



# Weaver

CONSTRUCTION MANAGEMENT

3679 S Huron Street, Suite 404 Englewood, Colorado 80110

Phone: (303) 789-4111 FAX: (303) 789-4310

## SUBMITTAL TRANSMITTAL

April 18, 2012

**Submittal No: 16000-001**

PROJECT: **Harold Thompson Regional WRF**  
Birdsall Rd.  
Fountain, CO 80817  
Job No. 2908

ENGINEER: **GMS, Inc.**  
611 No. Weber St., #300  
Colorado Springs, CO 80903  
719-475-2935 Roger Sams

OWNER: **Lower Fountain Metropolitan  
Sewage Disposal District**  
901 S. Santa Fe Ave.  
Fountain, CO 80817  
719-382-5303 James Heckman

CONTRACTOR: **McDade Woodcock, Inc.**  
7222 Commerce Center Drive, #245  
Colorado Springs, CO 80909  
719-264-1236

SUBJECT: Submittal of Electrical Handholes

SPEC SECTION: Electrical

PREVIOUS SUBMISSION DATES:

DEVIATIONS FROM SPEC: \_\_\_ YES X NO

CONTRACTOR'S STAMP: This submittal has been reviewed by Weaver Construction Management and, unless indicated otherwise, has been found to be in conformance with the intent of the contract documents.

Contractor's Stamp:

Engineer's Stamp:

Date: 4/18/12

Reviewed by: John Jacob  
(X) Reviewed Without Comments  
( ) Reviewed With Comments

ENGINEER'S  
COMMENTS:

# McDade-Woodcock, Inc.

TRANSMITTAL

No. 00028

7222 Commerce Center Dr. Suite 245  
Colorado Springs, CO 80919

Phone: 719-264-1236  
Fax: 719-264-1450

**PROJECT:** Harold D. Thompson WRF

**DATE:** 4/16/2012

**TO:** Weaver General Construction

**REF:** Electrical Submittal  
16000-001  
Electrical Handhole


**ATTN:** Wes Weaver

WE ARE SENDING:	SUBMITTED FOR:	ACTION TAKEN:
<input checked="" type="checkbox"/> Shop Drawings	<input checked="" type="checkbox"/> Approval	<input type="checkbox"/> Approved as Submitted
<input type="checkbox"/> Letter	<input type="checkbox"/> Your Use	<input type="checkbox"/> Approved as Noted
<input type="checkbox"/> Prints	<input type="checkbox"/> As Requested	<input type="checkbox"/> Returned After Loan
<input type="checkbox"/> Change Order	<input checked="" type="checkbox"/> Review and Comment	<input type="checkbox"/> Resubmit
<input type="checkbox"/> Plans		<input checked="" type="checkbox"/> Submit
<input type="checkbox"/> Samples	<b>SENT VIA:</b>	<input type="checkbox"/> Returned
<input type="checkbox"/> Specifications	<input checked="" type="checkbox"/> Attached	<input type="checkbox"/> Returned for Corrections
<input type="checkbox"/> Other:	<input type="checkbox"/> Separate Cover Via	<input checked="" type="checkbox"/> Due Date: 5/2/2012

ITEM	PACKAGE	SUBMITTAL	DRAWING	REV.	ITEM NO.	COPIES	DATE	DESCRIPTION	STATUS
					001	1	4/16/2012	Electrical Submittal 16000-001 Electrical Handhole	OUT

**Remarks:** Electrical Submittal for Review and Approval  
Via Email Only

CC:

Signed:   
Janelle L. Smith



McDADE-WOODCOCK, INC.

**HAROLD D. THOMPSON RWRF**  
**HEADWORKS BUILDING**

**McDADE-WOODCOCK INC.**  
**PROJECT NUMBER - 1402**

**ELECTRICAL SUBMITTAL**

**ELECTRICAL HANDHOLE**

**16000-001**

**Owner:**

**Lower Fountain Metropolitan  
Sewage District  
901 S. Santa Fe Avenue  
Fountain, CO 80817**

**General Contractor:**

**Weaver General Construction Co.  
3679 S. Huron St. – Suite 404  
Englewood, CO 80110**

**Electrical Contractor:**

**McDade-Woodcock, Inc.  
7222 Commerce Center Dr.  
#245  
Colorado Springs, CO 80919**

**Engineer:**

**GMS Inc.  
611 N. Weber St., Suite 300  
Colorado Springs, CO 80903**

**CORPORATE**

2404 Claremont Ave. NE  
Albuquerque, NM 87107

Mailing Address  
P.O. Box 11592  
Albuquerque, NM 87192

Ph 505-884-0155  
Fax 505-884-6073

**DENVER**

10700 E. Geddes Avenue  
Suite 170  
Englewood CO 80112

Ph 303-803-1809  
Fax 303-803-1818

**COLORADO SPRINGS**

7222 Commerce Center Drive  
Suite 245  
Colorado Springs, CO 80919

Mailing Address  
P.O. Box 7349  
Colorado Springs, CO 80933

Ph 719-264-1236  
Fax 719-264-1450



McDADE-WOODCOCK, INC.

**HAROLD D. THOMPSON RWRF**  
**EQUIPMENT MAINTENANCE**  
**BUILDING**

**McDADE-WOODCOCK INC.**  
**PROJECT NUMBER - 1413**

**ELECTRICAL SUBMITTAL**

**ELECTRICAL HANDHOLE**

**16000-001**

**\* \* \* APPROVAL PAGE \* \* \***

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Fax 719-264-1450

**This submittal has been reviewed,  
checked and approved for  
compliance by:**

**McDADE-WOODCOCK INC. - (JLS)**

**This Date: 4/6/2012**



McDADE-WOODCOCK, INC.

**HAROLD D. THOMPSON RWRF**  
**HEADWORKS BUILDING**

**McDADE-WOODCOCK INC.**  
**PROJECT NUMBER - 1402**

**ELECTRICAL SUBMITTAL**

**ELECTRICAL HANDHOLE**

**16000-001**

**TABLE OF CONTENTS**

**TAB 1: Technical Data**

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Fax 719-264-1450



# **vaughn concrete products, inc.**

12650 Tucson Street Henderson, Colorado 80640-9443 (303) 659-3747 Fax (303) 659-1333  
2671 S. Greeley Hwy Cheyenne, Wyoming 82007-3681 (307) 634-0695 Fax (307) 634-0694  
10021 Amarillo Blvd E. Amarillo, Texas 79108-7542 (806) 374-3747 Fax (806) 335-3717  
Toll Free Phone (877) 827-8255 Toll Free Fax (877) 827-7363  
[www.vaughnconcreteproducts.com](http://www.vaughnconcreteproducts.com)

**SUBMITTED TO:**

**March 26, 2012**

**McDade-Woodcock, Inc.  
Attn: Patrick  
7222 Commerce Center Drive, Suite 245  
Colorado Springs, CO 80919  
719-264-1236  
Fax: 719-264-1450**

**RE: Harold D Thompson Regional Water Reclamation Facility  
Colorado Springs, CO**

**Enclosed are Submittals and Product Drawings and Material Certifications for Our Standard  
Precast Concrete Electrical Handhole for the above referenced project.**

**Request for Deviations**

**Product Drawings**

**Cast Iron Ring & Cover – East Jordan Iron Works, Inc.**

**Pulling Iron Detail**

**Concrete Mix Design**

**Aggregate – Ready Mix Aggregates**

**Cement – CEMEX/Southdown, Inc.**

**Water Reducer – Master Builders, Inc.**

**Air Entraining – Master Builders, Inc.**

**Reinforcing – Border Steel**

**Welded Wire Reinforcing – Oklahoma Steel & Wire**

**Joint Sealant – Concrete Sealants, Inc.**

**MSDS Sheets**



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# REQUEST FOR DEVIATIONS





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## **REQUEST FOR DEVIATIONS**

We request a thorough review of our submittal. The attached submittal packet includes product drawings that are for standard size products that utilize standard precast manufacturing techniques, materials and items that are industry standard that may differ from that shown on the project drawings.



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## PRODUCT DRAWINGS

# PRECAST CONCRETE VAULT

4'-0" WIDE X 4'-0" LONG X 4'-0" HIGH INSIDE DIMENSIONS

USED FOR ELECTRICAL HANDHOLE

MCDADDE-WOODCOCK, INC.

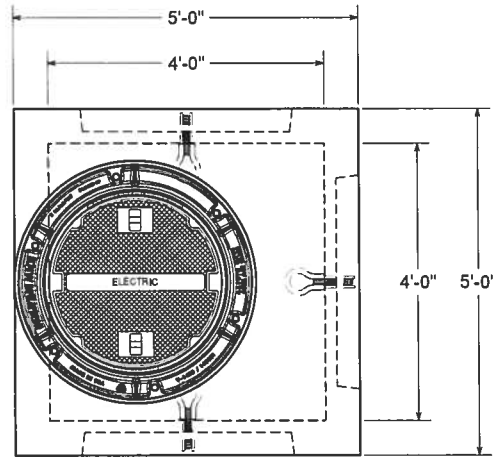
HAROLD D THOMPSON REGIONAL WRF

COLORADO SPRINGS, CO

1 REQUIRED

SHEET 1 OF 1

PLAN VIEW



OUR STANDARD 30" DIAMETER CAST IRON RING & COVER MARKED "ELECTRIC" (SEE ATTACHED SHEETS)

UP TO 12" OF 30" ID PRECAST CONCRETE MANHOLE RISER (AVAILABLE IN 2", 3", 4", 6", 8" OR 12" HEIGHTS)

1 ROW JOINT SEALANT TO GO BETWEEN VAULT & LID, LID & RISER & RISER & RING & COVER

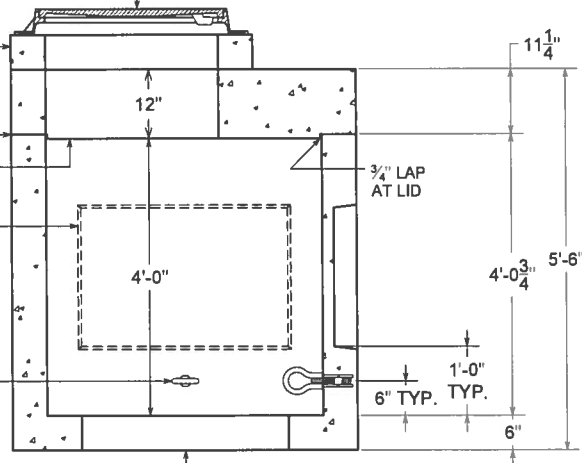
30" DIAMETER ACCESS OPENING

24"X36"X4" DEEP CONDUIT DUCT BANK KNOCKOUTS CENTERED IN 3 WALLS AS SHOWN, 12" OFF THE INSIDE FLOOR

SECTION VIEW

OUR STANDARD FABRICATED GALVANIZED THREADED EYEBOLT TYPE PULLING IRONS, 1 CENTERED IN 3 WALLS AS SHOWN 6" OFF INSIDE FLOOR (SEE ATTACHED SHEETS)

36"X36" BLOCKOUT CAST IN THE CENTER OF THE FLOOR



LIFTING:

- BOX SUPPLIED WITH 4 LIFT NOTCHES FOR LIFTING
- LID TO LIFT WITH 2 RECESSED GALVANIZED LIFT BARS

NOTES:

- CONCRETE: 5000 P.S.I. MINIMUM
- REINFORCING: GRADE 60 MINIMUM
- FLOOR & WALLS ARE 6" THICK, LID TO BE 12" THICK
- MANUFACTURED TO SATISFY AASHTO HS-20-44 LOADINGS
- VAULT IS NOT PROVIDED WITH ANY COATINGS

ACTUAL DIMENSIONS OF CONCRETE PRODUCTS MAY VARY SLIGHTLY

4X4X4 VAULT FOR ELEC HANDHOLE-HAROLD THOMPSON.DWG  
DATE CREATED: 3.24.12

DRAWING SCALE IS 1:32

**vaughn**  
**concrete products, inc.**

12650 Tucson Street Henderson, Colorado 80640-9443  
Toll Free (877) 827-8255 Toll Free Fax (877) 827-7363  
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2671 So. Greeley Hwy Cheyenne, Wyoming 82007-3681 (307) 634-0695  
10021 Amarillo Blvd. East Amarillo, Texas 79108-7542 (806) 374-3747

EAST JORDAN  
IRON WORKS, INC.  
P.O. BOX 439  
EAST JORDAN, MI. 49727  
1-800-874-4100  
FAX 231-536-4458

DRAWN  
DEW

DATE  
04/05/00

APPROVED

DATE

**MANHOLE FRAME**

PRODUCT NO.  
**148010**

CATALOG NO.  
**1480Z**

REF. PRODUCT DRAWING  
148010

EST. WT.

