



Iron Woman
Construction and
Environmental Services LLC

IRON WOMAN CONSTRUCTION & ENVI

Compark Village South F1
Belford & Peoria
Parker, CO 80134

To:
Greg McIlvain
Belford North Metro District
8390 E Crescent Parkway
Suite 300
Greenwood Village, CO 80111

From:
Liz Resetar
Iron Woman Construction
5680 Emerson St
Denver, CO 80216

SUBMITTAL INFORMATION

Submittal No: 9
Submittal Description: Manhole Sections Over CIP Base
Date Submitted: 03/02/2021
Response Requested By: 03/09/2021
Date Response Received:

PRODUCT DATA

ITEM #	DESCRIPTION	DWG / SPEC #	SECTION #	ITEM STATUS
	manhole sections over CIP base	STORM	STORM	New

Remarks:

Please see attached submittal for review and approval for manhole sections over CIP base for Compark F1.

I certify that the above submitted item(s) have been reviewed in detail and are correct and in strict conformance with the contract drawings and specifications except as otherwise noted.

SUBMITTAL REVIEW	
Reviewed By:	
Date:	
Status:	<input type="checkbox"/> Approved <input type="checkbox"/> Approved a
Comments:	

- No Exception Taken
- Approved as Noted
- Rejected
- Revise and Resubmit

This review is only for general conformance with the design concept of the project and general compliance with the information given in the Contract Documents. Corrections or comments made on the submittal during this review do not relieve contractor from compliance with the requirements of the plans and specifications. Approval of a specific item shall not include approval of an assembly of which the item is a component. Contractor is responsible for: dimensions to be confirmed and correlated at the jobsite, information that pertains solely to the fabrication process or to the means, methods, techniques, sequences and procedures of construction; coordination of his or her Work with that of all other trades; and for performing all work in a safe and satisfactory manner.

Manhard Consulting, Ltd.

Date: 03/03/2021 By: Gary Iwata

ected



OUR PRODUCTS ARE
EVERYWHERE YOU LIVE
GO AND WORK

OLDCASTLE PRECAST LITTLETON

8392 Riverview Pkwy

Littleton, CO 80125

P: 303-791-1100 | F: 303-791-1120

This is to certify that the quality control procedures of

Oldcastle Infrastructure

8392 Riverview Parkway
Littleton, CO 80125-9790

were audited during an on-site plant inspection on July 15, 2020 and have met the

Precast Concrete Requirements

stated in the 14th Edition of the NPCA Quality Control Manual for Precast Concrete Plants

Renewal Granted on December 8, 2020

Participation in the NPCA Plant Certification program affirms an ongoing commitment to producing quality precast concrete products to recognized standards of the *American Association of State Highway and Transportation Officials (AASHTO)*, the *American Concrete Institute (ACI)*, the *ASTM International (ASTM)*, the *American Welding Society (AWS)*, the *Precast Prestressed Concrete Institute (PCI)*, and the *Concrete Reinforcing Steel Institute (CRSI)*.

This renewal certificate is valid through December 31, 2021.



A handwritten signature in black ink, appearing to read "Ron Sparks".

Ron Sparks, Chairman of the Board

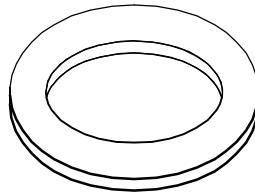
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Frederick H. Grubbe, NPCA President

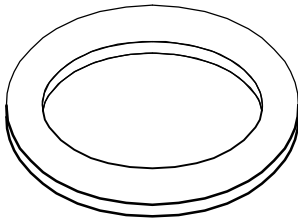
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Phillip B. Cutler, P.E., Director of Quality Assurance Programs

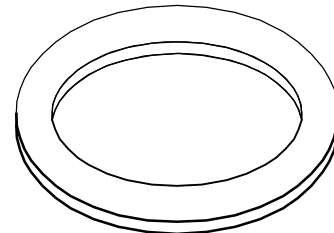
NPCA | 1320 City Center Drive, Suite 200 | Camel, IN 46032
This document shall be reproduced in its entirety



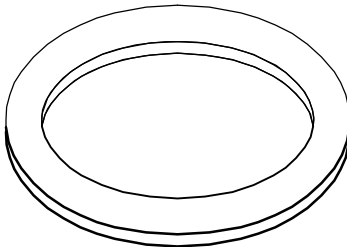
24" DIA. GRADE RINGS		
PRODUCT I.D.	HEIGHT	WEIGHT
24GRR02	2"	98
24GRR03	3"	147
24GRR04	4"	196
24GRR06	6"	294



30" DIA. GRADE RINGS			
PRODUCT I.D.	HEIGHT	WALL THICKNESS	WEIGHT
30GRR02	2"	6"	117
30GRR03	3"	6"	176
30GRR04	4"	6"	235
30GRR06	6"	6"	353

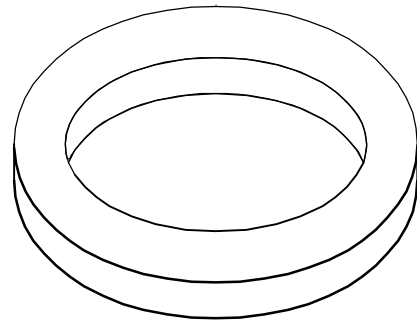


34" DIA. GRADE RINGS			
PRODUCT I.D.	HEIGHT	WALL THICKNESS	WEIGHT
3976820	2"	6"	130
3976840	4"	6"	260
3976860	6"	6"	390



37" DIA. GRADE RINGS			
PRODUCT I.D.	HEIGHT	WALL THICKNESS	WEIGHT
4103720	2"	6"	140
4103730	4"	6"	278
4103740 *	6"	6"	422
4103750 *	12"	6"	844

