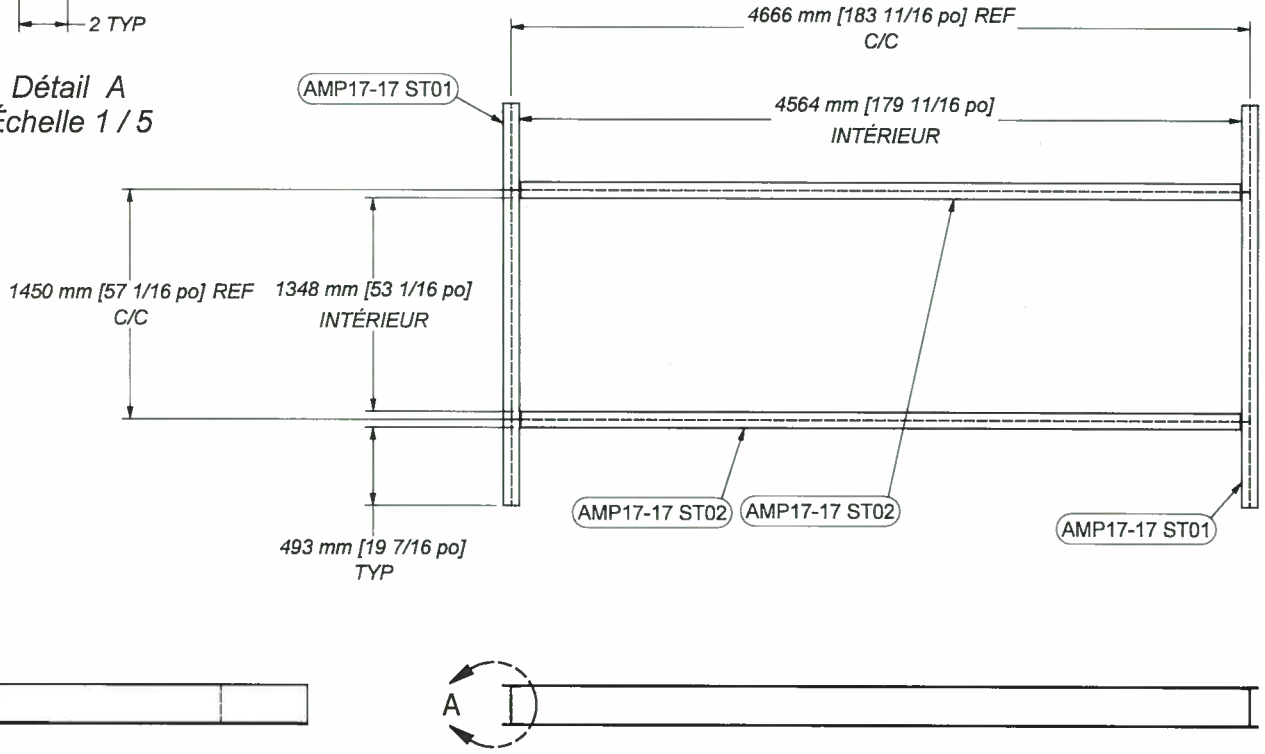
R:\Projets AMP17-17\3 Dessins\Dessins d'approbation\PS1 - 103-AMP17-17 PS1.dwg

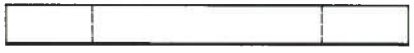
Format : 11"x17" (Paysage)

Liste de matériel (Pour 1 assemblage)						
# Pièces	Description	Grade	Détail	Epais.	Qté	Poids (lb)
AMP17-17 ST01	W250x22 X 8'-3 15/16" LG				2	124
AMP17-17 ST02	W250x22 X 15'-3 1/2" LG				2	226



Détail A
Échelle 1 / 5





AIRMP.CA
Manufacturier de produits CVAC sur mesure

NOTES GÉNÉRALES :
GENERAL NOTES :

PROJET :
PROJECT # : **AMP17-17**

CLIENT :

TITRE :
TITLE :

PIECE :
PARTS : 20 foot pumping station

QTÉ :
QTY : req.

POIDS :
WEIGHT : 700 lb

SCEAU & SIGNÉ :
SEAL & SIGNED :

DESSINÉ :
DRAWN : Francis St-Pierre, Ing.

VÉRIFIÉ :
CHECKED : Richard Piquette

DATE : 2017-04-23

FEUILLE :
SHEET : 1 / 1

DESSIN RÉFÉRENCE :
REFERENCE DRAWING :

No. DESSIN :
DRAWING No. : AMP17-17 ST_1

REV: 0

R:\Projets\AMP17-17\3 Dessins\Dessins de fabrication\ST - Structure\AMP17-17 ST_1.idw

AIRMP.CA

Custom HVAC manufactured products

Inspection report – Paint of the unit

Contract number : Amp17-17 (PSI-103)
Client : Groupe promec inc.

CLIENT IDENTIFICATION:

Monitored points	C	NC	NN	Comments	Reference documents
Visual inspection :					
Runs	☑	☐	☐		
Misses/voids	☑	☐	☐		
Scrtches	☑	☐	☐		
Dry film thickness	☑	☐	☐		

C : complying **NC : non-complying** **NN : not needed**

Verified by : Karen Gendreau-Lacoste **Signature :** Karen G. Lacoste **Date :** 26 mai 2017

Reviewed by : Richard Piquette, Operations director **Signature :** _____ **Date :** _____

AIRMP.CA

Custom HVAC manufactured products

Inspection report – Paint of base

Contract number : Amp17-17 (PS1-103)
Client : Groupe promec inc.

CLIENT IDENTIFICATION:

Monitored points	C	NC	NN	Comments	Reference documents
Visual inspection :					
Runs	☑	☐	☐		
Misses/voids	☑	☐	☐		
Scrtches	☑	☐	☐		
Dry film thickness	☑	☐	☐		
				C : complying	**NC : non-complying** **NN : not needed**

Verified by : Karen Gendreau-Lacoste **Signature :** Karen G. lacoste **Date :** 26 mai 2017

Reviewed by : Richard Piquette, Operations director **Signature :** _____ **Date :** _____

AIRMP CA
Custom HVAC manufactured products

TABLE OF MEASURMENTS

UNIT - ROOF

SPOT -->	1	2	3	4	5	AVERAGE DFT FOR EPOXY	AVERAGE WANTED DFT
1	6	5,9	5,9	7,4	7,2		
2	6,7	6,3	5,6	7,9	7,4		
3	5,9	5,8	5,7	7,7	6,9		
AVERAGE	6,20	6,00	5,73	7,67	7,17	6,55	5 TO 6,8 mils

MAKE MODEL TEST EQUIPMENT : PosiTest DFT

SERIAL# TEST EQUIPMENT : A 13938F

STANDARD CALIBRATION USED : PLASTIC SHIM

DATE: 26-mai-17

PROJECT : amp17-17 PS1-103

Verified by : Karen Gendreau-Lacoste

Reviewed by : Richard Piquette, Operations director

SIGNATURE : Karen G. Lacoste

SIGNATURE :

AIRMP
Custom HVAC manufactured products

TABLE OF MEASURMENTS

UNIT - NORTH WALL

SPOT -->	1	2	3	4	5	AVERAGE DFT FOR EPOXY	AVERAGE WANTED DFT
1	10,5	7,4	7	6,1	7,4		
2	9,9	6,9	6,4	6,4	7,6		
3	9,5	6,7	6,4	5,5	6,9		
AVERAGE	9,97	7,00	6,60	6,00	7,30	7,37	5 TO 6,8 mils

UNIT - SOUTH WALL

SPOT -->	1	2	3	4	5	AVERAGE DFT FOR EPOXY	AVERAGE WANTED DFT
1	6,1	8,2	6,7	8,8	7,4		
2	6,5	8,7	6,2	8,6	7,7		
3	6,2	8,8	6,9	8,5	6,8		
AVERAGE	6,27	8,57	6,60	8,63	7,30	7,47	5 TO 6,8 mils

AIRMP CA
Custom HVAC manufactured products

TABLE OF MEASURMENTS

UNIT - EAST WALL

SPOT -->	1	2	3	4	5	AVERAGE DFT FOR EPOXY	AVERAGE WANTED DFT
1	6,9	6,5	6,3	4,7	5,5		
2	6,5	5,9	5,9	4,6	5,4		
3	7,2	5,8	6,2	4,9	6,3		
AVERAGE	6,87	6,07	6,13	4,73	5,73	5,91	5 TO 6,8 mils

UNIT - WEST WALL

SPOT -->	1	2	3	4	5	AVERAGE DFT FOR EPOXY	AVERAGE WANTED DFT
1	6,3	4,9	6,4	5	5,3		
2	5,6	5,2	5,8	5,2	4,9		
3	5,6	5,1	5,6	5,5	5,2		
AVERAGE	5,83	5,07	5,93	5,23	5,13	5,44	5 TO 6,8 mils

AIRMP CA
Custom HVAC manufactured products

TABLE OF MEASURMENTS

BASE

SPOT -->	1	2	3	4	5	AVERAGE DFT FOR EPOXY	AVERAGE WANTED DFT
1	10,9	8,9	7,8	6,9	6,6		
2	11,4	9,2	7,7	7,1	6,3		
3	11,5	9,5	7,5	6,3	7,3		
AVERAGE	11,27	9,20	7,67	6,77	6,73	8,33	6 TO 12 mils

MAKE MODEL TEST EQUIPMENT : PosiTest DFT

SERIAL# TEST EQUIPMENT : A 13938F

STANDARD CALIBRATION USED : PLASTIC SHIM

DATE: 26-mai-17

PROJECT : Amp17-17 PS1-103

Verified by : Karen Gendreau-Lacoste

Reviewed by : Richard Piquette, Operations director

SIGNATURE : Karen G. Lacoste

SIGNATURE :

AGNICO EAGLE

Vendor Document Status

1 ☐ Proceed to next submission and status.

2 ☐ Proceed with exceptions as noted to next submission and status.

3 ☐ Do not proceed.
Revise as noted and resubmit next submission and status.

4 ☑ Complete, no further submission required.