FRAME: 155 LBS 70 kg

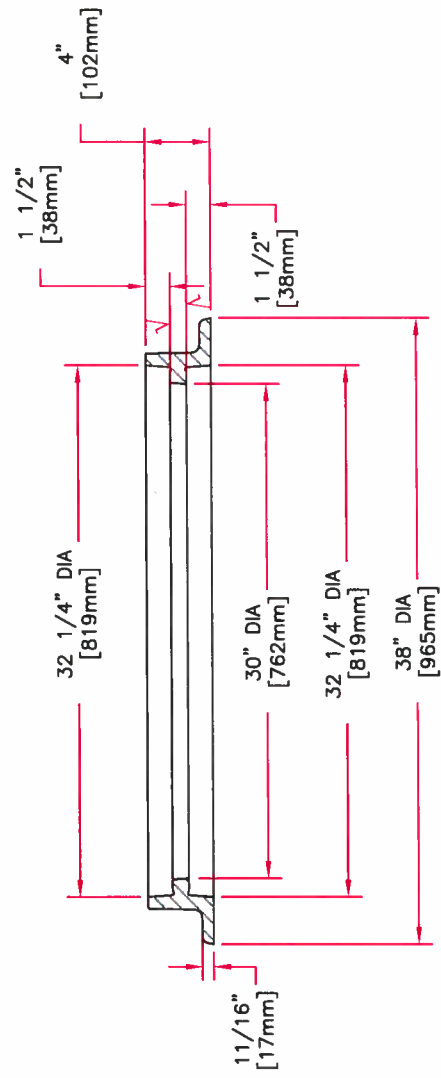
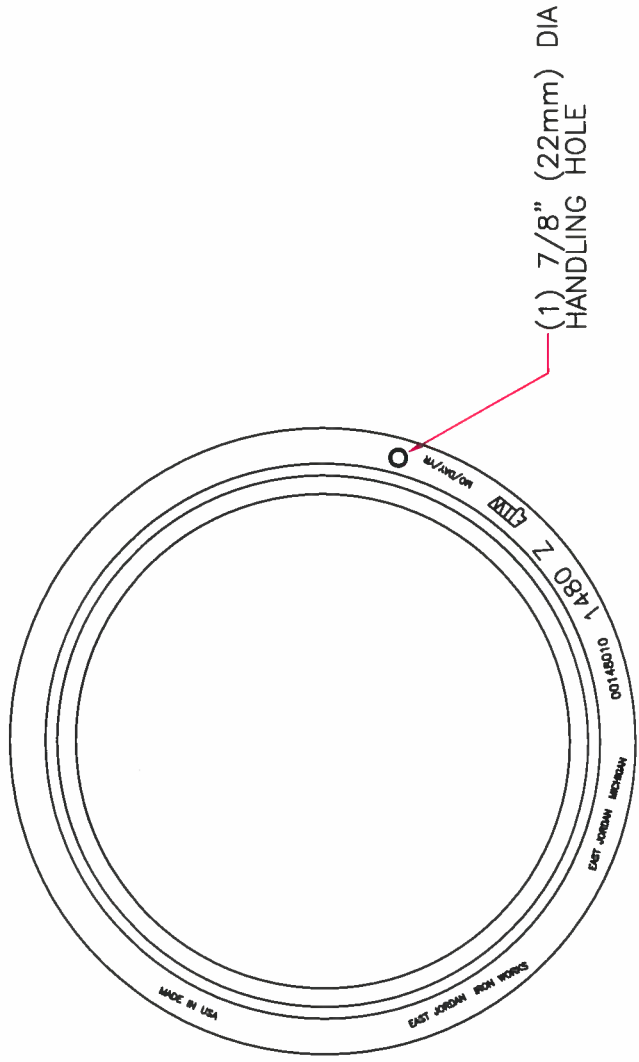
OPEN AREA  
N/A

MAT'L SPEC.

FRAME -- GRAY IRON  
ASTM A48 CL35

LOAD RATING

**HEAVY DUTY**



**SECTION**

NOTE: THIS FRAME IS REVERSIBLE,  
AND CAN BE INSTALLED AS  
A TOP FLANGE.

EAST JORDAN  
IRON WORKS, INC.  
P.O. BOX 439  
EAST JORDAN, MI. 49727  
1-800-874-4100  
FAX 231-536-4458

DRAWN DATE  
DEW 03/12/02  
APPROVED DATE

COVER

PRODUCT NO.  
**00148177**

CATALOG NO.  
**1480A**

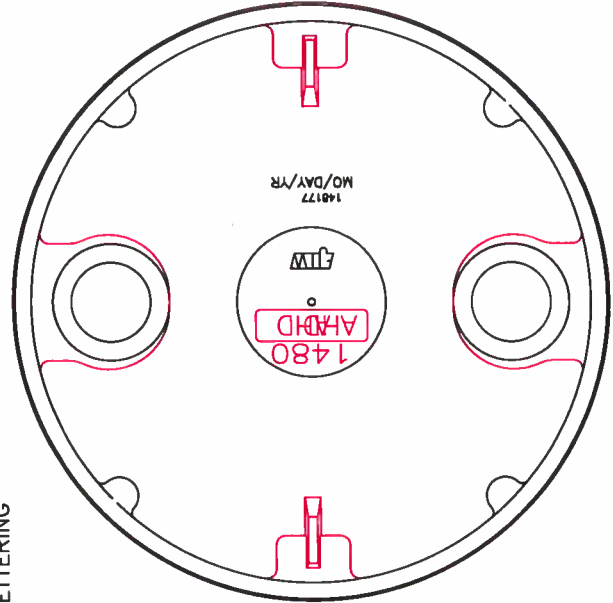
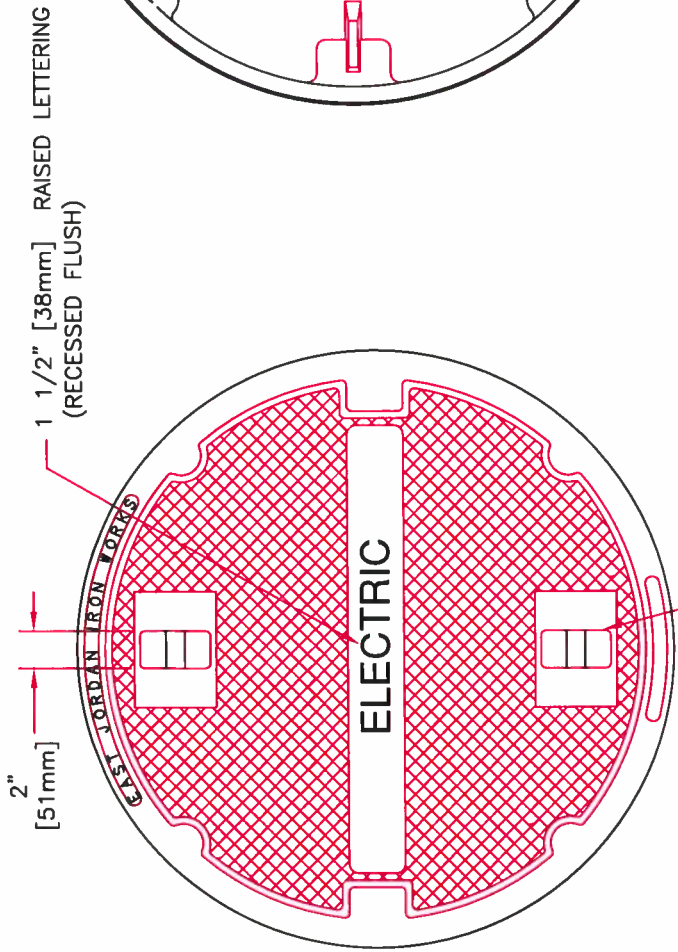
REF. PRODUCT DRAWING  
148122