* WILL ACCEPT TYPE 'C' BOLT ON STEP



41" DIA. GRADE RINGS			
PRODUCT I.D.	HEIGHT	WALL THICKNESS	WEIGHT
4104120	6"	8 1/2"	688



AMCOR *Precast* Division

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GRADERINGS

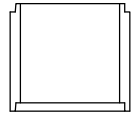
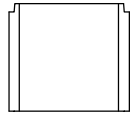
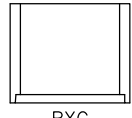

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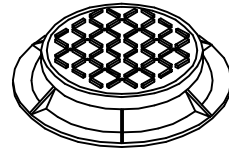
ISSUE DATE: APRIL, 2001

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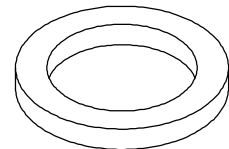
GRADE RINGS STANDARD DRAWING

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Joint Options	
 TXG	 TXB
 BXG	 BxB

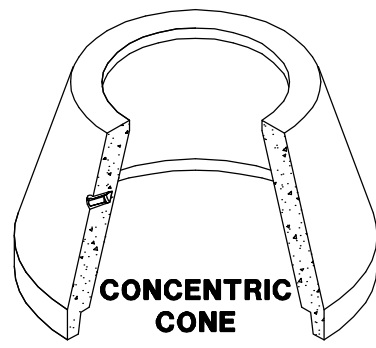


RING & COVER

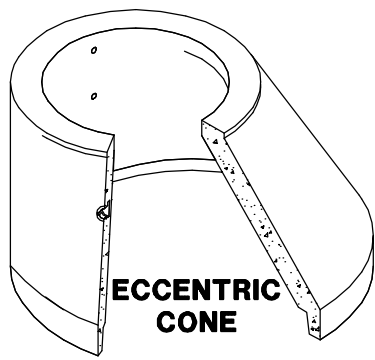


GRADE RING

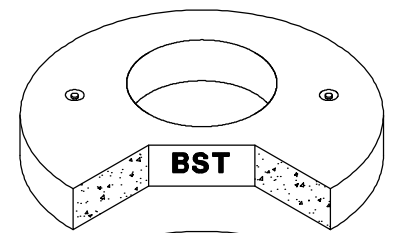
Grade Ring Options		
Height	Access	Weight
0'-2"	ø24"	80 lbs.
0'-3"	ø24"	120 lbs.
0'-4"	ø24"	160 lbs.
0'-6"	ø24"	240 lbs.
0'-2"	ø30"	118 lbs.
0'-3"	ø30"	177 lbs.
0'-4"	ø30"	236 lbs.
0'-6"	ø30"	354 lbs.



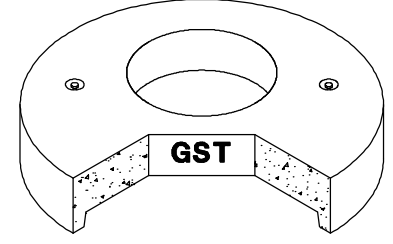
CONCENTRIC CONE



ECCENTRIC CONE



BST



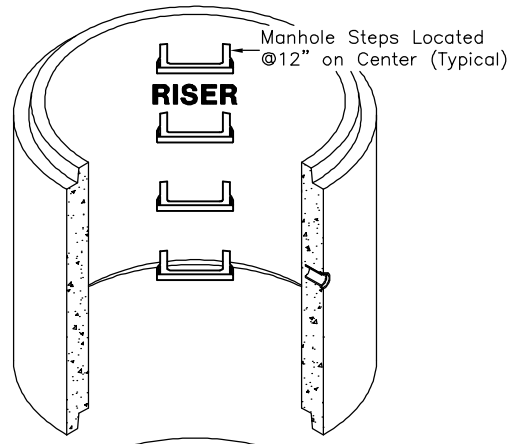
GST

Eccentric Cone Options			
Height	Access	Weight	Lift Gear
2'-6"	ø24"	2,250 lbs.	MH Lifting Cups
2'-6"	ø30"	2,250 lbs.	MH Lifting Cups
3'-0"	ø24"	2,660 lbs.	MH Lifting Cups

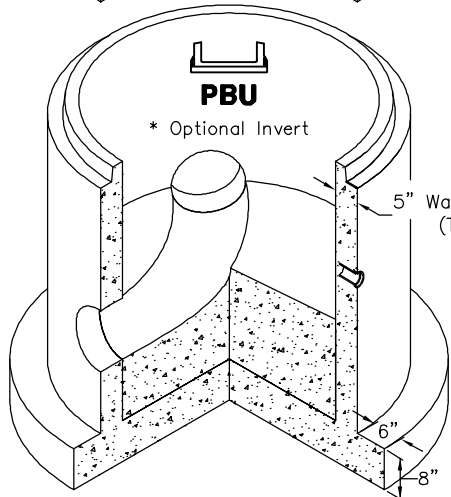
Concentric Cone Options			
Height	Access	Weight	Lift Gear
3'-0"	ø24"	2,660 lbs.	MH Lifting Cups

Butt Slab Top Options (BST)			
*Access Hole Size And Location May Vary			
Height	Access	Weight	Lift Gear
8"	ø24"	1,521 lbs.	2 Ton Swift Lift
8"	ø30"	1,344 lbs.	2 Ton Swift Lift

Groove Slab Top Options (GST)			
*Access Hole Size And Location May Vary			
Height	Access	Weight	Lift Gear
10 3/4"	ø24"	1,630 lbs.	2 Ton Swift Lift
10 3/4"	ø30"	1,453 lbs.	2 Ton Swift Lift