By: JEAN-FRANCOIS TREMBLAY Date: 2017-05-16

Review and authorization to fabricate are only for general conformance with the design concept of the Project as expressed in the Contract Documents. Sole responsibility for the accuracy and completeness of this document, including but not limited to dimensions and quantities, remains with the Supplier/Contractor. Agnico Eagle does not warrant the accuracy or completeness of any of the information contained herein, nor does Agnico Eagle authorize or approve any construction means, methods, techniques, sequences or any safety precautions or procedures.

Agnico Eagle No. 6515-C-270-007-141-TES-0046 R: Sub001

DOCUMENT FOR INFORMATION

NUQSANA PROMEC MINING

Agnico-Eagle Mines Ltd.
Walkways and Stairways Check List

ITR Number : AEM-ME-ITR-004
Contract no. : C22466T

AGNICO EAGLE

SYSTEM: Fuel Farm Rankin	TAG NO. N/A	
LOCATION: Rankin inlet	AREA: All.	UNIT: 4

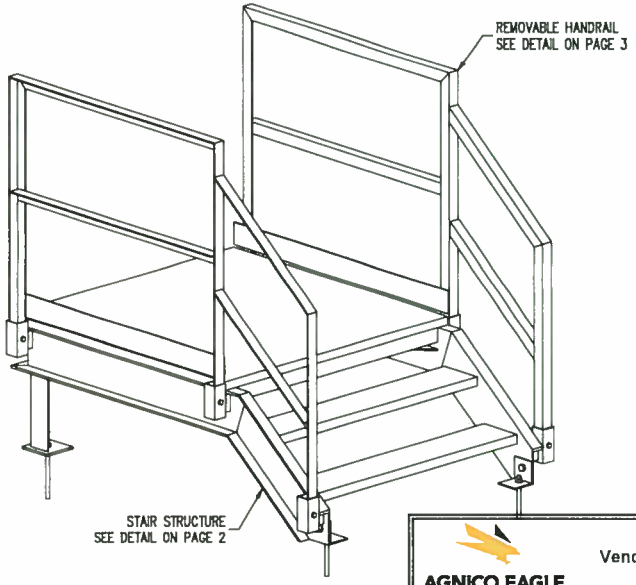
Check when satisfactory. If not satisfactory, include nonconformance report, control and re-inspect when correct

DESCRIPTION	STATUS	REMARKS
1. Installed in accordance with drawings and specifications	✓	
2. Stairs and ladders are securely anchored	✓	
3. Bolts are correct type and length	✓	
4. Bolts tightened (indicated by the burnishing or preening of the corners by the impact wrench)	✓	
5. Ladders and stairs are free of obstructions and are the correct width	✓	
6. The first and last rung of stair riser is the correct height from grade or a platform	✓	
7. Safety chains or bars are installed at ladder openings		N/A
8. Hand grip surfaces on hand rails and ladders are ground smooth	✓	
9. Toe plate is rigid and installed at all required locations	✓	
10. Handrails & toe plates terminating at structural members are welded at structural joint	✓	
11. Penetrations of pipe, ducts and conduit through platforms are located properly, correct size and banded with toe plates		N/A
12. All grating secured to support steel with removable saddle clip anchors	✓	
13. All paint and galvanized damaged areas have been touched up	✓	
14. Ensure all valve operators, chain operators and access to valve handles		N/A.
15. Verify proper installation of fall arrest anchor points		N/A.

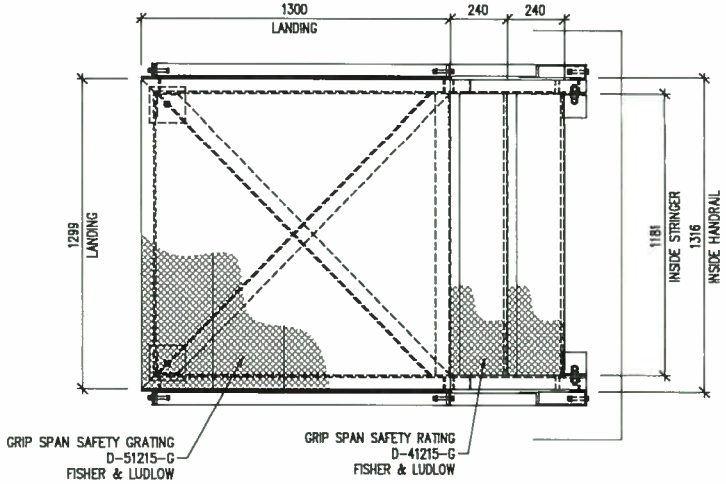
COMMENTS:

PROMEC DESIGNATE - SIGNATURE	Director Piping. TITLE	04-10-2017. DATE
CLIENT DESIGNATE - SIGNATURE	TITLE	DATE

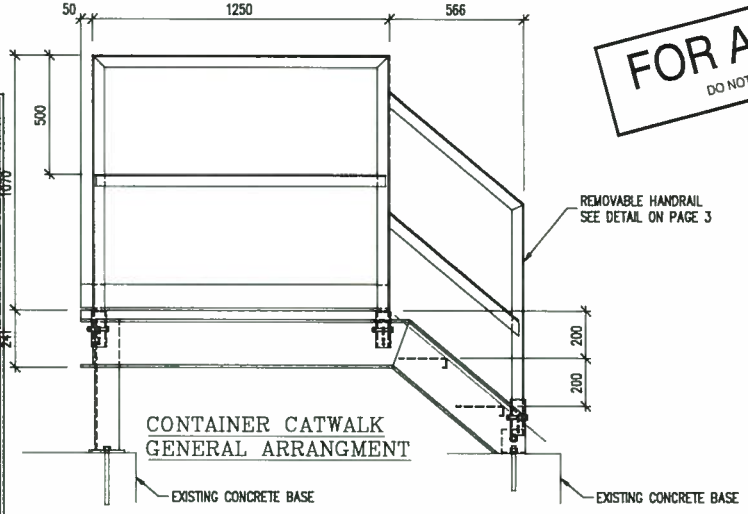
16 mai 2017 21:27:16, marcil, C:\Mario Cliche EXP\Clients\Normex\Escaliers reservoir\60 Réalisation\999-00048075-PP - Escalier pour réservoir\Details\WUE ISO.dwg



ISOMETRIC VIEW
CONTAINER CATWALK



FOR APPROVAL
DO NOT USE FOR FABRICATION



CONTAINER CATWALK
GENERAL ARRANGMENT

WSP SHOP DRAWING DATA SHEET

Affixing this stamp confirms that an administrative approval and/or a verification of compliance with shop drawings or specifications was made, but does not entail the liability of the author of the work or its owner with regards to this shop drawing or data sheet, for which the contractor is the sole responsible.

☑ Reviewed ☐ Reviewed as noted
☐ Rejected ☐ Filed for records

The contractor, supplier and/or sub-contractor is responsible for: confirming and coordinating all quantities and dimensions; selecting fabrication processes and techniques of construction; coordinating his or her work with that of all other trades and performing all work in a safe and satisfactory manner.

By: Joël Morliera Date: 2017/05/23

G-ADM-ZZZ-03-11E-2 Project # 151-06440-40

AGNICO EAGLE Vendor Document Status

1 ☐ Proceed to next submission and status.
2 ☐ Proceed with exceptions as noted to next submission and status.
3 ☐ Do not proceed. Revise as noted and resubmit next submission and status.
4 ☑ Complete, no further submission required.

By: Joël Morliere Date: 2017-05-23

Review and authorization to fabricate are only for general conformance with the design concept of the Project as expressed in the Contract Documents. Sole responsibility for the accuracy and completeness of this document, including but not limited to dimensions and quantities, remains with the Supplier/Contractor. Agnico Eagle does not warrant the accuracy or completeness of any of the information contained herein, nor does Agnico Eagle authorize or approve any construction means, methods, techniques, sequences or any safety precautions or procedures.

Agnico Eagle No. 6515-C-270-007-245-SPD-0001 R: Sub001

DOCUMENT FOR INFORMATION

Révision :

No	Date (a-m-j)	Description	Par
AA	2017-05-10	FOR APPROVAL	MC

Client :

NORMEX
LA SARRE, QUEBEC
(TEL.)819-333-1200
(FAX)819-333-1212

exp.
Les Services exp inc.
t : +1.819.762.2666 | f : +1.819.762.4814
26, 19e Rue, bureau 200
Rouyn-Noranda, QC J9X 2M3
CANADA
www.exp.com

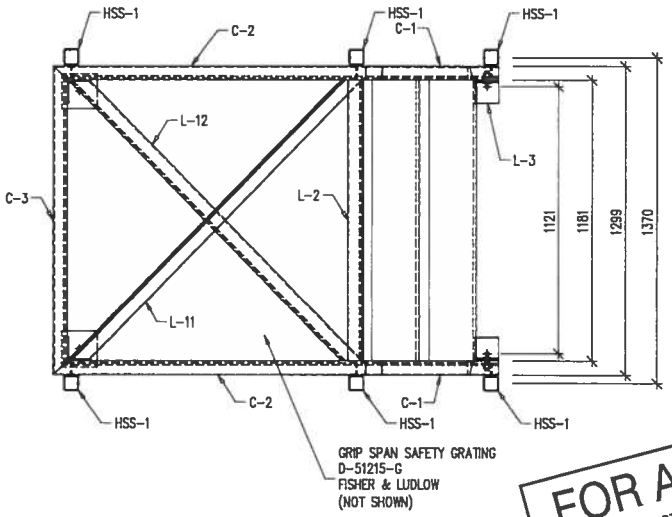
Projet : AGNICO EAGLE - MELIADINE DIVISION - FUEL DISTRIBUTION

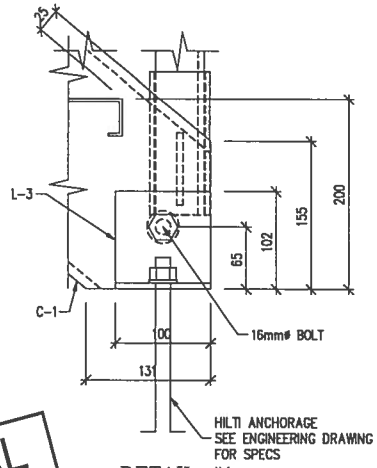
Titre : CONTAINER CATWALK
STRUCTURAL
GENERAL ARRANGEMENT