EST. WT.  
COVER: 215 LBS 98kg

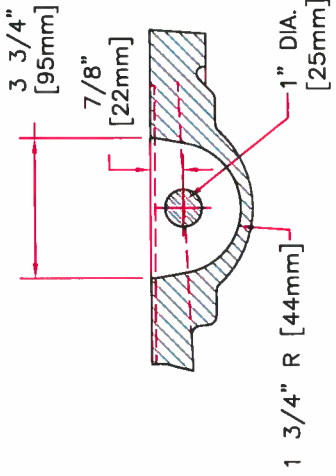
OPEN AREA  
N/A

MAT'L SPEC.  
COVER - GRAY IRON  
ASTM A48 CL35

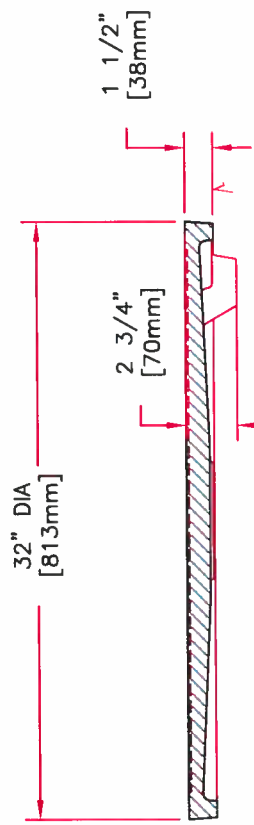
LOAD RATING  
HEAVY DUTY



BOTTOM VIEW OF COVER



PICKBAR DETAIL



SECTION

□ MACHINED SURFACE



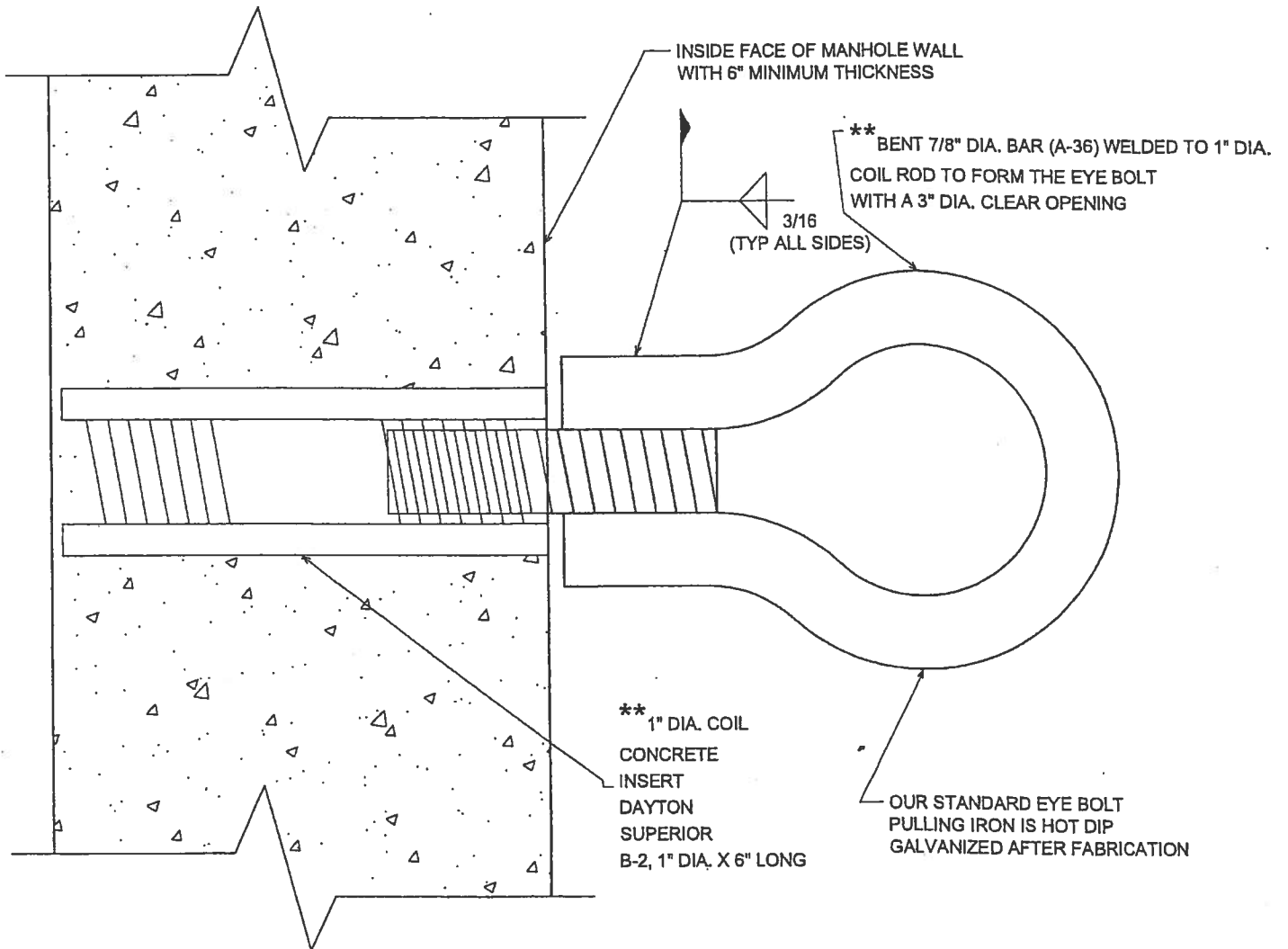
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## PULLING IRON DETAIL

# OUR STANDARD FABRICATED GALVANIZED EYE BOLT PULLING IRON

SUITABLE FOR 10,000 LB. STRAIGHT TENSION LOAD

(STRUCTURAL ENGINEERING DESIGN AVAILABLE UPON REQUEST)



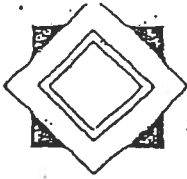
SECTION VIEW

\*\* COIL ROD AND INSERT ARE MANUFACTURED BY DAYTON SUPERIOR

DRAWING IS NOT TO SCALE

PULLING IRON-1 INCH DETAIL.DWG  
DATE CREATED: 07.09.2002

**vaughn**  
**concrete products, inc.**



DEBCO

STRUCTURAL ENGINEERING

March 30, 1992

Mr. Mike Vaughn  
Vaughn Concrete Products, Inc.  
12650 Tucson Street  
Henderson, Colorado 80640

RE: DESIGN/SELECTION OF PULLING IRON INSERT  
FOR PRECAST ELECTRICAL MANHOLE

Dear Mike and Other Concerned Parties:

At Mike's request, DEBCO Structural Engineering has completed a design review of the attached calculations for the referenced precast concrete manhole. The design criteria for materials and loading was established by Mike and is as follows:

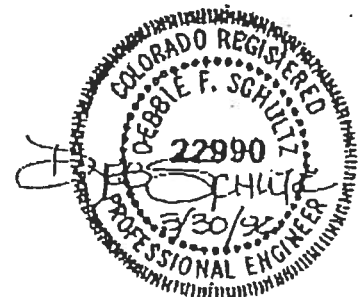
$F'c = 5,000 \text{ PSI}$   
Dayton Superior, B-2 Standard 1"  $\phi$  x 6" lg. insert, T = 18,000 LB.  
Tensile load = 10,700 LB.  
Concrete failure per insert manufacturer's recommendations

Please review the design criteria carefully. If the design criteria meets or exceeds the project requirements, then the insert selected is adequate to support the stated loads.

If you have any questions or comments on our design review, please do not hesitate to contact me.

Sincerely,

DEB F. SCHULTZ, P.E.







vaughn  
concrete products, inc.

12650 Tucson Street • Henderson, Colorado 80640 • (303) 659-3747

ANALYZE ALTERNATE B-2 INSERT, 4 STRUT, 1" COIL

DETERMINE INSERT CAPACITY BASED ON CONCRETE  
STRENGTH PER DAYTON SUPERIOR

USE ILLUSTRATION A2 FOR SIMILARITY

FOR 1 COIL 4 STRUT B-2 - 6" LONG  $d_h = 1.5"$

$$A_c = l_e \pi (l_e + d_h) \quad \text{WHERE } l_e = 6"$$

$$A_c = 6(\pi)(6 + 1.5) = 141.37$$

$$P_{\text{CONCRETE}} = .85 (141)(4)(1)(\sqrt{5000}) = 33,899 \text{ lbs}$$

(NON REINFORCED)

CHECK CAPACITY OF A B-2 1" COIL 4 STRUT

$$\text{PER ATTACHED SHEET } P_{\text{INSERT}} = 18000 \text{ lbs}$$

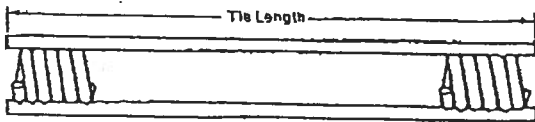
THEREFORE: A B-2 4 STRUT 1" DIA. COIL x 6" LONG INSERT  
WOULD SUFFICIENTLY CARRY A 10,700 LB LOAD AND  
WOULD BE ADEQUATE FOR THIS SITUATION.

## B-1 Two Strut Coil Ties and B-2 Four Strut Coil Ties

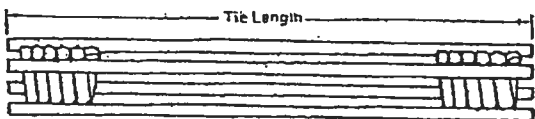
Dayton Superior's coil ties are an extremely versatile and economical form tie system. Coil ties are used with coil bolts, flat washers and when required, cones. The coil threads on the bolts are fast acting and are self cleaning.

Stripping of large crane handled or gang forms is easily accomplished with the coil tie system. Once the coil bolts are removed, the forms are free to be stripped. Coil ties can also be used for re-attachment of formwork, false work or scaffold brackets.

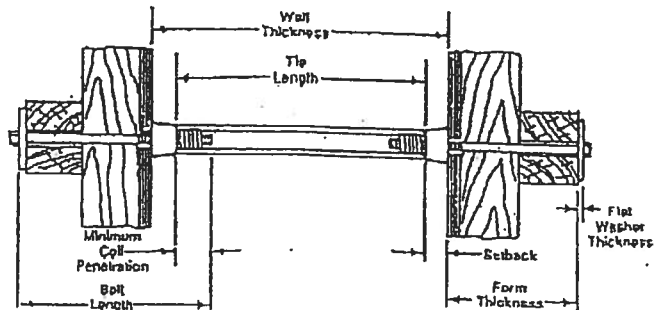
To determine the required coil tie length, subtract two times the desired or specified setback from the wall thickness.



B-1 Two Strut Coil Tie



B-2 Four Strut Coil Tie



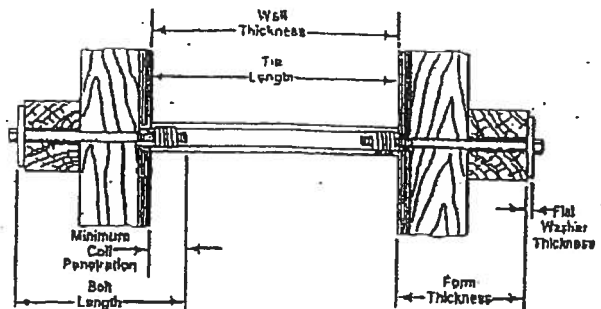
### Coil Tie with Loose (Spreader) Cones

Cones are generally used where wall thicknesses are very thick or an architectural concrete finish is specified.

Type	Bolt Diameter	Number of Strut Wires	Safe Working Load Tension (lbs.)
B-1 Standard	1/2"	2	4,500
B-1 Heavy	3/8"	2	6,750
B-1 Standard	3/8"	2	6,750
B-1 Heavy	1/4"	2	9,000
B-1 Standard	1"	2	13,500
B-2 Standard	1"	4	18,000
B-2 Standard	1 1/4"	4	27,000

SWL provides a factor of safety of approximately 2 to 1.

Warning: See page 57 for minimum bolt length determination.



### Coil Tie as Spreader and Tie

The coil tie can be used as a combination tie and form spreader where it is not necessary to keep the ends of the coil tie back of the wall face as shown above. If a considerable number of reuses of formwork is contemplated, standard cut washers should be used at the ends of the ties to protect the formwork face.

#### To Order:

Specify: (1) quantity, (2) type, (3) safe working load, (4) bolt diameter, (5) tie length, (6) wall thickness, (7) setback.

#### Example:

3,000 lbs. B-1 Standard Coil Tie, 4,500 lbs. SWL, 3/8" diameter, 12" long for a 14" wall, 1" setback.