RISER



PBU

Riser Options		
Height	Weight	Lift Gear
1'-0"	868 lbs.	MH Lifting Cups
2'-0"	1,736 lbs.	MH Lifting Cups
3'-0"	2,604 lbs.	MH Lifting Cups
4'-0"	3,472 lbs.	MH Lifting Cups

Base Options (PBU)		
**Weights Shown Do Not Include Invert		
Height	Weight	Lift Gear
2'-0"	4,493 lbs.	MH Lifting Cups
2'-6"	4,927 lbs.	MH Lifting Cups
3'-0"	5,360 lbs.	MH Lifting Cups
4'-0"	6,228 lbs.	MH Lifting Cups

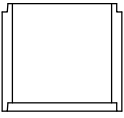
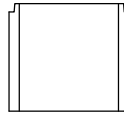
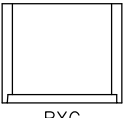
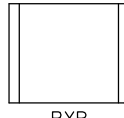
***Approximate invert weight = 2,000 lbs.

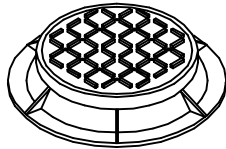
Notes
1. ALL MANHOLE MATERIAL IS DESIGNED AND MANUFACTURED ACCORDING TO ASTM C-478 SPECIFICATIONS.
2. ALL MANHOLE MATERIAL IS SUITABLE FOR HS-20 LOADING.

Oldcastle Precast
AMCOR Precast Division
 8392 Riverview Pkwy. Littleton, CO 80125
 Phone: (303) 791-1100 / 1-800-742-4538
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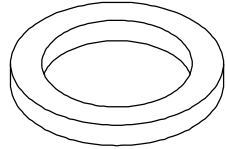
48-OPTIONS
 FILE NAME: 110-MH-BASIC
 ISSUE DATE: APRIL, 2005
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**48" DIA. MANHOLE MATERIAL
 STANDARD DRAWINGS**
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Joint Options	
 TXG	 TXB
 BXG	 BXB

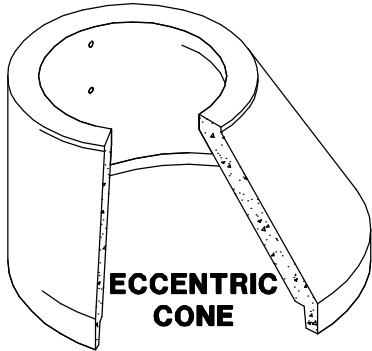


RING & COVER

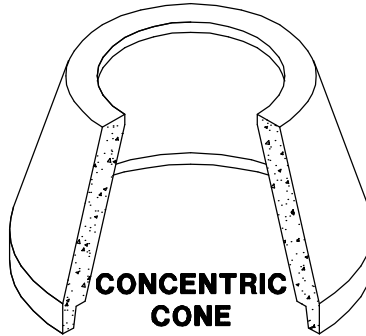


GRADE RING

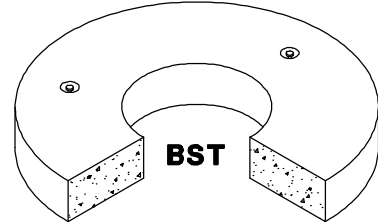
Grade Ring Options					
Height	Access	Weight	Height	Access	Weight
0'-2"	ø24"	80 lbs.	0'-2"	ø37"	142 lbs.
0'-3"	ø24"	120 lbs.	0'-4"	ø37"	284 lbs.
0'-4"	ø24"	160 lbs.	0'-6"	ø37"	426 lbs.
0'-6"	ø24"	240 lbs.	1'-0"	ø37"	852 lbs.
0'-2"	ø30"	118 lbs.			
0'-3"	ø30"	177 lbs.			
0'-4"	ø30"	236 lbs.			
0'-6"	ø30"	354 lbs.			



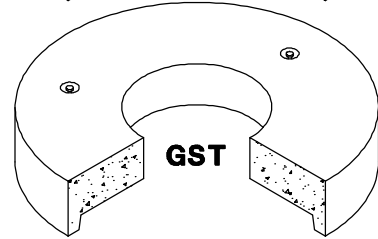
ECCENTRIC CONE



CONCENTRIC CONE



BST



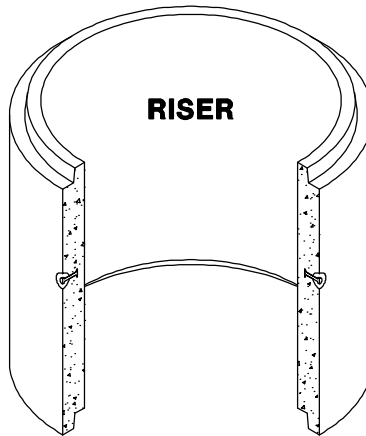
GST

Eccentric Cone Options			
Height	Access	Weight	Lift Gear
2'-0"	ø30"	2,600 lbs.	2 Ton Swift Lift
2'-6"	ø24"	2,730 lbs.	2 Ton Swift Lift
3'-0"	ø24"	3,274 lbs.	2 Ton Swift Lift