Approuvé par :	Dessiné par :	Date :	Page :
JONATHAN FAUCHER ing	MARIO CLICHE ing.	2017-05-10	1 de 4

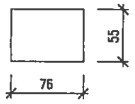
Dossier : 999-00048075-PP

Numéro de dessin : NMOI - 00048075 - A0 - S01 - AA





DETAIL #1



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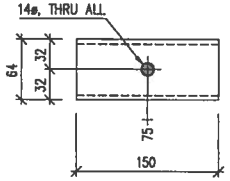
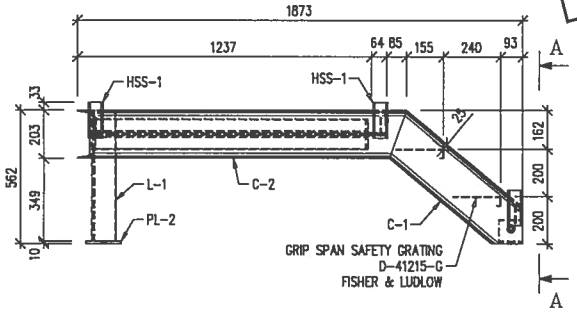
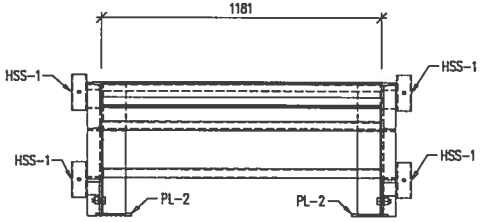


6x HSS-1 HS64x64x4.8-A500

FOR APPROVAL
DO NOT USE FOR FABRICATION



1 REQ'D STAIR STRUCTURE ARRANGEMENT



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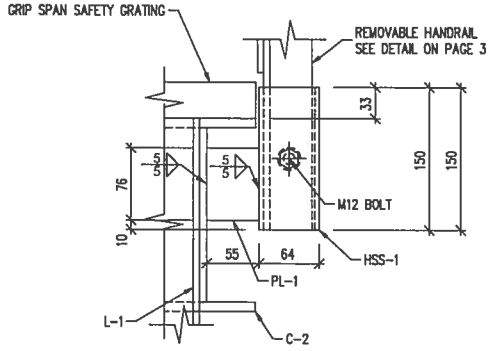

DETAIL #1

Révision :			
AA	2017-05-10	FOR APPROVAL	MC
No	Date (a-m-j)	Description	Par

Client

NORMEX
LA SARRE, QUEBEC
(TEL.)819-333-1200
(FAX)819-333-1212

exp.
Les Services exp Inc.
T : +1.819.782.2888 | F : +1.819.782.4814
28, 19e Rue, bureau 200
Rouyn-Noranda, QC J9X 2M3
CANADA
www.exp.com

Projet :	AGNICO EAGLE - MELIADINE DIVISION - FUEL DISTRIBUTION		
Titre :	CONTAINER CATWALK STRUCTURAL STAIR DETAILS		
Approuvé par : JONATHAN FAUCHER ing.	Dessiné par : MARIO CLICHE ing.	Date : 2017-05-10	Page : 2 de 4
Dossier : 999-00048075-PP	Numéro de dessin : NMOI - 00048075 - A0 - S01 - AA		

16 mai 2017 21:26:56, marcli, C:\Mario Cliche EXP\Clients\Normex\Escaliers reservoir\60 Réalisation\999-00048075-PP - Escalier pour réservoir\Details\GA_Page 2.d

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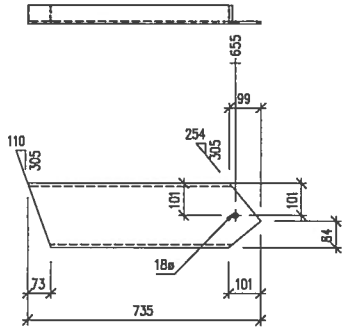

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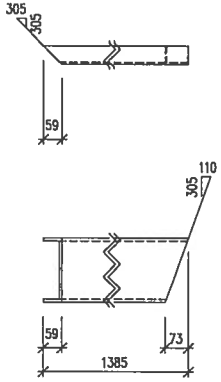

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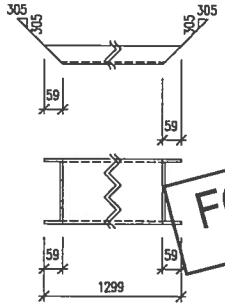

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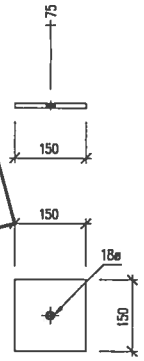

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FOR APPROVAL
DO NOT USE FOR FABRICATION

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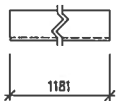

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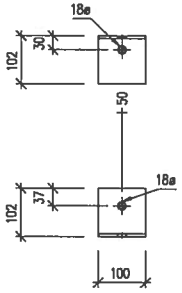

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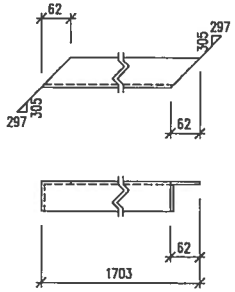

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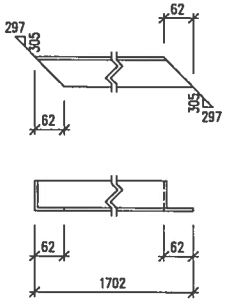

1x L-11 L64X64X6.4-300W

Révision :

No	Date (a-m-j)	Description	Par
AA	2017-05-10	FOR APPROVAL	MC

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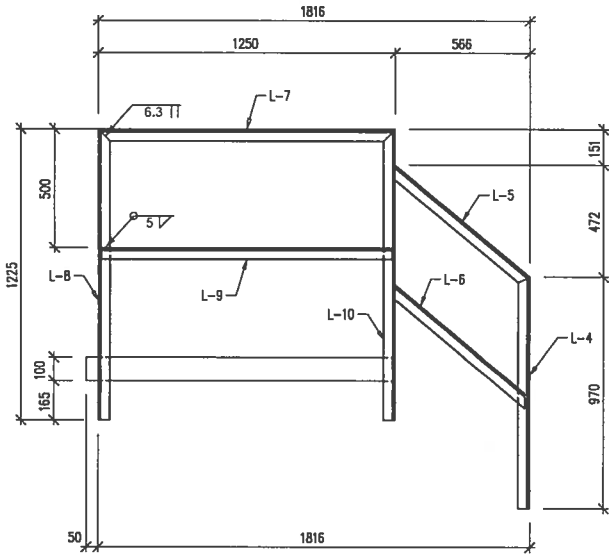
Projet : AGNICO EAGLE - MELIADINE DIVISION - FUEL DISTRIBUTION

Titre : CONTAINER CATWALK
STRUCTURAL
STAIR DETAILS

Approuvé par : JONATHAN FAUCHER ing.
Dessiné par : MARIO CLICHE ing.
Date : 2017-05-10
Page : 3 de 4

Dossier : 999-00048075-PP
Numéro de dessin : NMOI - 00048075 - A0 - S01 - AA



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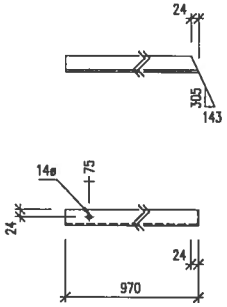

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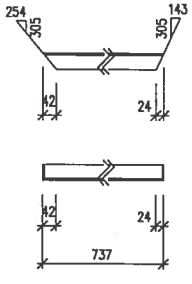

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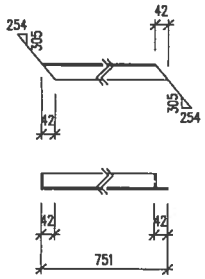

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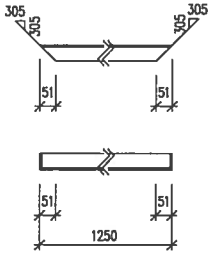

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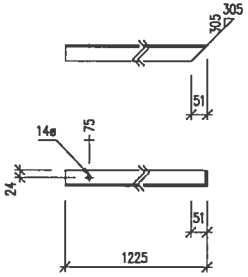

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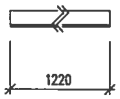

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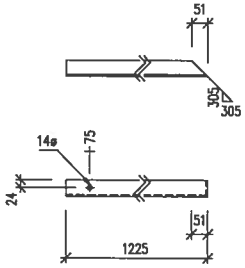

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Révision :			
AA	2017-05-10	FOR APPROVAL	MC
No	Date (a-m-j)	Description	Par