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Toll Free Phone (877) 827-8255 Toll Free Fax (877) 827-7363

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## MATERIAL CERTIFICATIONS

# **vaughn concrete products, inc.**

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## **MIX DESIGN**

**General: Portland Cement Will Be Used. (See Attached  
Mill Certification Sheet)**

### **Mix Design B:**

#### **Each Yard Of Concrete Contains:**

700 lbs. Portland Cement  
1620 lbs. Coarse Aggregate  
1300 lbs. Fine Aggregate

#### **Water Based On Admixture**

**24-28± gal. w/ 80 oz. Glenium 7700 Admixture**

**Air Entraining (MB-VR) is required-  
Add 1 oz. per 110 lbs. of cement**

**This Mix Design Is Used To Yield A Minimum 28 Day  
Compressive Strength Of 5000 PSI.**

**READY MIXED CONCRETE CO.**  
**TECHNICAL SERVICES**  
 4395 WASHINGTON STREET  
 DENVER, COLORADO 80234  
 303-292-1771

1/11/2012
1/11/2012
Sand
Bromley
Pit
Geering

SIEVE ANALYSIS FINE AGGREGATE C-136

SIEVE SIZE	Indivi. Weight retained	Indivi. % retained	Accumulative % retained	Accumulative % passing	ASTM Spec.	CDOT Spec
U.S./METRIC						
3/8" / 9.5mm		0.0	0.0	100	100	100
#4 / 4.75mm		0.0	0.0	100	95-100	95-100
#8 / 2.36mm	31.8	6.2	6.2	94	80-100	80-100
#16 / 1.18mm	148.6	29.0	35.2	65	50-85	45-80
#30 / 600mm	151.1	29.5	64.7	35	25-60	25-60
#50 / 300mm	117.8	23.0	87.7	12	5--30	10--30
#100 / 150mm	53.1	10.4	98.1	2	0--10	2--10
#200 / 75mm	8.3	1.6	99.7	0	< 3.0	< 3.0
Pan	1.7	0.3	100.0	0		

%Moisture	
Agg wet weight	530.0
Agg dry weight	512.2
Moisture loss	17.8
% moisture	3.5
Plant moisture	
Difference	3.48
Fineness modulus	2.92
200 wash	

READY MIXED CONCRETE CO.  
 TECHNICAL SERVICES  
 4395 WASHINGTON STREET  
 DENVER, COLORADO 80234  
 303-292-1771

DATE SAMPLED	01/11/12
DATE RAN	1/11/2012 0:00
LAB NUMBER:	
MATERIAL:	67
AGG SUPPLIER	Bromley
LOCATION:	Pit
TECHNICIAN:	Geering

SIEVE ANALYSIS NO. 67  
 C - 136

SIEVE SIZE	Accumulative weight retained	Accumulative % retained	Accumulative % passing	Project Specification
1.5" / 37.5mm		0.0	100	
1" / 25.0mm		0.0	100	100
3/4" / 19.0mm	1.4	9.4	91	90--100
1/2" / 12.5mm	6.46	43.2	57	---
3/8" / 9.5mm	9.9	66.3	34	20--55
#4 / 4.75mm	13.96	93.4	7	0--10
#8 / 2.36mm	14.44	96.7	3	0--5
#16 / 1.18mm		0.0	100	
#30 / 600mm		0.0	100	
#50 / 300mm		0.0	100	
#100 / 150mm		0.0	100	
#200 / 75mm		0.0	100.0	
pan	14.68	1.61	98.4	0.24

%Moisture	
Agg wet weight	14.9
Agg dry weight	14.9
Moisture loss	0.0
% moisture	0.0



P.O. Box 529  
 Lyons, CO 80540  
 Plant (303) 823-2100  
 Sales (303) 758-1334

**CEMENT  
 MILL  
 TEST  
 REPORT**

**Cement Identified as:**

Plant: **CEMEX Lyons Cement**  
 Location: **Lyons, CO**  
 Production Dates:

**TYPE III & HE CEMENT**

Date: **2/17/2012**

Beginning: **January 30, 2012**  
 Ending: **February 1, 2012**


STANDARD CHEMICAL REQUIREMENTS (ASTM C114)	TEST RESULTS	ASTM C150 SPEC.	TYPE III	ASTM C1157 SPEC.	TYPE HE
Silicon Dioxide (SiO <sub>2</sub> ), %	20.3		---		---
Aluminum Oxide (Al <sub>2</sub> O <sub>3</sub> ), %	4.3		---		---
Ferric Oxide (Fe <sub>2</sub> O <sub>3</sub> ), %	3.0		---		---
Calcium Oxide (CaO), %	63.5		---		---
Magnesium Oxide (MgO), %	1.1	Maximum	6.0		---
Sulfur Trioxide (SO <sub>3</sub> ), % **	3.8	Maximum	3.5**		---
Loss on Ignition (LOI), %	2.6	Maximum	3.0		---
Insoluble Residue, %	0.40	Maximum	0.75		---
Alkalies (Na <sub>2</sub> O equivalent), %	0.73		---		---
Tricalcium Silicate (C <sub>3</sub> S), % *	57		---		---
Dicalcium Silicate (C <sub>2</sub> S), % *	12		---		---
Tricalcium Aluminate (C <sub>3</sub> A), % *	6	Maximum	15		---
Tetracalcium Aluminoferrite (C <sub>4</sub> AF), % *	9		---		---
(C <sub>4</sub> AF + 2C <sub>3</sub> A) or (C <sub>4</sub> AF + C <sub>2</sub> F), %	21		---		---
CO <sub>2</sub> , %	1.8		---		---
Limestone, %	4.4	Maximum	5.0		---
CaCO <sub>3</sub> in Limestone, %	90	Minimum	70		---
<b>PHYSICAL REQUIREMENTS</b>					
(ASTM C 204) Blaine Fineness, cm <sup>2</sup> /gm	5190		---		---
(ASTM C 430) -325 Mesh, %	99.2		---		---
(ASTM C 191) Time of Setting (Vicat)					
Initial Set, minutes	105	Min. - Max.	45 - 375	Min. - Max.	45 - 420
Final Set, minutes	190		---		---
(ASTM C 451) False Set, %	80	Minimum	50	Minimum	50
(ASTM C 185) Air Content, %	7	Maximum	12	Maximum	---
(ASTM C 151) Autoclave Expansion, %	-0.04	Maximum	0.80	Maximum	0.80
(ASTM C 187) Normal Consistency, %	27.8		---		---
(ASTM C 1038) Expansion In Water, %	0.007	Maximum	0.020	Maximum	0.020
(ASTM C 109) Compressive Strength, psi (MPa)					
1 Day	psi: 3840    MPa: 26.5	Minimum	1740 (12.0)	Minimum	1450 (10)
3 Day	5370    37.0	Minimum	3480 (24.0)	Minimum	2470 (17)
7 Day	6400    44.1		---		---

\*\* Note D in Table 1 of ASTM C150-09 allows for additional sulfate, provided expansion as measured by ASTM C1038 does not exceed 0.020%.

\* Adjusted for Limestone Addition per ASTM C 150-09, A1.6

CEMEX hereby certifies that this cement meets or exceeds the chemical and physical Specifications of:

ASTM C150 - 09 for Type III Portland Cement  
 ASTM C1157 - 08a for Type HE Hydraulic Cement

By:   
 Anand Krishnan  
 Quality Control Manager  
 CEMEX - Lyons Cement Plant

## Description

Glenium 7700 ready-to-use high-range water-reducing admixture is based on the next generation of polycarboxylate technology found in all of the Glenium 7000 series products. This technology combines state-of-the-art molecular design with a precise understanding of regional cements to provide specific and exceptional value to all phases of the concrete construction process.

Glenium 7700 is particularly effective in improving the day to day consistency of concrete mixtures. This is accomplished by providing unparalleled slump retention without compromising early compressive strength development and setting time. Workability retention helps to maintain more consistent performance from batch to batch, thereby improving operational efficiencies. Glenium 7700 meets ASTM C 494 provisional compliance requirements for Type A, water-reducing, and Type F, high-range water-reducing, admixtures.

## Applications

Recommended for use in:

- Concrete requiring high-early compressive strength development
- Applications requiring workability retention without retardation
- Concrete where high flowability, increased stability and durability are needed
- Production of Self-Consolidating Concrete (SCC) mixtures
- Concrete with varying water reduction requirements (5-40%)

# Glenium® 7700

## High-Range Water-Reducing Admixture

### Features

- Superior slump retention
- Excellent early strength development
- High ultimate strengths
- Optimum setting time
- Consistent air entrainment
- Dosage flexibility

### Benefits

- Consistency in placement operations
- Optimized mixture costs
- Reduction in patching costs
- Ability to attain difficult combinations of high-early and late-age compressive strengths
- Increased productivity
- Improved operational efficiencies
- Less QC support
- Fewer rejected loads
- Faster form turnover
- Workability retention without retardation

### Performance Characteristics

**Slump Retention:** Concrete produced with Glenium 7700 admixture maintains slump significantly longer than concrete mixtures containing naphthalene, melamine, and first generation polycarboxylate high-range water-reducing admixtures. This slump retention is achieved without affecting rate of hardening or early age compressive strength development.

**Mixture Data:** Figure 1 represents average slump retention performance across multiple field trials throughout North America. Figure 2 represents average compressive strength results from these same field trials. Materials were all different as were starting consistencies. The reference admixture in this graph represents the first generation of high-early strength polycarboxylate technology.



## Product Data: Glenium® 7700

Figure 1. Average Slump Retention Performance

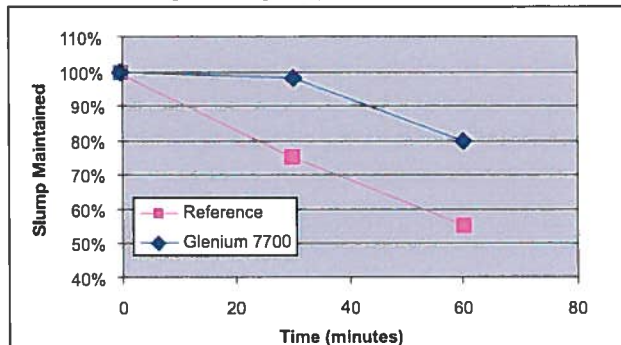
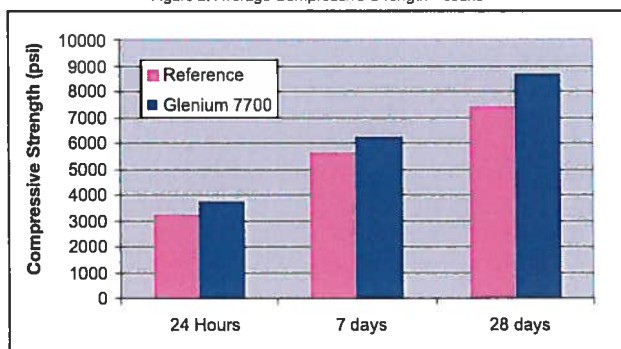


Figure 2. Average Compressive Strength Results



### Guidelines for Use

**Dosage:** Glenium 7700 has a recommended dosage range of 4-15 fl oz/cwt (260-975 mL/100 kg) of cementitious materials. For most applications, dosages in the range of 4-12 fl oz/cwt (260-780 mL/100 kg) will provide excellent performance. For very high performance and Rheodynamic® Self-Consolidating concrete mixtures, up to 15 fl oz/cwt (975 mL/100 kg) of cementitious materials can be utilized. Because of variations in concrete materials, job site conditions and/or applications, dosages outside of the recommended range may be required. In such cases, contact your local sales representative.

**Mixing:** Glenium 7700 admixture can be added with the initial batch water or as a delayed addition. However, optimum water reduction is generally obtained with a delayed addition.

### Product Notes

**Corrosivity – Non-Chloride, Non-Corrosive:** Glenium 7700 admixture will neither initiate nor promote corrosion of reinforcing steel embedded in concrete, prestressing steel or of galvanized steel floor and roof systems. Neither calcium chloride nor other chloride-based ingredients are used in the manufacture of Glenium 7700 admixture.

**Compatibility:** Glenium 7700 admixture is compatible with most admixtures used in the production of quality concrete, including normal, mid-range and high-range water-reducing admixtures, accelerators, retarders, extended set control admixtures, air-entrainers, corrosion inhibitors, and shrinkage reducers.

**Do not use Glenium 7700 admixture with admixtures containing beta-naphthalene sulfonate. Erratic behaviors in slump, workability retention and pumpability may be experienced.**

### Storage and Handling

**Storage Temperature:** Glenium 7700 admixture must be stored at temperatures above 40 °F (5 °C). If Glenium 7700 admixture freezes, thaw and reconstitute by mechanical agitation. **Do not use pressurized air for agitation without consulting technical support.**

**Shelf Life:** Glenium 7700 admixture has a minimum shelf life of 6 months. Depending on storage conditions, the shelf life may be greater than stated. To ensure the longest shelf life potential, recirculation is recommended. Please contact your local sales representative regarding suitability for use and dosage recommendations if the shelf life of Glenium 7700 admixture has been exceeded.

### Packaging

Glenium 7700 admixture is supplied in 55 gal (208 L) drums, 275 gal (1040 L) totes and by bulk delivery.