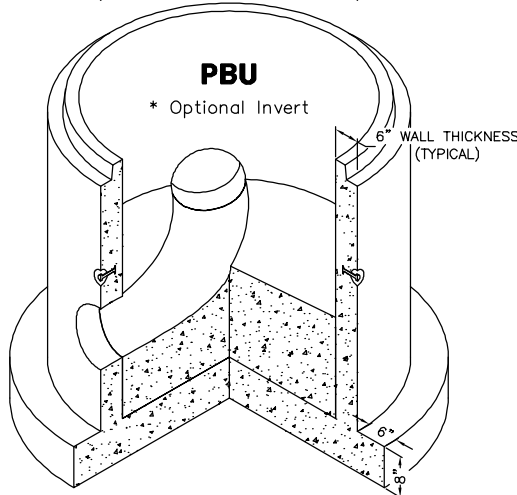
Concentric Cone Options			
Height	Access	Weight	Lift Gear
3'-6"	ø24"	3,820 lbs.	2 Ton Swift Lift

Butt Slab Top Options (BST)			
*Access Hole Size And Location May Vary			
Height	Access	Weight	Lift Gear
8"	ø24"	2,515 lbs.	2 Ton Swift Lift
8"	ø30"	2,338 lbs.	2 Ton Swift Lift
8"	ø36"	2,122 lbs.	2 Ton Swift Lift

Groove Slab Top Options (GST)			
*Access Hole Size And Location May Vary			
Height	Access	Weight	Lift Gear
10 3/4"	ø24"	2,651 lbs.	2 Ton Swift Lift
10 3/4"	ø30"	2,474 lbs.	2 Ton Swift Lift
10 3/4"	ø36"	2,258 lbs.	2 Ton Swift Lift



RISER



PBU

* Optional Invert

6" WALL THICKNESS (TYPICAL)

Riser Options		
Height	Weight	Lift Gear
1'-0"	1,296 lbs.	MH Lifting Cups 2 Ton Swift Lift
2'-0"	2,592 lbs.	MH Lifting Cups 2 Ton Swift Lift
3'-0"	3,888 lbs.	MH Lifting Cups 2 Ton Swift Lift
4'-0"	5,184 lbs.	MH Lifting Cups 2 Ton Swift Lift

Base Options (PBU)		
**Weights Shown Do Not Include Invert		
Height	Weight	Lift Gear
2'-0"	6,573 lbs.	2 Ton Swift Lift
3'-0"	7,869 lbs.	2 Ton Swift Lift
4'-0"	9,165 lbs.	2 Ton Swift Lift
5'-0"	10,461 lbs.	2 Ton Swift Lift
6'-0"	11,757 lbs.	2 Ton Swift Lift

***Approximate invert weight = 6,500 lbs.

Notes
ALL MANHOLE MATERIAL IS DESIGNED AND MANUFACTURED ACCORDING TO ASTM C-478 SPECIFICATIONS.



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60-OPTIONS

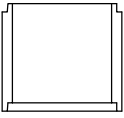
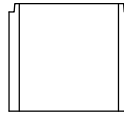
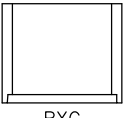
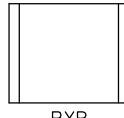
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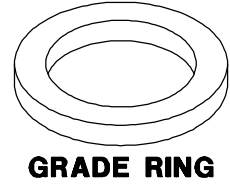
ISSUE DATE: APRIL, 2005

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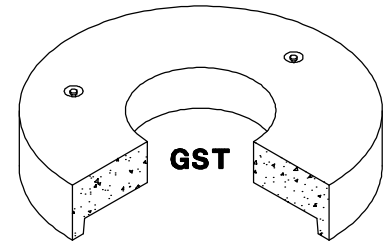
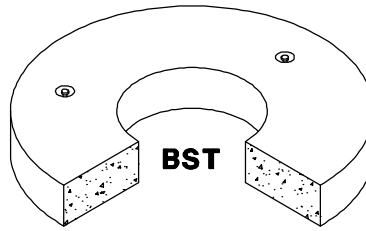
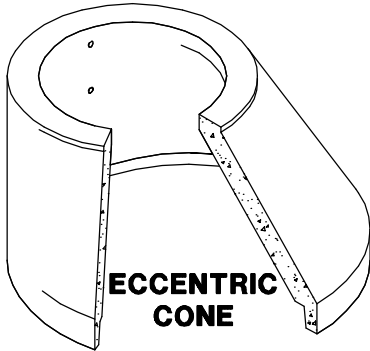
60" DIA. MANHOLE MATERIAL STANDARD DRAWINGS

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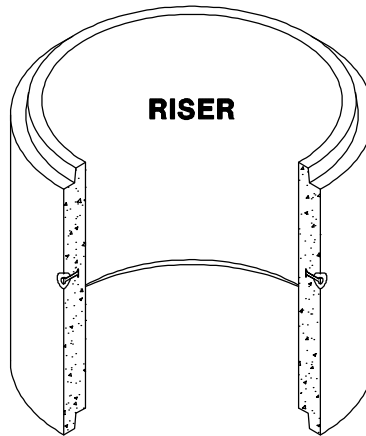
Joint Options	
 TXG	 TXB
 BXG	 BXB



Grade Ring Options					
Height	Access	Weight	Height	Access	Weight
0'-2"	Ø24"	80 lbs.	0'-2"	Ø37"	142 lbs.
0'-3"	Ø24"	120 lbs.	0'-4"	Ø37"	284 lbs.
0'-4"	Ø24"	160 lbs.	0'-6"	Ø37"	426 lbs.
0'-6"	Ø24"	240 lbs.	1'-0"	Ø37"	852 lbs.
0'-2"	Ø30"	118 lbs.			
0'-3"	Ø30"	177 lbs.			
0'-4"	Ø30"	236 lbs.			
0'-6"	Ø30"	354 lbs.			