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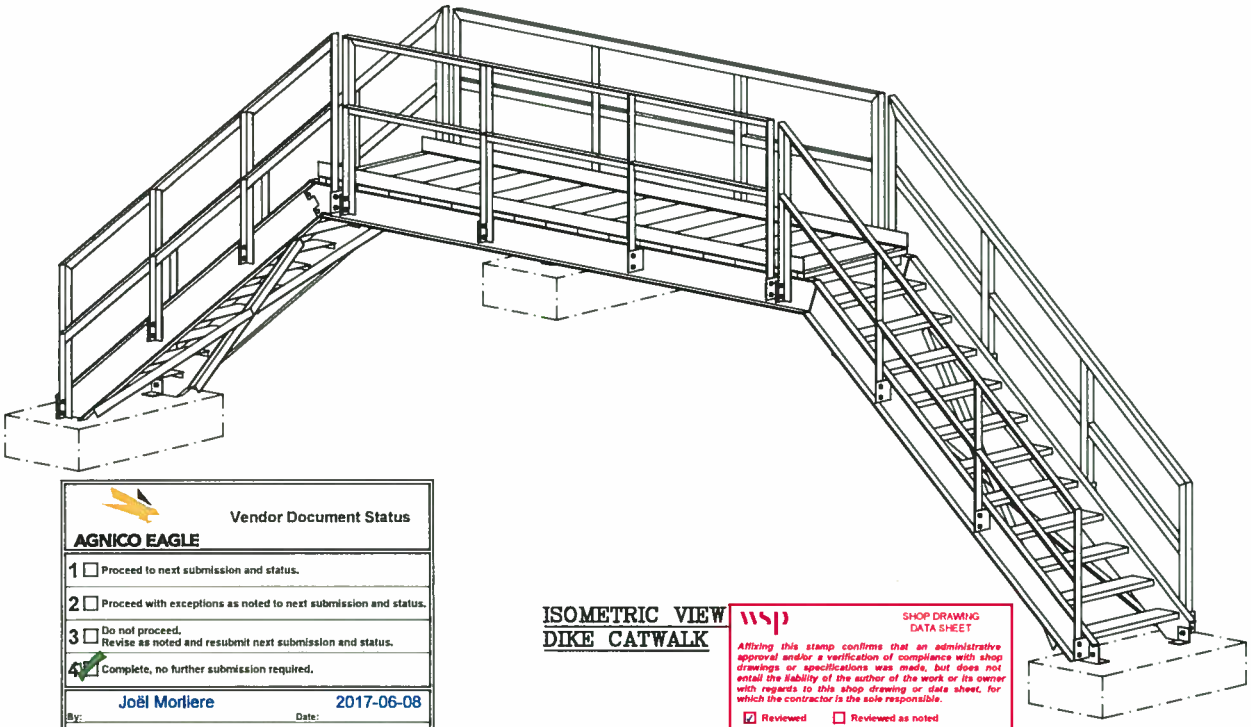
Projet : AGNICO EAGLE - MELIADINE DIVISION - FUEL DISTRIBUTION			
Titre : CONTAINER CATWALK STRUCTURAL HANDRAIL DETAILS			
Approuvé par : JONATHAN FAUCHER ing.	Dessiné par : MARIO CLICHE ing.	Date : 2017-05-10	Page : 4 de 4
Dossier : 999-00048075-PP	Numéro de dessin : NMOI - 00048075 - A0 - S01 - AA		

16 mai 2017 21:25:23, marcli, C:\Mario Cliche EXP\Clients\Normex\Escaliers reservoir\60 Réalisation\999-00048075-PP - Escalier pour réservoir\Details\6.dwg

29 mai 2017 17:06:03, mardi, R:\ROU-00240067-A0\60 Réalisation\63 Dessins\Proc\Dike catwalk\999-00048075-PP - Dike catwalk\Details\ISO VIEW_PAGE 1.dwg



ISOMETRIC VIEW
DIKE CATWALK

GENERAL NOTES:
- REFERENCE DRAWING : 65-103-245-201 REVISION 2
- CATWALK, RAILING AND STAIRS ARE ASSEMBLED AND BOLTED ON SITE.

MATERIAL:
- GRATING FOR LANDING
  GRIP SPAN SAFETY GRATING
  GALVANIZED STEEL
  D-51215-G
  BY FISHER & LUDLOW
- STAIR
  GRIP SPAN SAFETY GRATING
  GALVANIZED STEEL
  D-41215-G
  BY FISHER & LUDLOW
- STEEL
  ALL STEEL MUST BE IN APPLIANCE WITH CSA G40.21
- WELD
  ALL WELDS MUST BE IN APPLIANCE WITH W59.1 AND W47
- PAINT
  SEE AGNICO EAGLE REQUESTED SPECS

DESIGN:
- DL = 0.5 KPa
- LL = 4.8 KPa
- DEFLECTION = L/300

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DO NOT USE FOR FABRICATION

AGNICO EAGLE — Vendor Document Status

1 ☐ Proceed to next submission and status.
2 ☐ Proceed with exceptions as noted to next submission and status.
3 ☐ Do not proceed. Revise as noted and resubmit next submission and status.
4 ☑ Complete, no further submission required.

By: Joël Morliere Date: 2017-06-08

Review and authorization to fabricate are only for general conformance with the design concept of the Project as expressed in the Contract Documents. Sole responsibility for the accuracy and completeness of this document, including but not limited to dimensions and quantities, remains with the Supplier/Contractor. Agnico Eagle does not warrant the accuracy or completeness of any of the information contained herein, nor does Agnico Eagle authorize or approve any construction means, methods, techniques, sequences or any safety precautions or procedures.

Agnico Eagle No. 6515-C-270-007-245-SPD-0002 R: Sub002

DOCUMENT FOR INFORMATION

wsp — SHOP DRAWING DATA SHEET

Affixing this stamp confirms that an administrative approval and/or a verification of compliance with shop drawings or specifications was made, but does not entail the liability of the author of the work or its owner with regards to this shop drawing or data sheet, for which the contractor is the sole responsible.

☑ Reviewed ☐ Reviewed as noted
☐ Rejected ☐ Filed for records

The contractor, supplier and/or sub-contractor is responsible for: confirming and coordinating all quantities and dimensions; selecting fabrication processes and techniques of construction; coordinating his or her work with that of all other trades and performing all work in a safe and satisfactory manner.

By: J. Morliere Date: 2017/06/08
Project # 151-06440-40

Révision :

No	Date (a-m-j)	Description	Par
BB	2017-05-29	HANDRAIL & STRINGER MODIFICATION	MC
AA	2017-05-16	FOR APPROVAL	MC

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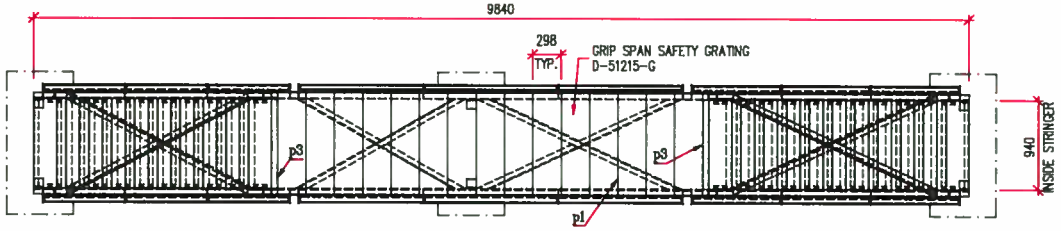
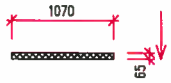
Projet : AGNICO EAGLE - MELIADINE DIVISION - FUEL DISTRIBUTION

Titre : DIKE CATWALK
STRUCTURAL
GENERAL ARRANGEMENT

Approuvé par : JONATHAN FAUCHER ing.
Dessiné par : MARIO CLICHE ing.
Date : 2017-05-16
Page : 1 de 6
Dossier : 999-00048075-PP
Numéro de dessin : NMOI - 00048075 - A0 - S03 - BB





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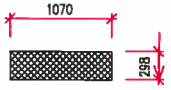

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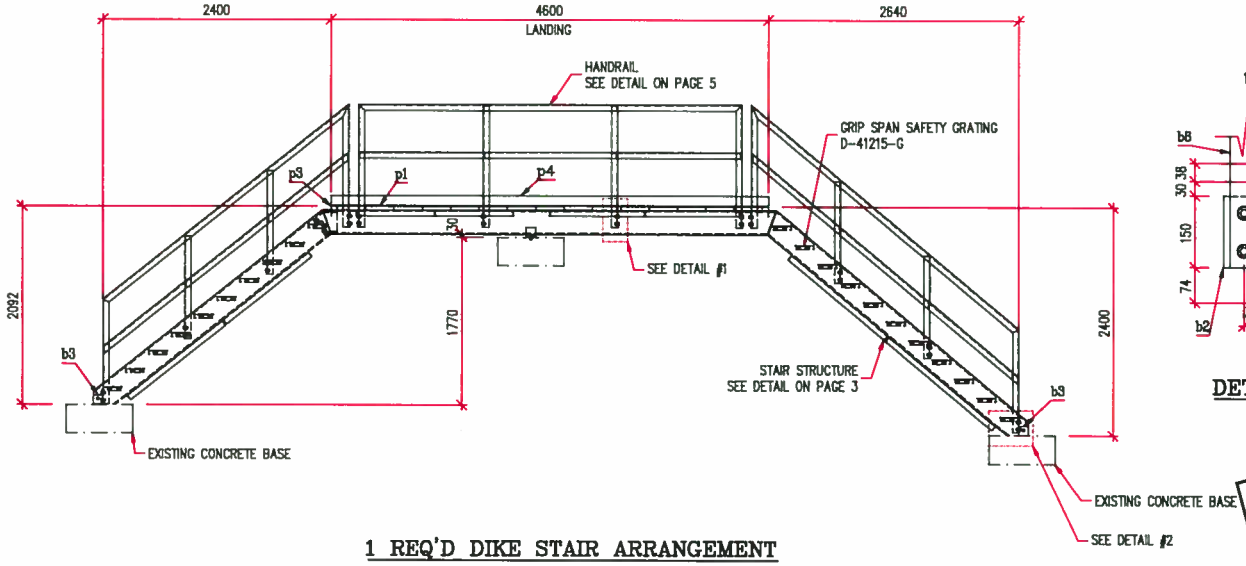
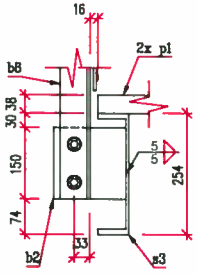
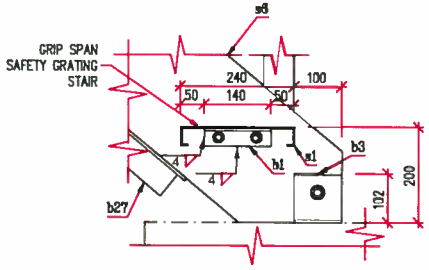


1 REQ'D DIKE STAIR ARRANGEMENT



DETAIL #1



DETAIL #2

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Révision :			
BB	2017-05-29	HANDRAIL & STRINGER MODIFICATION	MC
AA	2017-05-16	FOR APPROVAL	MC
No	Date (a-m-j)	Description	Par