### Related Documents

Material Safety Data Sheets: Glenium 7700 admixture

### Additional Information

For additional information on Glenium 7700 admixture or its use in developing concrete mixtures with special performance characteristics, contact your local sales representative.

*The Admixture Systems business of BASF Construction Chemicals is a leading provider of innovative admixtures for specialty concrete used in the ready mix, precast, manufactured concrete products, underground construction and paving markets throughout the NAFTA region. The Company's respected Master Builders brand products are used to improve the placing, pumping, finishing, appearance and performance characteristics of concrete.*

**BASF Construction Chemicals, LLC**  
Admixture Systems

[www.masterbuilders.com](http://www.masterbuilders.com)

United States 23700 Chagrin Boulevard, Cleveland, Ohio 44122-5544 ■ Tel: 800 628-9990 ■ Fax: 216 839-8821  
Canada 1800 Clark Boulevard, Brampton, Ontario L6T 4M7 ■ Tel: 800 387-5862 ■ Fax: 905 792-0651

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**Master  
Builders**

# MASTER BUILDERS

AIR-ENTRAINING  
ADMIXTURES

degussa.

Construction Chemicals

## MB VR®

Admixture for entraining air in concrete

### Applications

Recommended for use in:

- Concrete exposed to freeze/thaw cycles
- Production of high-quality normal or lightweight concrete (heavyweight concrete normally does not contain entrained air)

### Description

MB VR (Master Builders neutralized Vinsol\* Resin solution) admixture for entraining air in concrete.

It meets the requirements of ASTM C 260, AASHTO M 154, CRD-C 13 and other Federal and state specifications.

### Features

- Ready-to-use --- in the proper concentration for rapid, accurate dispensing

### Benefits

- Increased resistance to damage from freezing and thawing
- Increased resistance to scaling from deicing salts
- Improved plasticity and workability
- Improved properties of mixes used for making concrete block, concrete pipe and other precast products
- Reduced permeability --- increased watertightness
- Reduced segregation and bleeding

### Performance Characteristics

Concrete durability research has established that the best protection for concrete from the adverse effects of freeze/thaw cycles and deicing salts results from: proper air content in the hardened concrete; a suitable air-void system in terms of bubble size and spacing; and adequate concrete strength, assuming the use of sound aggregates and proper mixing, placing, handling and curing techniques.

When unusually low or high amounts of an air-entraining admixture are required to achieve normal ranges of air content or if the required amount of air-entraining admixture necessary to achieve required levels of air content is observed to change significantly under given conditions, the reason should be investigated. In such cases, it is especially important to determine: (a) that a proper amount of air is contained in the fresh concrete at the point of placement and (b) that a suitable air-void system (spacing factor) is being obtained in the hardened concrete.

### AIR CONTENT DETERMINATION

The total air content of normal weight concrete should be measured in strict accordance with ASTM C 231, "Standard Test Method for Air content of Freshly Mixed Concrete by the Pressure Method" or ASTM C 173, "Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method." The air content of lightweight concrete should only be determined using the Volumetric Method.

The air content should be verified by calculating the gravimetric air content in accordance with ASTM C 138, "Unit Weight, Yield, and Air content (Gravimetric) of concrete." If the total air content, as measured by the Pressure Method or Volumetric Method and as verified by the Gravimetric Method, deviates by more than 1½%, the cause should be determined and corrected through equipment calibration or by whatever process is deemed necessary.

### Guidelines for Use

#### DOSAGE

There is no standard dosage rate for MB VR admixture. The exact quantity of air-entraining admixture needed for a given air content of concrete is not predictable because of differences in concrete making materials. Typical factors which might influence the amount of entrained air are: temperature, cement, sand grading, mix proportions, slump, means of conveying and placing, use of extra fine materials such as fly ash, etc.

The amount of MB VR admixture used will depend upon the amount of entrained air required under actual job conditions. In a trial mix use ¼ - 4 fl oz/cwt (16-260 mL/100 kg) of cement. In mixes containing water-reducing, set-controlling admixtures, the amount of MB VR admixture needed may be somewhat less than the amount required in plain concrete. In mixes requiring a higher or lower dosage to obtain the desired air content. Consult your local Master Builders representative.

Due to possible changes in the factors that affect the dosage rate of MB VR admixture, frequent checks should be made during the course of the work. Adjustments to the dosage should be based on the amount of entrained air in the mix at the point of placement.



## APPLYING

Add MB VR® admixture to the concrete mix using a dispenser designed for air-entraining admixtures; or add manually using a suitable measuring device that ensures accuracy within plus or minus 3% of the required amount.

For optimum, consistent performance, the air-entraining admixture should be dispensed on damp, fine aggregate or with the initial batch water. When using lightweight fine aggregate, field evaluations should be conducted to determine the best method to dispense the air-entraining admixture.

## Recommendations

### CORROSIVITY

#### NON-CHLORIDE, NON-CORROSIVE

MB-VR admixture will not initiate or promote corrosion of reinforcing steel embedded in concrete, prestressed concrete or concrete placed on galvanized steel floor and roof systems. Calcium chloride is not an added ingredient in the manufacture of this admixture.

### COMPATIBILITY

MB VR admixture may be used in combination with any Master Builders admixtures. When used in conjunction with other admixtures, each admixture must be dispensed separately into the mix.

### TEMPERATURE

MB VR admixture should be stored and dispensed at 35 °F (2 °C) or higher. Although freezing does not harm this product, precautions should be taken to protect it from freezing. If it freezes, thaw and reconstitute by mild mechanical agitation. Do not use pressurized air for agitation.

### SHELF LIFE

MB VR admixture has a minimum shelf life of 18 months. Depending on storage conditions, the shelf life may be greater than stated. Please contact your Master Builders representative regarding suitability for use and dosage recommendations if the shelf life of MB VR admixture has been exceeded.

### SAFETY

MB VR admixture is a caustic solution. Chemical goggles and gloves are recommended if transferring or handling large quantities of material. (See MSDS and/or product label for complete information.)

## Packaging

MB VR admixture is supplied in 55 gal (208 L) drums and by bulk delivery.

## Related Documents

Material Safety Data Sheet --- MB VR admixture

## Additional information

For suggested specification information or for additional product data on MB VR admixture, contact your Master Builders representative.



## MASTER BUILDERS, INC.

### United States

23700 Chagrin Boulevard  
Cleveland, Ohio 44122-5554  
Phone 800.MBT.9990  
Fax 216.839.8821

### Canada

1800 Clark Blvd  
Brampton, Ontario L6T 4M7  
Phone 800.387.5862  
Fax 905.792.0651

[www.masterbuilders.com](http://www.masterbuilders.com)

**A**  
ArcelorMittal

#4 Rebar

**MILL TEST CERTIFICATE**  
**MANUFACTURER: ARCELORMITTAL VINTON INC.**

SOLD TO: VAUGHN CONCRETE PRODUCTS, INC.

12650 TUCSON STREET

HENDERSON CO 80640

SHIP TO: VAUGHN CONCRETE PRODUCTS, INC.

12650 TUCSON STREET

HENDERSON CO 80640

MATERIAL: RV13706D11PA #13 MT#4 X 40' GR. A706 (ASTM-A706-09)

DELIVERY LIST NUMBER:

P.O. CUSTOMER NUMBER: MIKE V-10/17/11

PROGRAM NUMBER: 80227708

ISSUING DATE: 17.11.2011

CERTIFICATE NUMBER: 15471

PAGE: 1/1

**MECHANICAL PROPERTIES**

HEAT NUMBER	YIELD STRENGTH psi	TENSILE STRENGTH psi	PERCENT ELONGATION %	BEND	ACTUAL W. PER FOOT lb/ft
1112971	70850	96500	16	ACCEPTABLE	0.641
1112972	67000	93900	16	ACCEPTABLE	0.642

**CHEMICAL COMPOSITION**

HEAT NUMBER	C %	Mn %	P %	S %	Si %	Ni %	Cr %	Mo %	Cu %	V %	Cb %	CE %
1112971	0.2582	1.3031	0.0164	0.0223	0.0886	0.1101	0.1727	0.0264	0.2869	0.0374	0.0044	0.5002
1112972	0.2508	1.3390	0.0184	0.0303	0.0574	0.0919	0.1385	0.0185	0.2964	0.0337	0.0005	0.4960

WE HEREBY CERTIFY THAT THE ABOVE FIGURES ARE CORRECT AS CONTAINED IN THE RECORDS OF THE COMPANY.  
MELTED AND MANUFACTURED IN THE U.S.A.

Approved by AMV Quality Assurance  
Manual REV-15 10/05/2011

*M. Mittal*

CERTIFIED BY THE QUALITY DEPARTMENT - SIGNATURE ON FILE

MAILING ADDRESS  
ARCELORMITTAL VINTON INC. P.O. BOX 12843  
EL PASO, TEXAS 79913-0843 915 886-2000

STREET ADDRESS  
I-10 & VINTON ROAD  
VINTON, TEXAS 79835-9998

A  
ArcelorMittal

#5 Rebar

MILL TEST CERTIFICATE  
MANUFACTURER: ARCELORMITTAL VINTON INC.

SOLD TO: VAUGHN CONCRETE PRODUCTS, INC.  
12650 TUCSON STREET  
HENDERSON CO 80640  
SHIP TO: VAUGHN CONCRETE PRODUCTS, INC.  
12650 TUCSON STREET  
HENDERSON CO 80640

PROGRAM NUMBER: 80222024

MATERIAL: RV16706D14PA #16 MT/#5 X 40' GR. A706 (ASTM-A706-09)  
DELIVERY LIST NUMBER:  
P.O. CUSTOMER NUMBER: MIKE V-10/17/11

ISSUING DATE: 25.10.2011  
CERTIFICATE NUMBER: 15006  
PAGE: 1/1

MECHANICAL PROPERTIES

HEAT NUMBER	YIELD STRENGTH psi	TENSILE STRENGTH psi	PERCENT ELONGATION %	BEND	ACTUAL W. PER FOOT lb/ft
1112754	71452	92581	16	ACCEPTABLE	0.996
1122688	69032	88710	16	ACCEPTABLE	1.001

CHEMICAL COMPOSITION

HEAT NUMBER	C %	Mn %	P %	S %	Si %	Ni %	Cr %	Mo %	Cu %	V %	Cb %	CE %
1112754	0.2611	1.2268	0.0187	0.0287	0.1534	0.0912	0.1359	0.0189	0.2825	0.0370	0.0008	0.4866
1122688	0.2499	1.2364	0.0139	0.0399	0.1672	0.0903	0.0969	0.0195	0.3117	0.0361	0.0005	0.4739

WE HEREBY CERTIFY THAT THE ABOVE FIGURES ARE CORRECT AS CONTAINED IN THE RECORDS OF THE COMPANY.  
MELTED AND MANUFACTURED IN THE U.S.A.