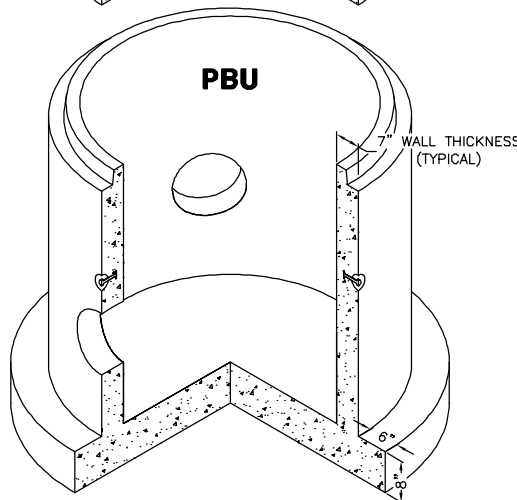


Eccentric Cone Options			
Height	Access	Weight	Lift Gear
2'-8"	Ø30"	4,800 lbs.	4 Ton Swift Lift
3'-0"	Ø24"	6,000 lbs.	4 Ton Swift Lift



Riser Options		
Height	Weight	Lift Gear
1'-0"	1,810 lbs.	4 Ton Swift Lift
2'-0"	3,620 lbs.	4 Ton Swift Lift
3'-0"	5,430 lbs.	4 Ton Swift Lift
4'-0"	7,240 lbs.	4 Ton Swift Lift
5'-0"	9,050 lbs.	4 Ton Swift Lift
6'-0"	10,860 lbs.	4 Ton Swift Lift

Butt Slab Top Options (BST)			
*Access Hole Size And Location May Vary			
Height	Access	Weight	Lift Gear
8"	Ø24"	3,720 lbs.	4 Ton Swift Lift
8"	Ø30"	3,544 lbs.	4 Ton Swift Lift
8"	Ø36"	3,328 lbs.	4 Ton Swift Lift



Base Options (PBU)		
**Weights Shown Do Not Include Invert		
Height	Weight	Lift Gear
4'-0"	12,970 lbs.	4 Ton Swift Lift
5'-0"	14,780 lbs.	4 Ton Swift Lift
6'-0"	16,590 lbs.	4 Ton Swift Lift

Groove Slab Top Options (GST)			
*Access Hole Size And Location May Vary			
Height	Access	Weight	Lift Gear
1'-2"	Ø24"	4,085 lbs.	4 Ton Swift Lift
1'-2"	Ø30"	3,908 lbs.	4 Ton Swift Lift
1'-2"	Ø36"	3,692 lbs.	4 Ton Swift Lift

Notes
ALL MANHOLE MATERIAL IS DESIGNED AND MANUFACTURED ACCORDING TO ASTM C-478 SPECIFICATIONS.



AMCOR Precast Division

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72-OPTIONS

FILE NAME: 110-MH-BASIC

ISSUE DATE: APRIL, 2005

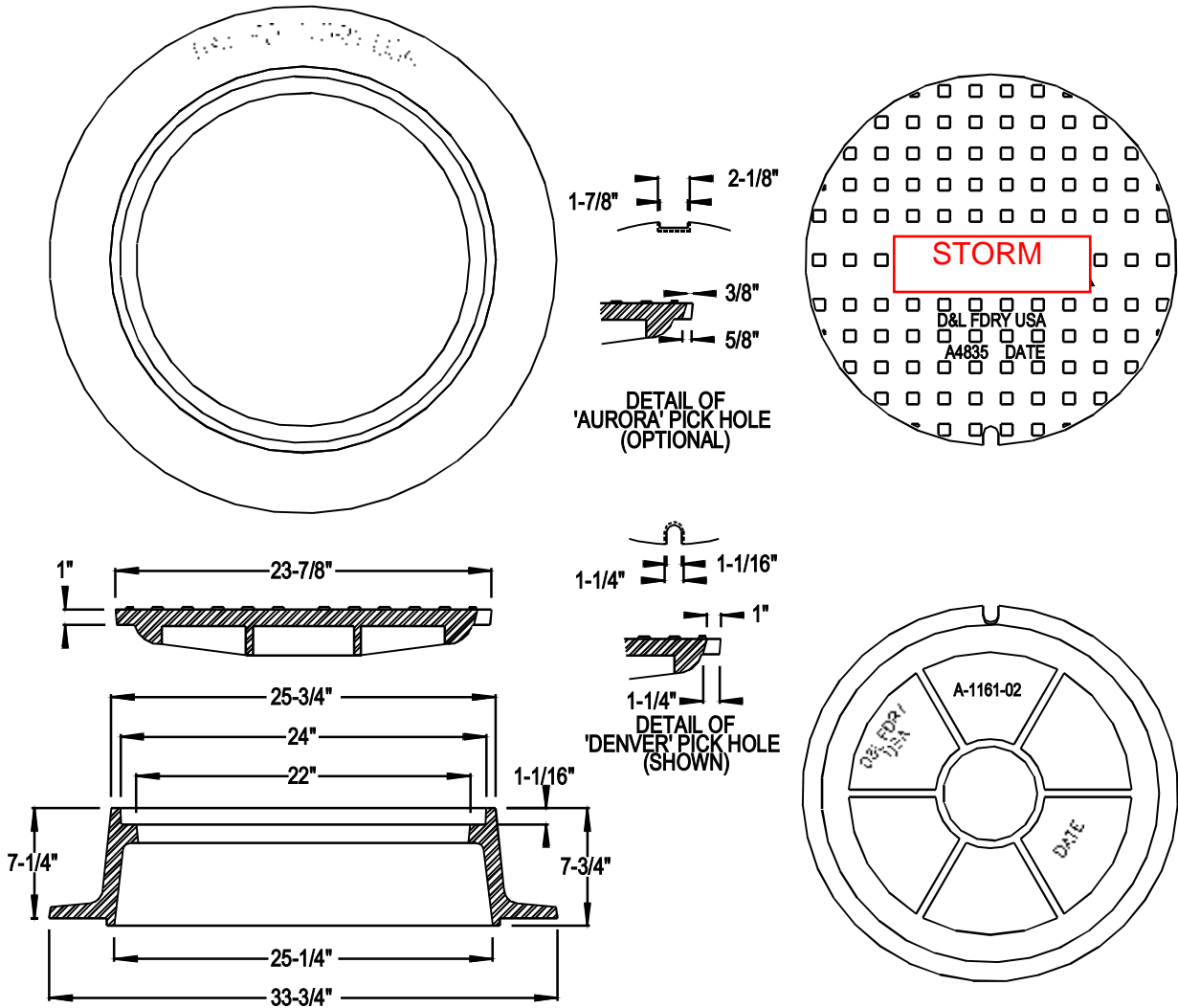
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**72" DIA. MANHOLE MATERIAL
STANDARD DRAWINGS**