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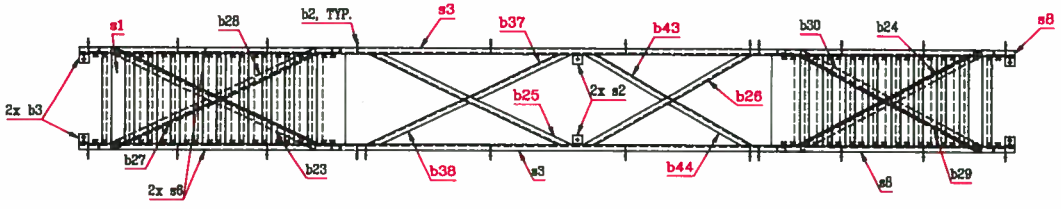
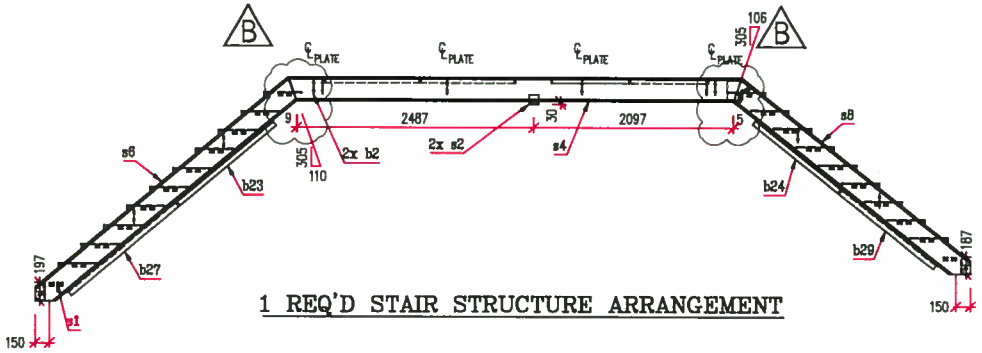
Projet :	AGNICO EAGLE - MELIADINE DIVISION - FUEL DISTRIBUTION
Titre :	DIKE CATWALK STRUCTURAL CATWALK ARRANGEMENT
Approuvé par : JONATHAN FAUCHER ing.	Dessiné par : MARIO CLICHE Ing. / Date : 2017-05-16 / Page : 2 de 6
Dossier : 999-00048075-PP	Numéro de dessin : NMOI - 00048075 - A0 - S03 - BB

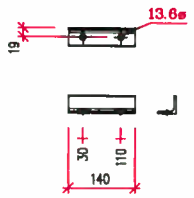
29 mai 2017 17:02:30, marcil, R:\ROU-00240067-A0\60 Réalisation\63 Dessins\Proc\Dike catwalk\999-00048075-PP - Dike catwalk\Details\GA STAIR_PAGE 2-A.dwg





1 REQ'D STAIR STRUCTURE ARRANGEMENT

FOR APPROVAL
DO NOT USE FOR FABRICATION



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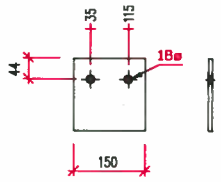

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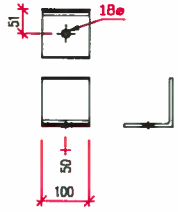

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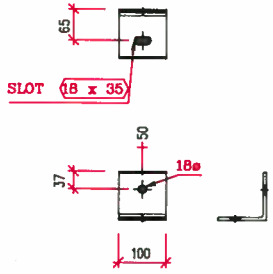

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Révision :			
BB	2017-05-29	HANDRAIL & STRINGER MODIFICATION	MC
AA	2017-05-16	FOR APPROVAL	MC
No	Date (a-m-j)	Description	Par

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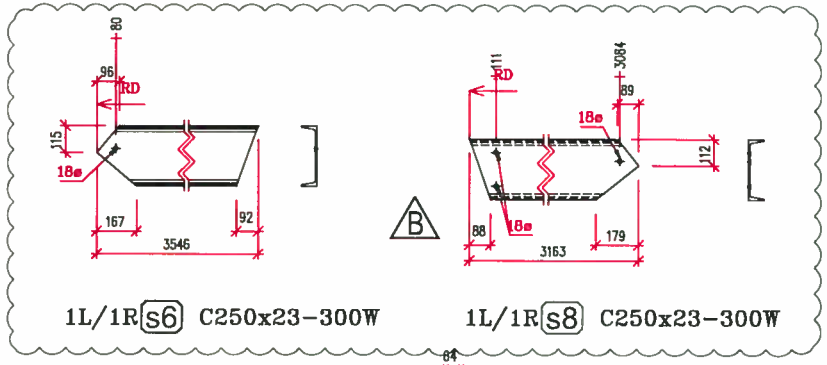
Projet :	AGNICO EAGLE - MELIADINE DIVISION - FUEL DISTRIBUTION
Titre :	DIKE CATWALK STRUCTURAL STAIR ARRANGEMENT
Approuvé par : JONATHAN FAUCHER ing.	Dessiné par : MARIO CLICHE ing.
Date : 2017-05-16	Page : 3 de 6
Dossier : 999-00048075-PP	Numéro de dessin : NMOI - 00048075 - A0 - S03 - BB

29 mai 2017 17:04:23, marcil, R:\ROU-00240067-A0\60 Réalisation\63 Dessins\Proc\Dike catwalk\999-00048075-PP - Dike catwalk\Details\GA STAIR_PAGE 3-A.dwg



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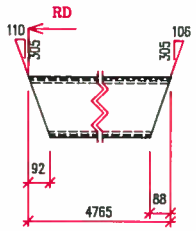

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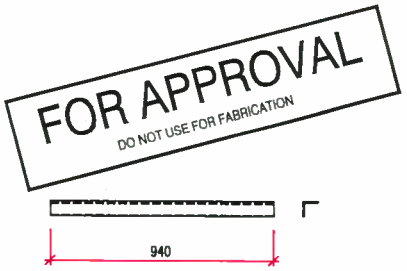

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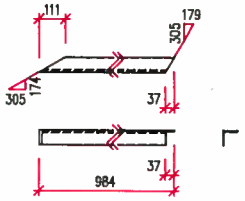

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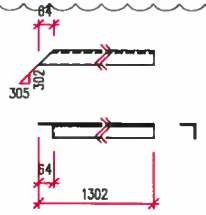

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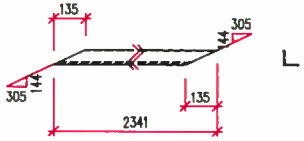

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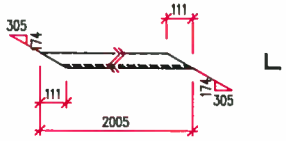

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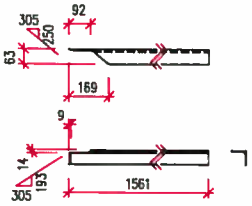

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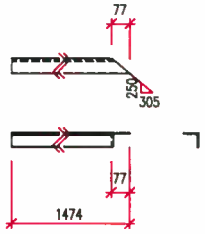

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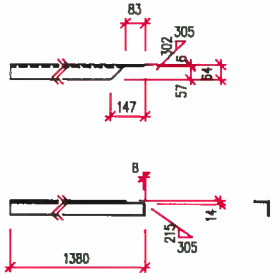

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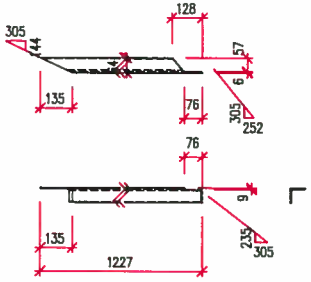

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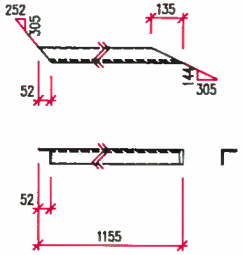

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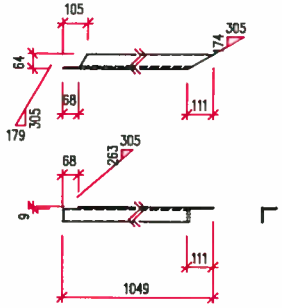

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Révision :			
BB	2017-05-29	HANDRAIL & STRINGER MODIFICATION	MC
AA	2017-05-16	FOR APPROVAL	MC
No	Date (a-m-j)	Description	Par

Client :

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Projet : AGNICO EAGLE - MELIADINE DIVISION - FUEL DISTRIBUTION