Approved by AMV Quality Assurance  
Manual REV-15 10/05/2011

*Factor Du Camino*

CERTIFIED BY THE QUALITY DEPARTMENT - SIGNATURE ON FILE

MAILING ADDRESS  
ARCELORMITTAL VINTON INC. P.O. BOX 12843  
EL PASO, TEXAS 79913-0843 915 886-2000

STREET ADDRESS  
I-10 & VINTON ROAD  
VINTON, TEXAS 79835-9998



C01029959

ArcelorMittal

S  
O VAUGHN CONCRETE PRODUCTS, INC.  
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S  
H VAUGHN CONCRETE  
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MATERIAL TEST REPORT

Lot/heat : BS20044684

Invoice Number : 10066974  
Po Customer Number : VERBAL-4/17/08

Item : DFAM&K\*STDC

Description: #19 METRIC X 40' GRADE A706 (ASTM A706-06)

MECHANICAL PROPERTIES

PSI YIELD ST	PSI TENS STR	% PERC ELO	BEND	LBS ACT W PF			
73200	97800	15	ACCEPTABLE	1.4480			

CHEMICAL ANALYSIS

C	MN	P	S	SI	NI	CR	MO
0.2608	1.1881	0.0156	0.0369	0.1931	0.0568	0.1238	0.0198

CU	V	CB	AL	SN	CE		
0.2680	0.0349	0.0000	0.0029	0.0078	0.4761		

WE HEREBY CERTIFY THAT THE ABOVE FIGURES ARE CORRECT AS CONTAINED IN THE RECORDS OF THE COMPANY.  
MELTED AND MANUFACTURED IN THE U.S.A

CERTIFIED BY THE QUALITY DEPARTMENT - SIGNATURE ON FILE

MAILING ADDRESS

STREET ADDRESS

BORDER STEEL INC. BOX 12842

1108 WINTON ROAD

AD

# Oklahoma Steel and Wire

Highway 70 South

Madill, OK 73446

(580) 795-7311 (800) 654-4164 Fax (580) 795-7422

## Physical Test Report

Date: 07/27/2011

Customer Name VAUGHN CONCRETE PRODUCTS

Customer Address: 10021 AMARILLO BLVD EAST

AMARILLO, TX 79107

Customer Order Number: 00258424

PO Number: MIKE 6/28/2011

Item Number: 3026-0

Item Description: 6X6XD10XD10 8'X20' BLK

First Bundle #: 118839

Last Bundle #: 118852

Pieces Per Bundle: 15

Number of Bundles: 14

Number of Pieces: 210

Description	Original		Breaking I	Tensile II	Yield II	Reduced		Percent II	Weld II	Weld II	Weld II	Weld II	Weld II	Required I
	Diameter	Area	Strength	Strength	Strength	Diameter	Area	Reduction II		Bend II	Shear II	Shear II	Shear II	
Line Wire	0.357	0.100	9596	95866	0	0.000	0.000	100.00	OK	4949	4683	4557	4494	3504
Cross Wire	0.357	0.100	9724	97145	0	0.000	0.000	100.00						

### CHEMICAL PROPERTIES

Description	Heat Number	Carbon	Manganese	Phosphorus	Sulfur	Silicon
Line Wire	11923390	0.080	0.450	0.009	0.014	0.170
Cross Wire	11923390	0.080	0.450	0.009	0.014	0.170

This material has been produced and tested in accordance with the requirements of ASTM A497-07 and we hereby certify that the above test results are representative of those obtained on the material in this shipment. The raw material listed above, used to produce this product was melted and manufactured in the United States.

Sworn and Subscribed to before me this 29th Day of July, 2011 A.D. by MIKE MURPHY  
 Commission # 06601812  
 State of Oklahoma  
 Expires 02-08-2012 Notary Public

My Commission Expires 02-08-2012

**Mike Murphy**

Quality Manager  
Oklahoma Steel and Wire Co., Inc.



**CONSEAL™**  
Concrete Sealants INC.

**CS102**

Butyl Rubber 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.



# PRODUCT SPECIFICATIONS



**CONSEAL™**  
Concrete Sealants INC.

## CS102

Butyl Rubber 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.



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2671 S. Greeley Hwy Cheyenne, Wyoming 82007-3681 (307) 634-0695 Fax (307) 634-0694

10021 Amarillo Blvd E. Amarillo, Texas 79108-7542 (806) 374-3747 Fax (806) 335-3717

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[www.vaughnconcreteproducts.com](http://www.vaughnconcreteproducts.com)

# MATERIAL SAFETY DATA SHEETS

# **MATERIAL SAFETY DATA SHEET (MSDS) FOR PORTLAND CEMENT**

(Complies with OSHA's Hazard Communication Standard, 29 CFR 1910.1200)



CEMEX, INC.

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**Section 1 - IDENTIFICATION**Supplier/Manufacturer

CEMEX, Inc.  
5134 Ute Highway  
Lyons, CO 80540

Emergency Contact Information

(303) 823-2100

Chemical name and synonyms

Portland Cement (CAS #65997-15-1)

Product name

"CEMEX Type I"  
"CEMEX Type I/II"  
"CEMEX Type I/II-Low Alkali"  
"CEMEX Product"  
"CEMEX Type III-Low Alkali"  
"CEMEX Type V-Low Alkali"

Chemical family

Calcium salts

Formula

3CaO.SiO<sub>2</sub> (CAS#12168-85-3)  
2CaO.SiO<sub>2</sub> (CAS#10034-77-2)  
3CaO.Al<sub>2</sub>O<sub>3</sub> (CAS#12042-78-3)  
4CaO..Al<sub>2</sub>O<sub>3</sub>Fe<sub>2</sub>O<sub>3</sub> (CAS#12068-35-8)  
CaSO<sub>2</sub>.2H<sub>2</sub>O (CAS#13397-24-5)

Other salts:

Small amounts of MgO, and trace amounts of K<sub>2</sub>SO<sub>4</sub> and Na<sub>2</sub>SO<sub>4</sub> may also be present.

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**Section 2 - COMPONENTS**Hazardous Ingredients

Portland cement clinker (CAS#65997-15-1) - approximately - 93.5-96.0% by weight  
ACGIH TLV-TWA (1996)=10 mg total dust/m<sup>3</sup>  
OSHA PEL (8-hour TWA)=50 million particles/ft<sup>3</sup>

Gypsum (CAS#7778-18-9) - approximately - 4.0-6.5% by weight  
ACGIH TLV-TWA (1996)=10 mg total dust/m<sup>3</sup>  
OSHA PEL (8-hour TWA)= 10 mg total dust/m<sup>3</sup>  
OSHA PEL (8-hour TWA)= 5 mg respirable dust/m<sup>3</sup>

Respirable quartz (CAS#14808-60-7) - approximately - 0.02-0.03% by weight  
ACGIH TLV-TWA (1996)=0.10 mg respirable quartz dust/m<sup>3</sup>  
OSHA PEL (8-hour TWA)=(10 mg respirable dust/m<sup>3</sup>)/(percent silica +2)  
NIOSH REL (8-hour TWA)=0.05 mg respirable dust/m<sup>3</sup>

Trace Ingredients

Trace amounts of naturally occurring chemicals might be detected during chemical analysis. Trace constituents may include up to 0.75% insoluble residue, some of which may be free crystalline silica, calcium oxide (Also known as lime or quick lime), magnesium oxide, potassium sulfate, sodium sulfate, chromium compounds, and nickel compounds.

---

### Section 3 - HAZARD IDENTIFICATION

#### Emergency Overview

Masonry cement is a light gray powder that poses little immediate hazard. A single short-term exposure to the dry powder is not likely to cause serious harm. However, exposure of sufficient duration to wet Masonry cement can cause serious, potentially irreversible tissue (skin or eye) destruction in the form of chemical (caustic) burns. The same type of tissue destruction can occur if wet or moist areas of the body are exposed for sufficient duration to dry Masonry cement.

#### Potential Health Effects

##### **Relevant Routes of Exposure:**

Eye contact, skin contact, inhalation, and ingestion.

##### **Effects Resulting from Eye Contact:**

Exposure to airborne dust may cause immediate or delayed irritation or inflammation. Eye contact by large amounts of dry powder or splashes of wet Masonry cement may cause effects ranging from moderate eye irritation to chemical burns or blindness. Such exposures require immediate first aid (see Section 4) and medical attention to prevent significant damage to the eye.

##### **Effects Resulting from Skin Contact:**

Discomfort or pain cannot be relied upon to alert a person to hazardous skin exposure. Consequently, the only effective means of avoiding skin injury or illness involves minimizing skin contact, particularly with wet cement. Exposed persons may not feel discomfort until hours after the exposure has ended and significant injury has occurred.

Dry Masonry cement contacting wet skin or exposure to moist or wet Masonry cement may cause more severe skin effects including thickening, cracking or fissuring of the skin. Prolonged exposure can cause severe skin damage in the form of (alkali) chemical burns.

Some individuals may exhibit an allergic response upon exposure to Masonry cement, possibly due to trace elements of chromium. The response may appear in a variety of forms ranging from a mild rash to severe skin ulcers. Persons already sensitized may react to their first contact with the product. Other persons may first experience this effect after years of contact with Masonry cement products.

##### **Effects Resulting from Inhalation:**

Masonry cement may contain trace amounts of free crystalline silica. Prolonged exposure to respirable free silica can aggravate other lung conditions and cause silicosis, a disabling and potentially fatal lung disease.

Exposure to Masonry cement may cause irritation to the moist mucous membranes of the nose, throat, and upper respiratory system. It may also leave unpleasant deposits in the nose.

##### **Effects Resulting from Ingestion:**

Although small quantities of dust are not known to be harmful, ill effects are possible if larger quantities are consumed. Masonry cement should not be eaten.

##### **Carcinogenic potential:**

Masonry cement is not listed as a carcinogen by NTP, OSHA, or IARC. It may however, contain trace amounts of substances listed as carcinogens by these organizations.

Crystalline silica, a contaminate in Masonry cement, is now classified by IARC as known human carcinogen (Group I). NTP has characterized respirable silica as "reasonably anticipated to be [a] carcinogen".

##### **Medical conditions which may be aggravated by, inhalation or dermal exposure:**

Pre-existing upper respiratory and lung diseases.

Unusual (hyper) sensitivity to hexavalent chromium (chromium<sup>+6</sup>) salts.

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**Section 4 - FIRST AID****Eyes**

Immediately flush eyes thoroughly with water. Continue flushing eye for at least 15 minutes, including under lids, to remove all particles. Call physician immediately.

**Skin**

Wash skin with cool water and pH-neutral soap or a mild detergent. Seek medical treatment in all cases of prolonged exposure to wet cement, cement mixtures, liquids from fresh cement products, or prolonged wet skin exposure to dry cement.

**Inhalation of Airborne Dust**

Remove to fresh air. Seek medical help if coughing and other symptoms do not subside.

**Ingestion**

Do not induce vomiting. If conscious, have the victim drink plenty of water and call a physician immediately.

---

**Section 5 - FIRE AND EXPLOSION DATA**

Flash point .....	None	Lower Explosive Limit.....	None
Upper Explosive Limit.....	None	Auto ignition temperature.....	Not Combustible
Extinguishing media.....	Not Combustible	Special fire fighting Procedures.....	None
Hazardous combustion products..	None	Unusual fire and explosion hazards...	None

---

**Section 6 - ACCIDENTAL RELEASE MEASURES**

Collect dry material using a scoop. Avoid actions that cause dust to become airborne. Avoid inhalation of dust and contact with skin.

Wear appropriate personal protective equipment as described in Section 8.

Scrape up wet material and place in an appropriate container. Allow the material to "dry" before disposal. Do not attempt to wash Masonry cement down drains.

Dispose of waste material according to local, state and federal regulations.

---

**Section 7 - HANDLING AND STORAGE**

Keep Masonry cement dry until used. Normal temperatures and pressures do not affect the material.

Promptly remove dusty clothing or clothing which is wet with cement fluids and launder before reuse. Wash thoroughly after exposure to dust or wet cement mixtures or fluids.

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**Section 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION****Skin Protection**

Prevention is essential to avoiding potentially severe skin injury. Avoid contact with unhardened Masonry cement. If contact occurs, promptly wash affected area with soap and water. Where prolonged exposure to unhardened Masonry cement products might occur, wear impervious clothing and gloves to eliminate skin contact. Wear sturdy boots that are impervious to water to eliminate foot and ankle exposure.

Do not rely on barrier creams: barrier creams should not be used in place of gloves.