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A-1161 thru A-1163

Manhole Ring & Cover (s)



Different weights available in the following variations:
 A-1161 = A-1161 Ring & A-1161 Cover = 338 lbs.
 A-1162 = A-1161 Ring & A-1043 Cover = 308 lbs.
 A-1163 = A-1161 Ring & B-5086 Cover = 297 lbs.

CAST IRON conforms to
 ASTM A-48-93 Class 35B
 Meets H-20 Wheel Loading

D&L model No. A-1161 thru A-1163

Estimated Weight of
 A-1161 - A-1163
 see above

D&L Foundry & Supply

CA Sales: (707) 557-4525 fax: (707) 557-4655
 UT Sales: (801) 785-5015 fax: (801) 785-0835
 WA Sales: (509) 765-7952 fax: (509) 765-8124

Designation: A-1161 - A-1163
 Date: Revised October 2003

Prepared by: Jesse Walker
 D&L Supply (not to scale)



M. A. INDUSTRIES, INC.

Quality Products Through Creative Research

January 1, 2010

Manhole Step Certification

M.A. Industries, Inc. certifies that any quantities of the M.A. Industries, Inc. steel reinforced copolymer polypropylene manhole steps meet the following specifications:

- 1) ASTM C-478-02, section 13 Manhole Steps and Ladders (ASTM C 497-98 is Method of Test)
- 2) AASHTO No. M-199-811 portion for Manhole Steps (when properly installed)
- 3) ASTM D-4101-02 pp0344b33534z02 Copolymer Polypropylene
- 4) ASTM A-615 Grade 60 ½" steel reinforced rod. This letter further certifies that all steel used in all M.A. Industries' manhole steps is 100% made in the United States of America
- 5) OSHA Instruction STD 1-1.9 of December 29, 1978 (manhole steps when properly installed)
- 6) OSHA 29 CFR Part 1910.27 of July 1996 (manhole steps when properly installed)
- 7) Federal Specifications RR-F-621E paragraphs 3.8 and 6.2e for non-sparking steps.
- 8) New York D.O.T. Standards 725-02.01.

All of M.A. Industries' Manhole Steps meet the American Recovery & Reinvestment Act of 2009 provision 1605. (Made in the USA)

If you have any questions, feel free to contact me at 1-800-241-8250, ext. 308.