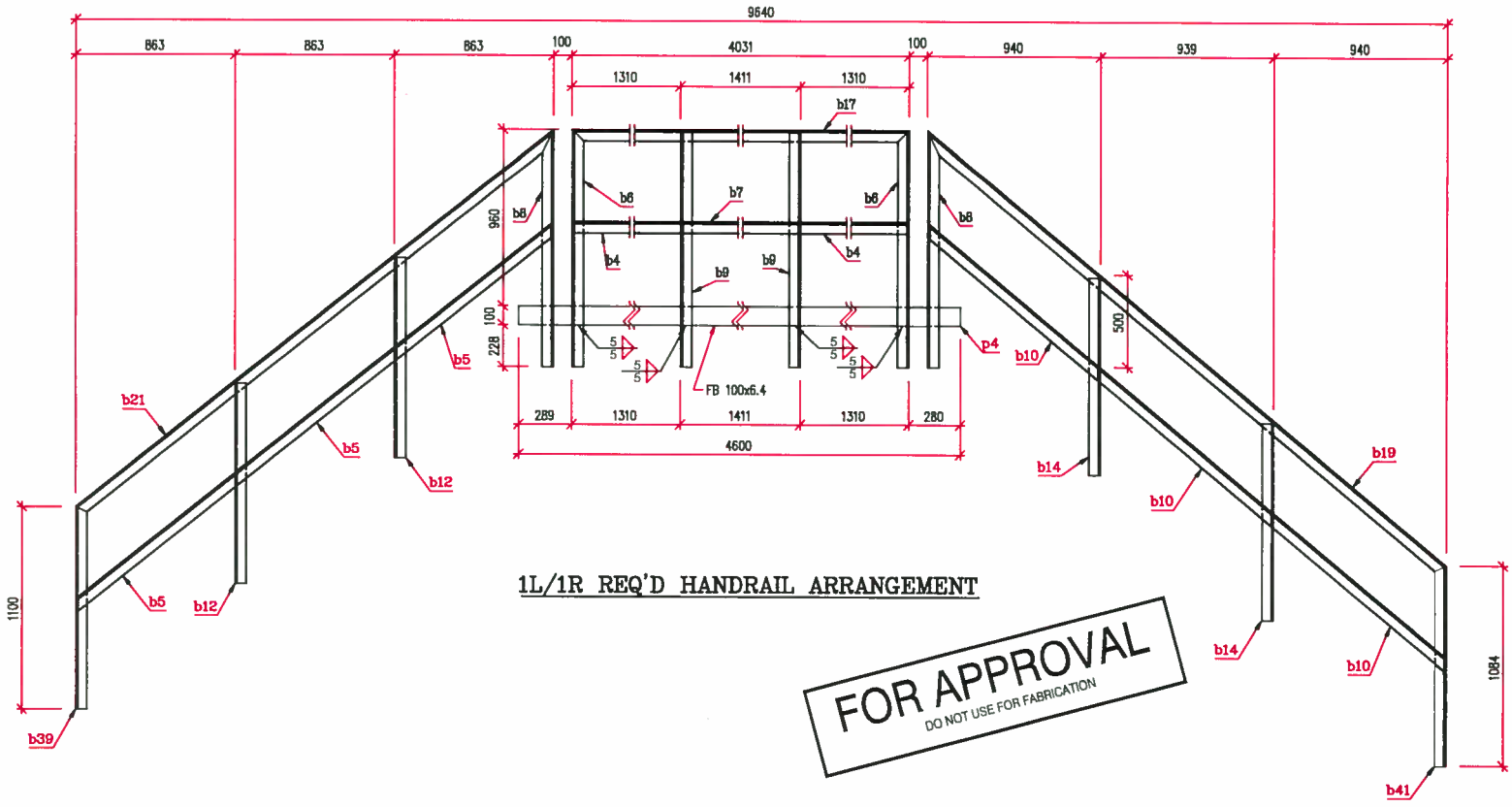
Titre : DIKE CATWALK
STRUCTURAL
STAIR DETAILS

Approuvé par :	Dessiné par :	Date :	Page:
JONATHAN FAUCHER ing.	MARIO CLICHE ing.	2017-05-16	4 de 6

Dossier : 999-00048075-PP

Numéro de dessin : NMOI - 00048075 - A0 - S03 - BB
(Identification client - numéro de dossier - séquence - de feuille - révision)

29 mai 2017 17:07:13, marcil, R:\ROU-00240067-A0\60 Réalisation\63 Dessins\Proc\Dike catwalk\999-00048075-PP - Dike catwalk\Details\STAIR FAB DETAILS_PAGI



1L/1R REQ'D HANDRAIL ARRANGEMENT

FOR APPROVAL
DO NOT USE FOR FABRICATION

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Révision :

No	Date (a-m-j)	Description	Par
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AA	2017-05-16	FOR APPROVAL	MC

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Projet : AGNICO EAGLE - MELIADINE DIVISION - FUEL DISTRIBUTION

Titre : DIKE CATWALK
STRUCTURAL
HANDRAIL ARRANGEMENT

Approuvé par :	Dessiné par :	Date :	Page:
JONATHAN FAUCHER ing.	MARIO CLICHE ing.	2017-05-16	5 de 6

Dossier : 999-00048075-PP

Numéro de dessin : NMOI - 00048075 - A0 - S03 - BB

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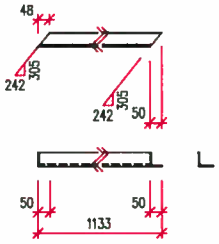

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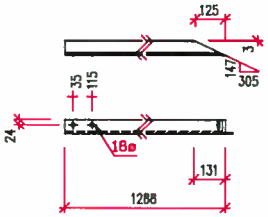

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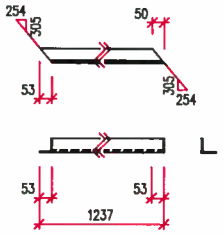

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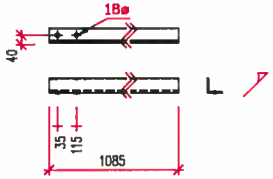

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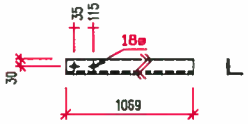

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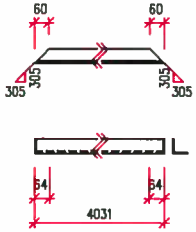

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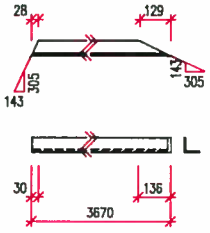

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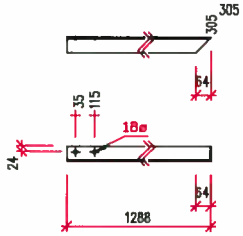

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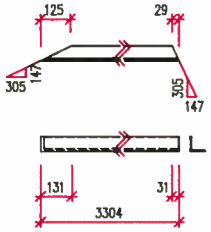

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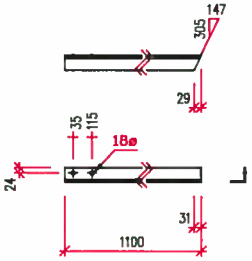

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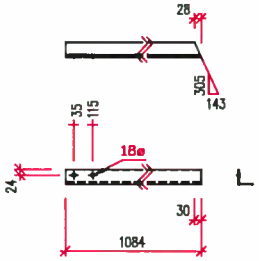

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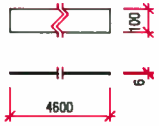
FOR APPROVAL
DO NOT USE FOR FABRICATION



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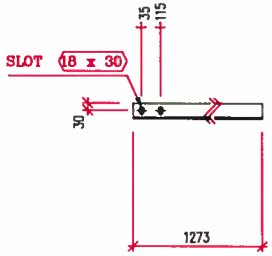

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Révision :

No	Date (a-m-j)	Description	Par
BB	2017-05-29	HANDRAIL & STRINGER MODIFICATION	MC
AA	2017-05-16	FOR APPROVAL	MC

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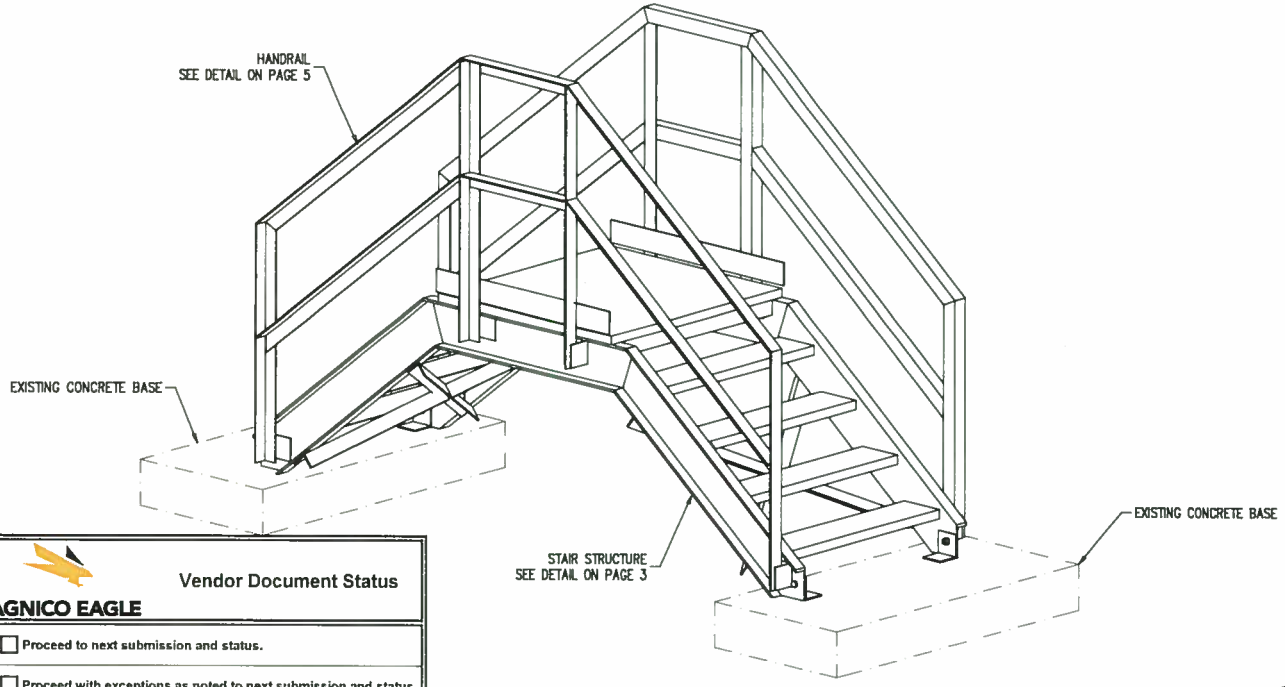
Projet :	AGNICO EAGLE - MELIADINE DIVISION - FUEL DISTRIBUTION
Titre :	DIKE CATWALK STRUCTURAL HANDRAIL DETAILS
Approuvé par :	JONATHAN FAUCHER ing.
Dessiné par :	MARIO CLICHE ing.
Date :	2017-05-16
Page :	6 de 6
Dossier :	999-00048075-PP
Numéro de dessin :	NMOI - 00048075 - A0 - S03 - BB



ISOMETRIC VIEW
PIPE CATWALK

GENERAL NOTES:
- REFERENCE DRAWING : 65-103-245-201 REVISION 2
- CATWALK, RAILING AND STAIRS ARE ASSEMBLED AND BOLTED ON SITE.

MATERIAL:
- GRATING FOR LANDING
  GRIP SPAN SAFETY GRATING
  GALVANIZED STEEL
  D-51215-G
  BY FISHER & LUDLOW
- STAIR
  GRIP SPAN SAFETY GRATING
  GALVANIZED STEEL
  D-41215-G
  BY FISHER & LUDLOW
- STEEL
  ALL STEEL MUST BE IN APPLIANCE WITH CSA G40.21
- WELD
  ALL WELDS MUST BE IN APPLIANCE WITH W59.1 AND W47
- PAINT
  SEE AGNICO EAGLE REQUESTED SPECS

DESIGN:
- DL = 0.5 KPa
- LL = 4.8 KPa
- DEFLECTION = L/300

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AGNICO EAGLE
Vendor Document Status

1 ☐ Proceed to next submission and status.
2 ☐ Proceed with exceptions as noted to next submission and status.
3 ☐ Do not proceed. Revise as noted and resubmit next submission and status.
4 ☑ Complete, no further submission required.