Periodically wash areas contacted by dry Masonry cement or by wet cement or concrete fluids with a pH neutral soap. Wash again at the end of work. If irritation occurs, immediately wash the affected area and seek treatment. If clothing becomes saturated with wet concrete, it should be removed and replaced with clean dry clothing.

**Respiratory Protection**

Avoid actions that cause dust to become airborne. Use local or general exhaust ventilation to control exposures below applicable exposure limits.

Use NIOSH/MSHA approved (under 30 CFR 11) or NIOSH approved (under 42 CFR 84) respirators in poorly ventilated areas, if an applicable exposure limit is exceeded, or when dust causes discomfort or irritation. (Advisory: Respirators and filters purchased after June 10, 1998 must be certified under 42 CFR 84.)

Ventilation

Use local exhaust or general dilution ventilation to control exposure within applicable limits.

Eye Protection

Where potentially subject to splashes or puffs of cement, wear safety glasses with side shields or goggles. In extremely dusty environments and unpredictable environments wear unvented or indirectly vented goggles to avoid eye irritation or injury. Contact lenses should not be worn when working with Masonry cement or fresh cement products.

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**Section 9 - PHYSICAL AND CHEMICAL, PROPERTIES**

Appearance.....	Gray Powder	Odor.....	No distinct odor
Physical state.....	Solid (powder)	pH (in water).....	12 to 13
Solubility in water...	Slightly soluble (0.1 to 1.0%)	Vapor pressure.....	Not applicable
Vapor density.....	Not applicable	Boiling point.....	Not applicable (i.e., > 1000 C)
Melting point.....	Not applicable	Specific gravity (H2O = 1.0).....	2.87-3.00
Evaporation rate.....	Not applicable		

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**Section 10 - STABILITY AND REACTIVITY**

Stability

Stable.

Conditions to avoid

Unintentional contact with water.

Incompatibility

Wet Masonry cement is alkaline. As such it is incompatible with acids, ammonium salts and phosphorous.

Hazardous decomposition

Will not spontaneously occur. Adding water produces (caustic) calcium hydroxide

Hazardous Polymerization

Will not occur.

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**Section 11 - TOXICOLOGICAL INFORMATION**

For a description of available, more detailed toxicological information contact the supplier or manufacturer.

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**Section 12 - ECOLOGICAL INFORMATION**

Ecotoxicity

No recognized unusual toxicity to plants or animals

Relevant physical and chemical properties

(See Sections 9 and 10.)

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**Section 13 - DISPOSAL**

Dispose of waste material according to local, state and federal regulations. (Since Masonry cement is stable, uncontaminated material may be saved for future use).

Dispose of bags in an approved landfill or incinerator.

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**Section 14 - TRANSPORTATION DATA****Hazardous materials description/proper shipping name**

Masonry is cement is not hazardous under U.S. Department of Transportation (DOT) regulations.

**Hazard class**

Not applicable

**Identification number**

Not applicable.

**Required label text**

Not applicable.

**Hazardous substances/reportable quantities (RO)**

Not applicable.

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**Section 15 - OTHER REGULATORY INFORMATION****Status under USDOL-OSHA Hazard Communication Rule, 29 CFR 1910.1200**

Masonry cement is considered a "hazardous chemical" under this regulation, and should be part of any hazard communication program.

**Status under CERCLA/SUPERFUND 40 CFR 117 and 302**

Not listed.

**Hazard Category under SARA(Title III), Sections 311 and 312**

Masonry cement qualifies as a "hazardous substance" with delayed health effects.

**Status under SARA (Title III), Section 313**

Not subject to reporting requirements under Section 313.

**Status under TSCA (as of May 1997)**

Some substances in Masonry cement are on the TSCA inventory list.

**Status under the Federal Hazardous Substances Act**

Masonry cement is a "hazardous substance" subject to statutes promulgated under the subject act.

**Status under California Proposition 65**

This product contains up to 0.05 percent of chemicals (trace elements) known to the State of California to cause cancer, birth defects or other reproductive harm. California law requires the manufacturer to give the above warning in the absence of definitive testing to prove that the defined risks do not exist.

---

**Section 16 - OTHER INFORMATION****Prepared by**

Kevin Keegan  
Director - Health and Safety  
CEMEX, Inc.  
Houston, Texas

**Approval date or Revision date**

Approved: July, 1997  
Revised: March, 2001



Other important information

Masonry cement should only be used by knowledgeable persons. A key to using the product safely requires the user to recognize that Masonry cement chemically reacts with water, and that some of the intermediate products of this reaction (that is those present while a Masonry cement product is "setting") pose a more severe hazard than does dry Masonry cement itself.

While the information provided in this material safety data sheet is believed to provide a useful summary of the hazards of Masonry cement as it is commonly used, the sheet cannot anticipate and provide the all of the information that might be needed in every situation. Inexperienced product users should obtain proper training before using this product.

SELLER MAKES NO WARRANTY, EXPRESSED OR IMPLIED, CONCERNING THE PRODUCT OR THE MERCHANTABILITY OR FITNESS THEREOF FOR ANY PURPOSE OR CONCERNING THE ACCURACY OF ANY INFORMATION PROVIDED BY CEMEX, Inc. except that the product shall conform to contracted specifications. The information provided herein was believed by CEMEX, Inc. to be accurate at the time of preparation or prepared from sources believed to be reliable, but it is the responsibility of the user to investigate and understand other pertinent sources of information to comply with all laws and procedures applicable to the safe handling and use of product and to determine the suitability of the product for its intended use. Buyer's exclusive remedy shall be for damages and no claim of any kind, whether as to product delivered or for non-delivery of product, and whether based on contract, breach of warranty, negligence, or otherwise shall be greater in amount than the purchase price of the quantity of product in respect of which damages are claimed. In no event shall Seller be liable for incidental or consequential damages, whether Buyer's claim is based on contract, breach of warranty, negligence or otherwise.

In particular, the data furnished in this sheet do not address hazards that may be posed by other materials mixed with Masonry cement to produce Masonry cement products. Users should review other relevant material safety data sheets before working with this Masonry cement or working on Masonry cement products, for example, Masonry cement concrete.

**MATERIAL SAFETY DATA SHEET**



**CONSEAL™**  
Concrete Sealants INC.

**CS-102**

**Butyl Sealant For All Precast Structures: Meets Specs.**

**PRODUCT IDENTIFICATION**

**PRODUCT NAME:** CS-102  
**PRODUCT DESCRIPTION:** Butyl Sealant

**H.M.I.S RATING**

**HEALTH :** 0  
**FIRE :** 1  
**REACTIVITY :** 0

**NFPA RATING**

**HEALTH :** 0  
**FIRE :** 1  
**REACTIVITY :** 0

**HAZARDOUS INGREDIENTS**

Not applicable for this product.

**HAZARDOUS COMPONENTS**

Not applicable for this product.

**PHYSICAL DATA**

**SPECIFIC GRAVITY (H<sub>2</sub>O=1) :** 1.25  
**VOLATILE (% VOLUME) :** 0.00 %  
**SOLUBILITY IN WATER :** Insoluble  
**EVAPORATION RATE (BuAc=1) :** N/A  
**VOLATILE ORGANIC CONTENT :** N/A  
**APPEARANCE / ODOR :** Black tacky solid, slight petroleum odor

**BOILING POINT :** N/A  
**MELT / FREEZE PT. :** N/A  
**VAPOR DENSITY :** N/A  
**VAPOR PRESURE :** N/A

**FIRE AND EXPLOSION HAZARD DATA**

**FLASH POINT:** 450 °F

**METHOD USED:** COC

**FLAMMABLE LIMINTS IN AIR, % BY VOLUME: UEL UPPER:** N/D

**LEL LOWER:** N/D

**Extinguishing Media:** Dry chemical, carbon dioxide, foam, water

**Unusual Fire and Explosion Hazards:** None known

**Special Fire fighting Procedures:** None Known

**MATERIAL SAFETY DATA SHEET**



**CONSEAL™**  
Concrete Sealants INC.

**CS-102**

**Butyl Sealant For All Precast Structures: Meets Specs.**

**REACTIVITY DATA**

**STABILITY:** Stable

**MATERIALS TO AVOID:** Strong oxidizing agents

**CONDICTIONS TO AVOID:** None known

**HAZARDOUS POLYMERIZATION:** Will not occur

**HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:** Upon ignition may form CO<sub>2</sub>, CO, and various hydrocarbon fumes.

**HEALTH HAZARDS**

**ACUTE:** None known

**CHRONIC:** None known

**SIGNS AND SYMPTOMS OF EXPOSURE:** None known

**MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:** None known

**TOXICITY DATA:** National Toxicology Program: No  
I.A.R.C. Monographs: No  
OSHA: No

**EMERGENCY AND FIRST AID PROCEDURES:**

**Eye contact:** Flush with warm water for 15 minutes. If irritation persists, contact physician.

**Skin contact:** wash contaminated area with soap and water .

**Ingestion:** DO NOT INDUCE VOMITING, Contact a physician.

**ROUTES OF ENTRY:**

**Inhalation:** No

**Eyes:** No

**Skin:** No

**Ingestion:** Not likely

**MATERIAL SAFETY DATA SHEET**



**CONSEAL™**  
Concrete Sealants INC.

**CS-102**

**Butyl Sealant For All Precast Structures: Meets Specs.**

**PRECAUTIONS FOR SAFE HANDLING AND USE**

**Steps To Be Taken In Case Material Is Released Or Spilled:** Remove sources of ignition.

**Waste Disposal:** Dispose of in accordance with local, state and federal regulations.

**Precautions to be taken in handling and storage:** Rotate stock. Do not stack cartons on end.

**CONTROL MEASURES**

**Respiratory Protection:** Not required under normal applications.

**Ventilation:**

**Local exhaust :** N/A

**Special :** N/A

**Mechanical :** N/A

**Other :** N/A

**Protective Gloves:** Chemical resistant, Imperious

**Eye Protection:** Safety goggles or glasses

**Other protective clothing or equipment:** N/A

**Hygienic Practices:** Wash hands with soap and water after working with this material. Practice good personal hygiene.

The information and recommendations provided herein are believed to be accurate at the time of preparation obtained from sources believed to be reliable. Concrete Sealants, Inc., makes no warranty, expressed or implied, concerning this document or the accuracy of the information contained herein.

The information and recommendations contained herein are not intended to relieve the reader of responsibility to investigate and understand the laws, procedures, and regulations applicable to the readers enterprise, not to relieve the reader of responsibility to comply with laws applicable to the readers enterprise and place of business and to verify independently the information provided in this document as it may relate to the reader's specific process or application.

# Material Safety Data Sheet



## GLENIUM 7700

Version 1.2

04/23/2007

### 1. PRODUCT AND COMPANY INFORMATION

Company : **BASF Construction Chemicals. LLC**  
BASF Admixtures, Inc.  
23700 Chagrin Blvd  
BEACHWOOD, OH 44122

Telephone : 216-839-7500

Emergency telephone number : BASF ER HOTLINE: 800-832-4357  
CHEMTREC: 800-424-9300  
CHEMTREC (Outside Continental US): 703-527-3887

Product name : GLENIUM 7700

MSDS ID No. : 11896

TSCA Inventory : All components of this product are included, or are exempt from inclusion, in the EPA Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

Canadian DSL : This product contains material not included on the Canadian Domestic Substance List (DSL).

Product Use Description : Admixture

### 2. HAZARDOUS INGREDIENTS

Does not contain hazardous chemicals as defined by 29 CFR 1910.1200 and WHMIS.