Sincerely,

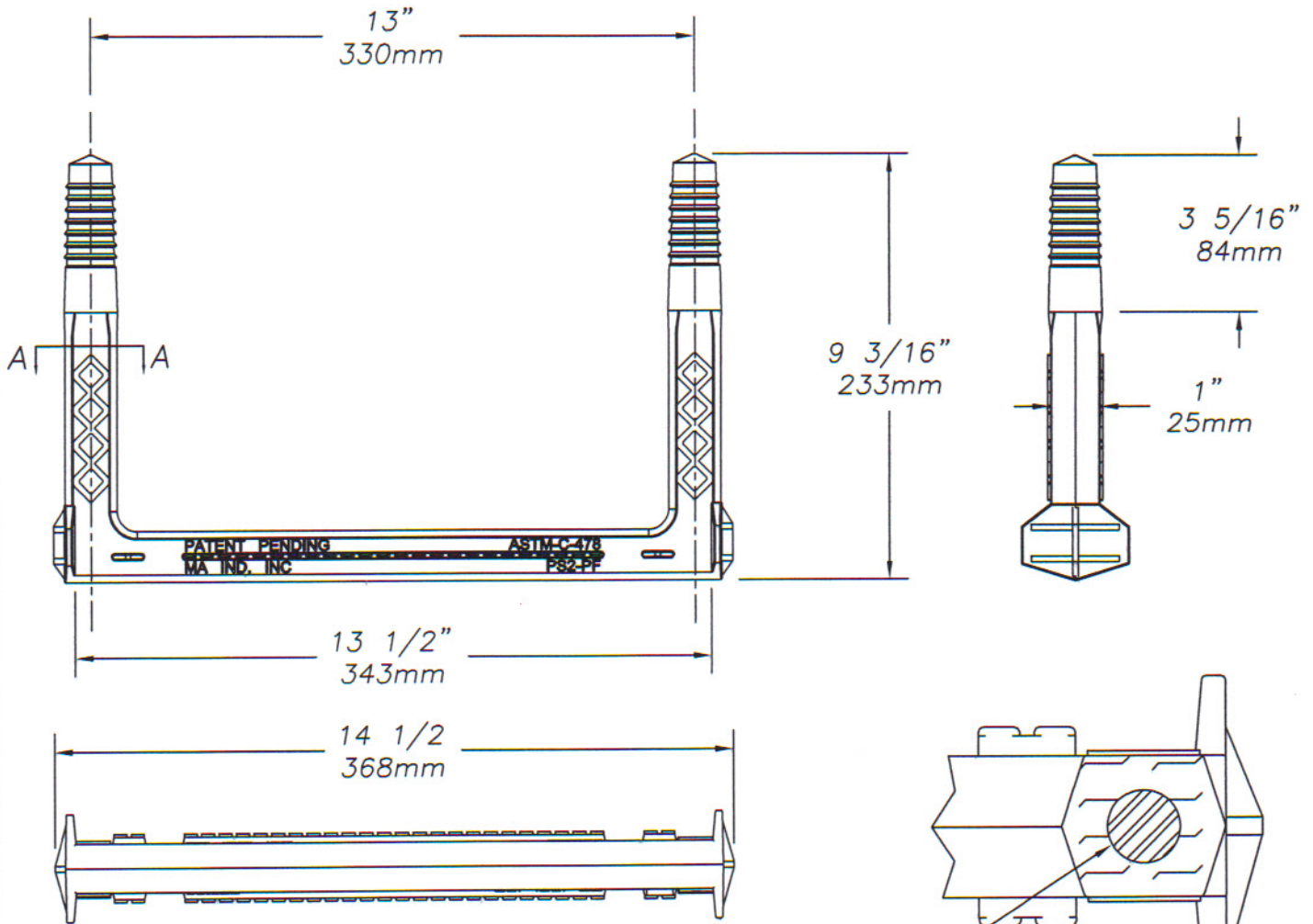
Christina Barnes

Christina Barnes
Customer Service Manager

PS2-PF-DF

004-510-DF

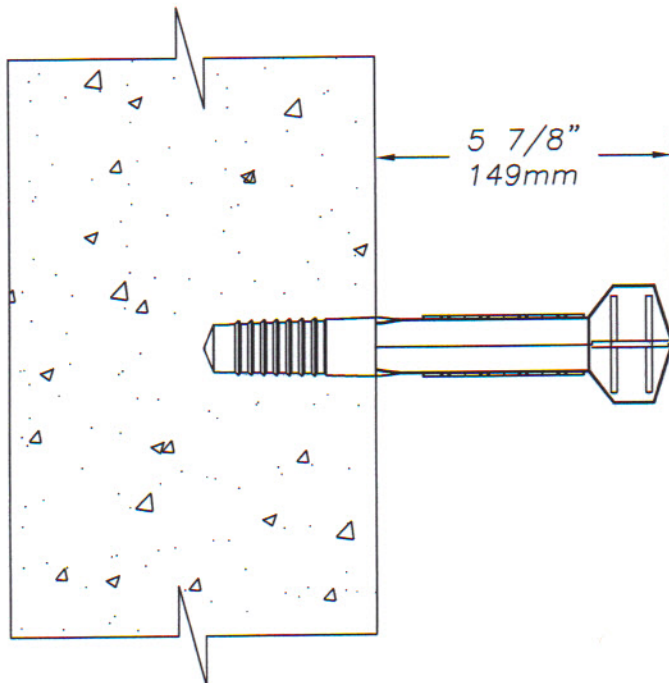
Manhole Step



Copolymer Polypropylene Plastic

13mm
1/2" **GRADE 60 STEEL REINFORCEMENT**

SECTION-A



**MEETS: ASTM C-478
ASTM D-4101
ASTM A-615
AASHTO M-199**



M . A . I N D U S T R I E S , I N C .

**CONSEAL™**
Concrete Sealants INC.**CS102****Butyl Sealant For All Precast Structures; Meets Specs.**

APPLICATIONS

For self-sealing joints in: Manholes, Concrete Vaults, Septic Tanks, Concrete Pipe, Box Culverts, Utility Vaults, Burial Vaults, and Vertical Panel Structures.

SEALING PROPERTIES

- Provides permanently flexible watertight joints.
- Low to high temperature workability: 30°F to 120°F (-1°C to 48°C)
- Rugged service temperature: -30°F to +200°F (-34°C to +93°C)
- Excellent chemical and mechanical adhesion to clean, dry surfaces.
- Sealed Joints will not shrink, harden or oxide upon aging.
- No priming normally necessary. When confronted with difficult installation conditions, such as wet concrete or temperatures below 40°F (4°C), priming the concrete will improve the bonding action. Consult Concrete Sealants for the proper primer to meet your application.

HYDROSTATIC STRENGTH

ConSeal CS-102 meets the hydrostatic performance requirement as set forth in ASTM C-990 section 10.1 (Performance requirement: 10psi for 10 minutes in straight alignment – in plant, quality control test for joint materials.)

SPECIFICATIONS

ConSeal CS-102 meets or exceeds the requirements of Federal Specification SS-S-210 (210-A), AASHTO M-198B, and ASTM C-990-91.



CONSEAL™
Concrete Sealants INC.

CS102

Butyl Sealant For All Precast Structures; Meets Specs.

PHYSICAL PROPERTIES

	Spec	Required*	CS 102
Hydrocarbon blend content % by weight	ASTM D4 (mod.)	50% min.	51%
Inert mineral filler % by weight	AASHTO T111	30% min.	35%
Volatile Matter % by weight	ASTM D6	2% max.	1.2
Specific Gravity, 77°F	ASTM D71	1.15-1.50	1.25
Ductility, 77°F	ASTM D113	5.0 min.	10
Penetration, cone 77°F, 150 gm. 5 sec.	ASTM D217	50-100	55-60
Penetration, cone 32°F, 150 gm. 5 sec.	ASTM D217	40 mm	40-65
Flash Point, C.O.C., °F	ASTM D92	350°F min.	450°F
Fire point, C.O.C., °F	ASTM D92	375°F min.	475°F

IMMERSION TESTING

- 30-Day Immersion Testing: No visible deterioration when tested in 5% Caustic Potash, 5% Hydrochloric Acid, 5% Sulfuric Acid, and 5% saturated Hydrogen Sulfide. *
- One Year Immersion Testing: No visible deterioration when tested in 5% Formaldehyde, 5% Formic Acid, 5% Sulfuric Acid, 5% Hydrochloric Acid, 5% Sodium Hydroxide, 5% Hydrogen Sulfide and 5% Potassium Hydroxide.
- Requirements of ASTM C-990 Standard Specification for Joints for Concrete Pipe, Manholes, and Precast Box Sections Using Preformed Flexible Joint Sealants.