By: Joël Morliere Date: 2017-05-23

Review and authorization to fabricate are only for general conformance with the design concept of the Project as expressed in the Contract Documents. Sole responsibility for the accuracy and completeness of this document, including but not limited to dimensions and quantities, remains with the Supplier/Contractor. Agnico Eagle does not warrant the accuracy or completeness of any of the information contained herein, nor does Agnico Eagle authorize or approve any construction means, methods, techniques, sequences or any safety precautions or procedures.

Agnico Eagle No. 6515-C-270-007-245-SPD-0003 R: Sub001

DOCUMENT FOR INFORMATION

WSP
SHOP DRAWING DATA SHEET

Affixing this stamp confirms that an administrative approval and/or a verification of compliance with shop drawings or specifications was made, but does not entail the liability of the author of the work or its owner with regards to this shop drawing or data sheet, for which the contractor is the sole responsible.

☑ Reviewed ☐ Reviewed as noted
☐ Rejected ☐ Filed for records

The contractor, supplier and/or sub-contractor is responsible for: comfirming and coordinating all quantities and dimensions; selecting fabrication processes and techniques of construction; coordinating his or her work with that of all other trades and performing all work in a safe and satisfactory manner.

By: Joël Morliere Date: 2017/05/23
G-ADM-ZZZ-82-11E-2 Project # 151-0644D-40

No	Date (a-m-j)	Description	Par
AA	2017-05-15	FOR APPROVAL	MC

Révision :

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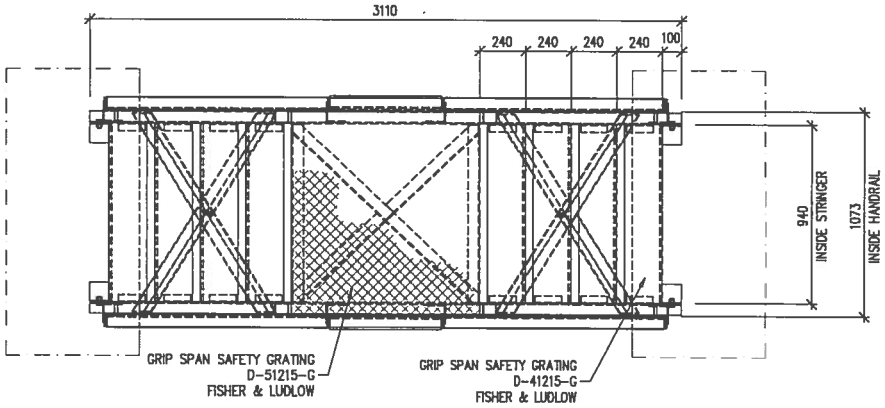
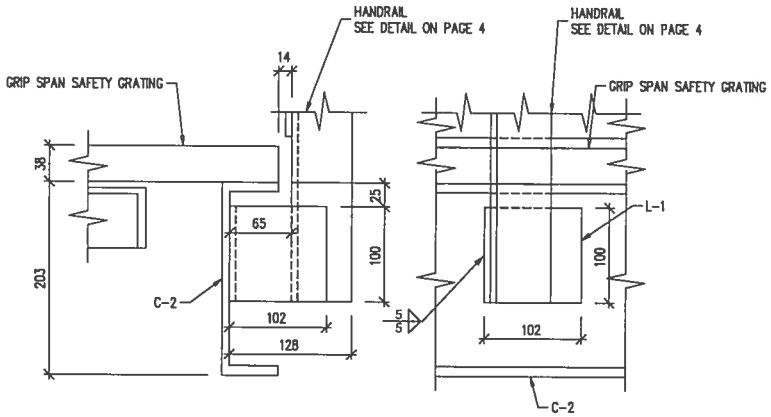
Projet : AGNICO EAGLE - MELIADINE DIVISION - FUEL DISTRIBUTION
Titre : PIPE CATWALK
STRUCTURAL
GENERAL ARRANGEMENT

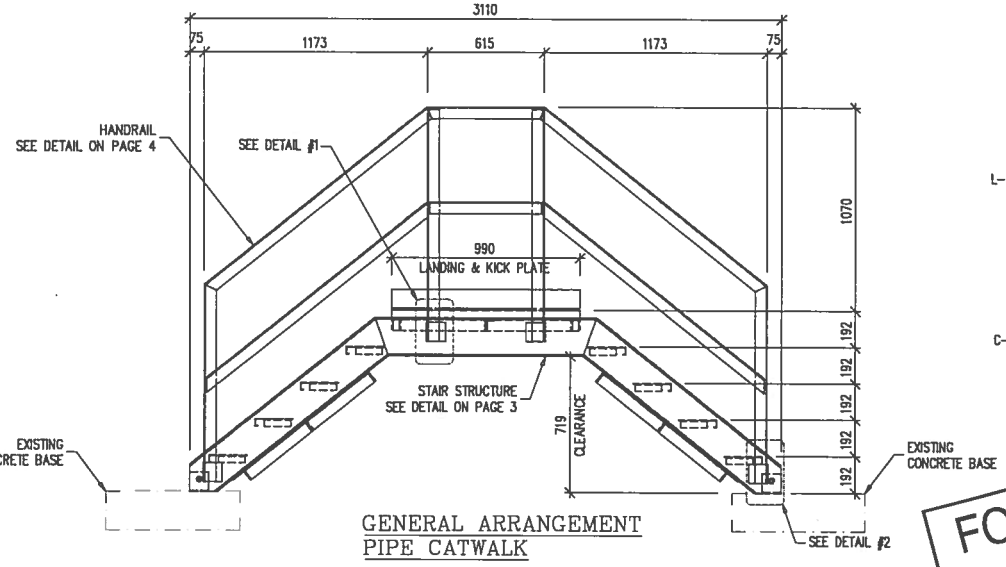
Approuvé par : JONATHAN FAUCHER ing.
Dessiné par : MARIO CLICHE ing.
Date : 2017-05-15
Page : 1 de 5
Dossier : 999-00048075-PP
Numéro de dessin : NMOI - 00048075 - A0 - S02 - AA

16 mai 2017 21:19:02, marcli, C:\Mario Cliche EXP\Clients\Normex\Escaliers reservoir\61 Réalisation\999-00048075-PP - Escalier tuyau\Details\Vue iso_page 1.dwg

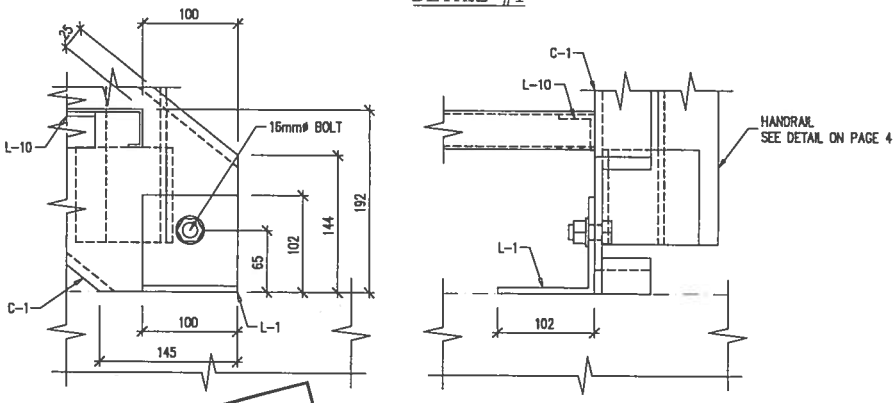




DETAIL #1



GENERAL ARRANGEMENT
PIPE CATWALK



DETAIL #2

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AA	2017-05-15	FOR APPROVAL	MC
No	Date (a-m-j)	Description	Par

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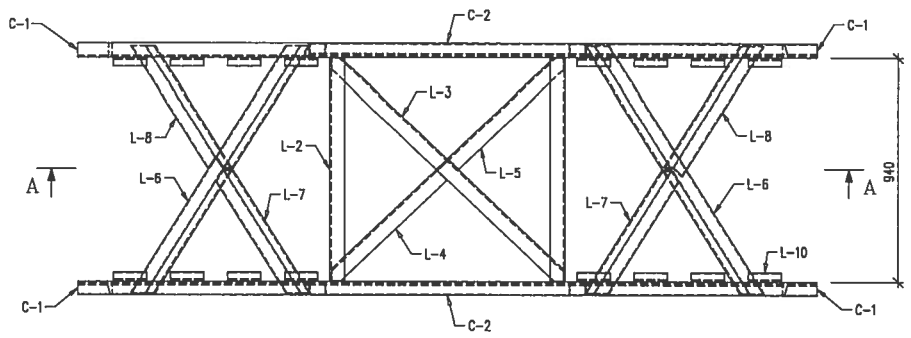
Projet :	AGNICO EAGLE - MELIADINE DIVISION - FUEL DISTRIBUTION		
Titre :	PIPE CATWALK STRUCTURAL GENERAL ARRANGEMENT		
Approuvé par : JONATHAN FAUCHER ing.	Dessiné par : MARIO CLICHE ing.	Date : 2017-05-15	Page. 2 de 5
Dossier : 999-00048075-PP	Numéro de dessin : NMOI - 00048075 - A0 - S02 - AA		

16 mai 2017 21:18:36, marcil, C:\Mario Cliche EXP\Clients\Normex\Escaliers reservoir\61 Réalisation\999-00048075-PP - Escalier tuyau\Details\GA Stair_page 2.dwg