LIMITED WARRANTY

This information is presented in good faith, but we cannot anticipate all conditions under which this information and our products, or the products of other manufacturers in combination with our products, may be used. We accept no responsibility for results obtained by the application of this information or the safety and suitability of our products, either alone or in combination with other products. Users are advised to make their own tests to determine the safety and suitability of each such product or product combinations for their own purposes. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for this own particular use. We sell this product without warranty, and buyers and users assume all responsibility and liability for loss or damage arising from the handling and use of this product, whether used alone or in combination with other products.

LIFTING PROCEDURES FOR SWIFT-LIFT ANCHOR DEVICES

Lift gear is used to lift and set our concrete products. When used correctly, it is a very efficient and safe method of lifting product. However, if used incorrectly, damage to products, lift gear, and/or injury to people could result. It is your responsibility to make sure you understand the proper usage of the lift gear.

LIFTING GUIDELINES

1. Inspect the lift gear when you receive it, and prior to each use to make sure there are no bent parts or cracks in the welds. If there are any defects, do not use the lift gear and note that on the ship ticket.
2. Connect the lift gear to the insert in the concrete. Make sure the lift gear is completely set into the void. The ear should point in the direction of the pull and be parallel with the concrete surface.



CORRECT



INCORRECT

(Ear pointing the wrong way)



INCORRECT

(Ear pointing the wrong way)

3. Be sure to use cables or chains that are long enough. The length of each cable should be at least 2 ½ times longer than the longest distance between lifters.



CORRECT



INCORRECT

(Ear pointing the wrong way)



INCORRECT

(Ear pointing the wrong way)

4. As you begin to lift, make sure the lift gear does not bind on itself. If it does, this could cause the lift gear to bend. Take the time to adjust the lift gear to the proper position.
5. Be sure the lift gear is not being pulled in a direction that could cause it to bend over an edge. The pull on the lift gear in this situation needs to be straight up, not at an angle. Lift gear is designed to lift product and is not intended to be used for pulling or dragging product.

IMPORTANT NOTE: Never lift more than one product at a time and avoid unnecessary rapid movements.

LIFTING PROCEDURES FOR THREADED ANCHORS

Lift gear is used to lift and set our concrete products. When used correctly, it is a very efficient and safe method of lifting product. However, if used incorrectly, damage to products, lift gear, and/or injury to people could result. It is your responsibility to make sure you understand the proper usage of the lift gear.

LIFTING GUIDELINES

1. Inspect the lift gear when you receive it, and each time it is used to make sure there are no bent parts or cracks in the welds. If there are any defects, do not use the lift gear and note that on the ship ticket.
2. Securely thread the correct size bolt through the lift gear and into the threaded insert. Make sure the bolt is long enough to extend completely into the insert, but not so long that it leaves space between the head of the bolt and the lift gear. Only lift gear intended for lifting concrete products should be used.



CORRECT



INCORRECT

(Eye-bolts are not for lifting)



INCORRECT

(Eye-bolts are not for lifting)

3. Be sure to use cables or chains that are long enough. The length of each cable should be at least 2 ½ times longer than the longest distance between lifters.
4. As you begin to lift, make sure the lift gear does not bind on itself. If it does, this could cause the lift gear to bend. Take the time to adjust the lift gear to the proper position.
5. Be sure the lift gear is not being pulled in a direction that could cause it to bend over an edge. The pull on the lift gear in this situation needs to be straight up, not at an angle. Lift gear is designed to lift product and is not intended to be used for pulling or dragging product.

IMPORTANT NOTE: Never lift more than one product at a time and avoid unnecessary rapid movements.

LIFTING PROCEDURES FOR MANHOLE CUPS

Lift gear is used to lift and set our concrete products. When used correctly, it is a very efficient and safe method of lifting product. However, if used incorrectly, damage to products, lift gear, and/or injury to people could result. It is your responsibility to make sure you understand the proper usage of the lift gear.

LIFTING GUIDELINES

1. Inspect the lift gear when you receive it, and prior to each use to make sure there are no bent parts or cracks in the welds. If there are any defects, do not use the lift gear and note that on the ship ticket.
2. Insert the lift pin into the plastic cup cast in the concrete. Make sure the lift pin is completely inserted into the void. The pin should be rotated to the vertical position to lock it into place. Only the correct lift pins intended for use in manhole lifting cups should be used for lifting concrete products.



CORRECT



INCORRECT

(Pin not locked in place)

3. Be sure to use cables or chains that are long enough. The length of each cable should be at least 2 ½ times longer than the longest distance between lifters.
4. As you begin to lift, make sure the lift gear does not bind on itself. If it does, this could cause the lift gear to bend. Take the time to adjust the lift gear to the proper position.
5. Be sure the lift gear is not being pulled in a direction that could cause it to bend over an edge. The pull on the lift gear in this situation needs to be straight up, not at an angle. Lift gear is designed to lift product and is not intended to be used for pulling or dragging product.

IMPORTANT NOTE: Never lift more than one product at a time and avoid unnecessary rapid movements.