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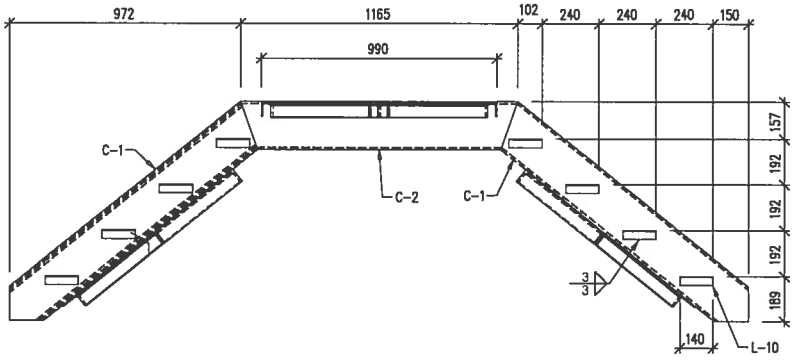
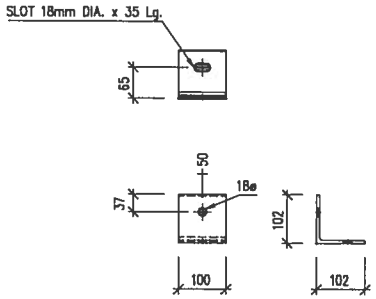


Section A – A



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16x L-10 L38X38X4.8-300W

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16 mai 2017 21:18:07, marcij. C:\Mario Cliche EXP\Clients\Normex\Escaliers reservoir\61 Réalisation\999-00048075-PP - Escalier tuyau\Details\4.dwg

Révision :			
AA	2017-05-15	FOR APPROVAL	MC
No	Date (a-m-j)	Description	Par

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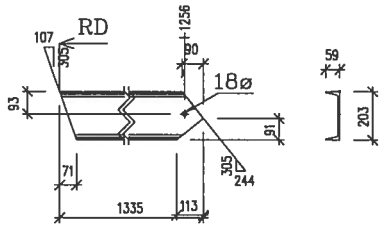
Projet :	AGNICO EAGLE - MELIADINE DIVISION - FUEL DISTRIBUTION		
Titre :	PIPE CATWALK STRUCTURAL STAIR DETAILS		
Approuvé par : JONATHAN FAUCHER ing.	Dessiné par : MARIO CLICHE ing.	Date : 2017-05-15	Page : 3 de 5
Dossier : 999-00048075-PP	Numéro de dessin : NMOI - 00048075 - A0 - S02 - AA		



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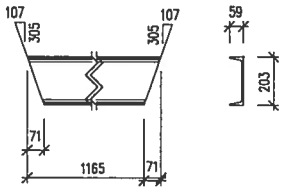

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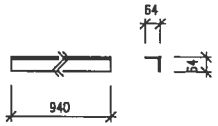

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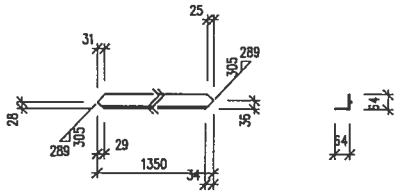

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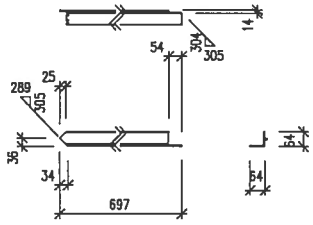
DO NOT USE FOR FABRICATION



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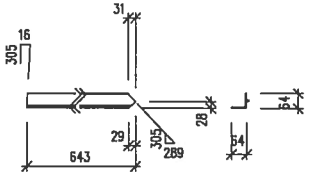

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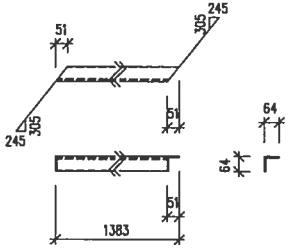

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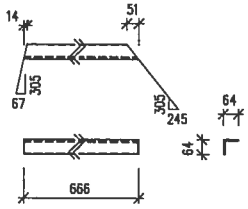

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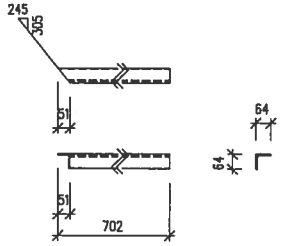

2x L-8 L64X64X6.4-300W

Révision :			
AA	2017-05-15	FOR APPROVAL	MC
No	Date (a-m-j)	Description	Par

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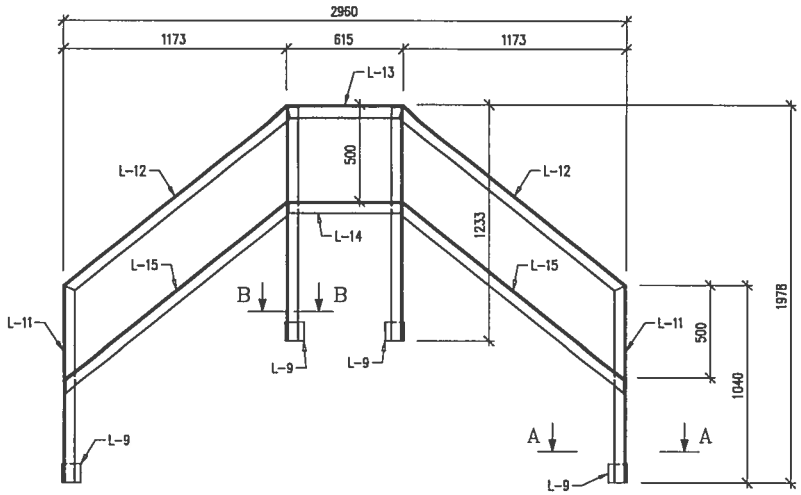
Rouyn-Noranda, QC J9X 2M3
CANADA
www.exp.com

Projet :	AGNICO EAGLE - MELIADINE DIVISION - FUEL DISTRIBUTION		
Titre :	PIPE CATWALK STRUCTURAL STAIR DETAILS		
Approuvé par : JONATHAN FAUCHER ing.	Dessiné par : MARIO CLICHE ing.	Date : 2017-05-15	Page : 4 de 5
Dossier : 999-00048075-PP	Numéro de dessin : NMOI - 00048075 - A0 - S02 - AA		

16 mai 2017 21:17:35, marcli, C:\Mario Cliche EXP\Clients\Normex\Escaliers reservoir\61 Réalisation\999-00048075-PP - Escalier tuyau\Details\Details escalier_page

16 mai 2017 21:16:47, mardi, C:\Mario Cliche EXP\Clients\Normex\Escaliers reservoir\61 Réalisation\999-00048075-PP - Escalier tuyau\Details\Handrail_page 5.dwg



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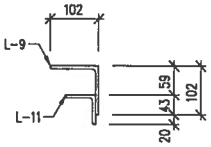

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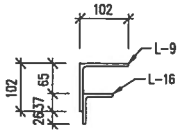

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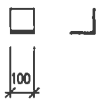

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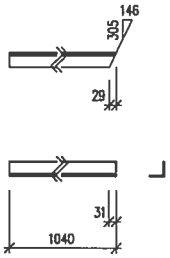

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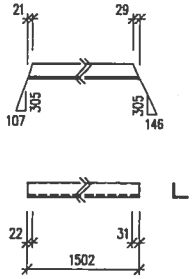

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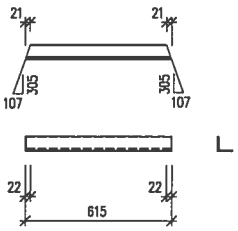

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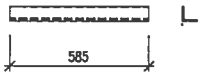

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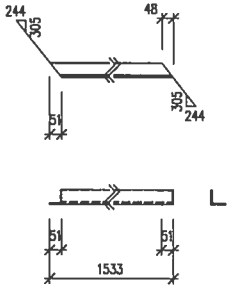

2L/2R L-15 L64X64X6.4-300W

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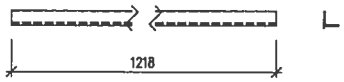

4x L-16 L64X64X6.4-300W

Révision :

No	Date (a-m-j)	Description	Par
AA	2017-05-15	FOR APPROVAL	MC

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28, 19e Rue, bureau 200
Rouyn-Noranda, QC J9X 2M3
CANADA
www.exp.com

Projet : AGNICO EAGLE - MELIADINE DIVISION - FUEL DISTRIBUTION

Titre : PIPE CATWALK
STRUCTURAL
HANDRAIL DETAILS

Approuvé par :	Dessiné par :	Date :	Page :
JONATHAN FAUCHER ing.	MARIO CLICHE ing.	2017-05-15	5 de 5

Dossier : 999-00048075-PP

Numéro de dessin : NMOI - 00048075 - A0 - S02 - AA
(Identificateur client - numéro de dossier - séquence - discipline - révision)

31/05/2017
07:45:14

☐ YELLOW ☐ PINK ☐ PURPLE ☐ STOCKROOM
☐ GREEN ☐ BLUE ☐ ORANGE

REV:0000
PAGE :1

DESCRIPTION BON TRAVAIL: PEINTURE

#-BON TRAVAIL: W80055

#-PROJET: 4048 (B)FUEL MODULE CATWALK
#-CLIENT: 598 CONSTRUCTION PROMEC

#-COMMANDE...: 61086
DATE DEBUT...: 01/05/2017
DATE REQUISE.: 15/06/2017
#-P.L.....: 4841

BYE: S.L
PAINT: OUI
GROUP: .
UNIT:
PART:
CONTACT: ERIC POULIN

NORMEX MÉTAL
CONRÔLE DE QUALITÉ
CONFORME ✓ OUI NON
INSPECTÉ PAR: Emmanuel Ouellet
SIGNATURE: Emmanuel Ouellet
DATE: 29 / 06 / 2017
JOUR MOIS ANNÉE

NOTES

PEINTURE DES HANDRAILS ET STRUCTURE
SYYTEME A 3 COUCHES,VOIR FEUILLES

MATERIAUX

	#-REQUIS.	#-DESSIN	QTE	DESCRIPTION	MESURE	BATCH	ROLL	CUT	BEND	DRILL	MACH.	STOCK
001				POUR PEINTURE VOIR FEUILLE 2								

QUANTITE: 0.00 POIDS: 0.000 SURFACE: 0.00 D: Drawing S: Sketch T: Template

SPEAKER 99236

W/O-NA 2001TD