### 3. HAZARDS IDENTIFICATION

HMIS® Rating	HEALTH	FLAMMABILITY	PHYSICAL HAZARD
	1	1	0

WHMIS Class : D2B

Primary Routes of Entry : Eye contact  
Skin contact

#### Effects of Overexposure

Inhalation : Can cause slight irritation.

Skin : Can cause slight irritation.

Eyes : Can cause slight irritation.

Ingestion : Can cause slight irritation.

Chronic exposure : No known information available.

# Material Safety Data Sheet



## GLENIUM 7700

Version 1.2

04/23/2007

### 4. FIRST AID MEASURES

- Eye contact : Flush eyes with water, lifting upper and lower lids occasionally for 15 minutes. Seek medical attention.
- Skin contact : Remove contaminated clothing. Wash thoroughly with soap and water. If irritation persists seek medical attention. Wash contaminated clothing before reuse.
- Ingestion : Do not induce vomiting without medical advice. If conscious, drink plenty of water. If a person feels unwell or symptoms of skin irritation appear, consult a physician. If a person vomits, place him/her in the recovery position. Never give anything by mouth to an unconscious person.
- Inhalation : Remove victim from exposure. If difficulty with breathing, administer oxygen. If breathing has stopped administer artificial respiration, preferably mouth-to-mouth. Seek immediate medical attention.

### 5. FIRE-FIGHTING MEASURES

- Flash point : Not combustible.
- Autoignition temperature : not applicable
- Lower explosion limit : not applicable
- Upper explosion limit : not applicable
- Suitable extinguishing media : Use extinguishing agent suitable for type of surrounding fire.
- Fire and Explosion Hazards : Containers can build up pressure if exposed to heat (fire). Cool closed containers exposed to fire with water spray.
- Special Fire-fighting Procedures : As in any fire, wear pressure demand self-contained breathing apparatus (NIOSH approved or equivalent) and full protective gear.

### 6. ACCIDENTAL RELEASE MEASURES

- Methods for cleaning up : Wear appropriate protective equipment (refer to section 8). Take action to eliminate source of leak; prevent from entry into open streams or sewers; contain spill by diking; vacuum up liquid or use absorbent media; remove to storage for disposal and rinse residual stain with water.

### 7. HANDLING AND STORAGE

- Handling : Keep out of reach of children. For personal protection see section 8.
- Storage : Keep tightly closed.

### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

# Material Safety Data Sheet



## GLENIUM 7700

Version 1.2

04/23/2007

- |                        |   |   |
|------------------------|---|---|
| Eye protection         | : | Wear as appropriate:<br>safety glasses with side-shields<br>goggles<br>face-shield  |
| Hand protection        | : | Wear as appropriate:<br>impervious gloves   |
| Body Protection        | : | Wear as appropriate:<br>impervious clothing<br>preventive skin protection   |
| Respiratory protection | : | In case of insufficient ventilation wear suitable respiratory equipment. When workers are facing concentrations above the exposure limit they must use NIOSH approved respirators.  |
| Hygienic Practices     | : | Avoid contact with skin, eyes and clothing. Ensure adequate ventilation, especially in confined areas. Wash hands before breaks and at the end of workday. When using, do not eat, drink or smoke. Handle in accordance with good industrial hygiene and safety practice. |
| Engineering Controls   | : | Local exhaust ventilation can be necessary to control any air contaminants to within their TLVs during the use of this product.   |

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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- |   |   |                           |
|---|---|---------------------------|
| Color                                   | : | purple-brown              |
| Physical State                          | : | liquid                    |
| Odor                                    | : | mild                      |
| pH                                      | : | 5                         |
| Odor Threshold                          | : | No information available. |
| Vapor Pressure                          | : | No information available. |
| Vapor Density                           | : | No information available. |
| Boiling point/range                     | : | No information available. |
| Freeze Point                            | : | No information available. |
| Water solubility                        | : | dispersible               |
| Specific Gravity                        | : | 1.064                     |
| Viscosity                               | : | Approx.235 cps            |
| Evaporation rate                        | : | No information available. |
| Partition coefficient (n-octanol/water) | : | No information available. |

# Material Safety Data Sheet



## GLENIUM 7700

Version 1.2

04/23/2007

VOC Concentration as applied : 0 g/l  
(less water and exempt solvents)

### 10. STABILITY AND REACTIVITY

Stability : Stable under recommended storage conditions.

Conditions to avoid : Prolonged exposure to high temperatures

Hazardous polymerization : Will not occur under normal conditions.

### 11. TOXICOLOGICAL INFORMATION

#### Acute inhalation toxicity

<u>Product</u>	<u>Type</u>	<u>Value</u>	<u>Species</u>	<u>Exposure time</u>
	LC50	no data available		

#### Acute oral toxicity

<u>Product</u>	<u>Type</u>	<u>Value</u>	<u>Species</u>
	LD50 (Oral)	no data available	

#### Acute dermal toxicity

<u>Product</u>	<u>Type</u>	<u>Value</u>	<u>Species</u>
	LD50 (Dermal)	no data available	

### 12. ECOLOGICAL INFORMATION

Ecotoxicological Information : There is no data available for this product.

### 13. DISPOSAL CONSIDERATIONS

Recommendations: Use excess product in an alternate beneficial application. Handle disposal of waste material in manner which complies with local, state, province and federal regulation.

### 14. TRANSPORT INFORMATION

DOT : Proper shipping name Not regulated



# Material Safety Data Sheet



## GLENIUM 7700

Version 1.2

04/23/2007

### 15. REGULATORY INFORMATION

#### SARA 311/312 (RTK)

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendments and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

not applicable

#### SARA 313

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

This product contains no chemicals subject to the SARA 313 supplier notification requirements.

#### CERCLA

CERCLA section 103(a) specifically requires the person in charge of a vessel or facility to report immediately to the National Response Center (NRC) a release of a hazardous substance whose amount equals or exceeds the assigned RQ. The following hazardous substances are contained in this product.

<u>RQ</u>	<u>CAS No.</u>	<u>Chemical Name</u>
-----------	----------------	----------------------

No CERCLA chemicals exist in this product above reportable concentrations.

#### TSCA Section 12(b) Export Notification

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(b) if exported from the United States:

<u>CAS No.</u>	<u>Chemical Name</u>
----------------	----------------------

There are no TSCA 12(b) Chemicals in this product.

#### California Proposition 65

The chemical(s) noted below and contained in this product, are known to the state of California to cause cancer, birth defects or other reproductive harm. Unless otherwise specified in Section 2 of this MSDS, these chemicals are present at < 0.1%:

<u>CAS No.</u>	<u>Chemical Name</u>
75-21-8	ETHYLENE OXIDE
123-91-1	DIOXANE

### 16. OTHER INFORMATION

Legend : N.E. - Not Established  
TLV - Threshold Limit Value  
STEL - Short Term Exposure Limit  
PEL - Permissible Exposure Limit  
CEIL - Ceiling

Prepared By : Environment, Health and Safety Department

# Material Safety Data Sheet



The Chemical Company

## **GLENIUM 7700**

Version 1.2

04/23/2007

This information is furnished without warranty, representation, or license of any kind, except that this information is accurate to the best of the manufacturer's knowledge, or is obtained from sources believed by the manufacturer to be accurate and is not intended to be all inclusive. No warranty is expressed or implied regarding the accuracy of this information or the results to be obtained from its use thereof. The manufacturer assumes no responsibility for injuries proximately caused by use of the Material if reasonable safety procedures are not followed as stipulated in this Data Sheet. Additionally, the manufacturer assumes no responsibility for injuries proximately caused by abnormal use of the Material even if reasonable safety procedures are followed. Buyer assumes the risk in its use of the Material.

End of MSDS.

# MATERIAL SAFETY DATA SHEET

MASTER BUILDERS, INC.  
23700 CHAGRIN BLVD.  
CLEVELAND, OHIO 44122  
216-831-5500

MASTER BUILDERS  
TECHNOLOGIES, LTD.  
1800 CLARK BOULEVARD  
BRAMPTON, ONTARIO L6T 4M7  
905-792-2012

24 HOUR CONTACT  
CHEMTREC  
800-424-9300  
D.C. AREA 483-7616

Prepared by: Department of Environment, Health & Safety  
Revision Date: 09/29/2000

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Control No. 08516

This document is prepared pursuant to the OSHA Hazard Communication Standard (29 CFR 1910.1200). Where a proprietary ingredient is shown, the identity may be made available as provided in this standard.

All components of this product are included in the EPA Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

1. **PRODUCT NAME:** MB-VR® STANDARD

Chemical Family: Saponified natural wood resins

2. <b>HAZARDOUS INGREDIENTS:</b>	CASNO	EXPOSURE LIMITS*			CONTENT
		TLV	STEL	PEL	
Caustic Soda	1310-73-2	None	None	None	<1.0%

(\*) Refer to Section 7 for available LD/LC(50) Health Hazard Data.

3. **PHYSICAL DATA:**

Boiling Point (°C):	ca. 101	Water/Oil Distribution	
Percent VOC (w/w):	0	Coefficient:	N/Av
Freezing Point (°C):	0	Solubility in Water:	100%
Vapor Pressure mmHg @20 (°C):	N/Av	Specific Gravity:	1.03
Vapor Density:	> Air	pH:	11.8-12.8
Odor Threshold: (ppm)	N/Av	Evaporation Rate:	N/Av
Appearance: Brownish liquid		Odor: Soap like	
N/Av = Not Available	N/Av = Not Applicable		ca. = Approximate

4. **FIRE AND EXPLOSION HAZARD DATA:** HMIS Hazard Rating No. 0 (Minimal)

Flash Point: Non-flammable Method: Not Applicable

Auto-Ignition Temperature: Not Applicable

Limits Of Flammability: LEL: Not Applicable UEL: Not Applicable

Extinguishing Media: This material does not give a flash point by conventional test methods. Use extinguishing agent suitable for type of surrounding fire.

Special Fire & Unusual Hazards: None known.

5. **REACTIVITY DATA:** HMIS Hazard Rating No. 0 (Minimal)

Stability: Stable. Not sensitive to mechanical impact.

Incompatibility: Strong mineral acids, oxidizing agents, aluminum, galvanized metals.

Hazardous Decomposition Products: Hydrogen in contact with aluminum or zinc (After water has evaporated.)  
Oxides of Carbon and Nitrogen.

Hazardous Polymerization: Will not occur.

6. **ENVIRONMENTAL & DISPOSAL INFORMATION:**

Action to Take for Spills/Leaks: Wear appropriate protective equipment. Take action to eliminate source of leak; Prevent spill from entering waterways as product may be toxic to aquatic life.; contain spill by diking; On hard surface remove spill by absorption mop or sand (soil). On loose surface shovel up contaminated layer.

Waste Disposal Method: Dispose in accordance with local, provincial, state and federal regulations.

7. **HEALTH HAZARD DATA:** HMIS Hazard Rating No. 2 (Slight)

PRIMARY ROUTE OF ENTRY: Dermal, Eyes, Ingestion

**Effects Of Overexposure**

Inhalation: At room temperature, exposures to vapors are unlikely due to physical properties.

Eyes: May cause severe irritation, possible burns and corneal damage.

Skin Contact: Prolonged or repeated exposure may cause skin irritation, even a burn.

Skin Absorption: Not expected to be absorbed through the skin in sufficient quantities to increase overall toxicity.

Ingestion: May cause severe irritation to mouth, lips and gastrointestinal tract; nausea.

**LDLo(50) Oral** CASRN 1310-73-2 500 mg/kg Rabbit.

Chronic: Product does not contain carcinogenic materials as defined by OSHA Hazardous Communications Act 1910.1200 .

Materials are not known mutagenic, teratogenic, or reproductive health hazards

8. **FIRST AID:**

- Inhalation: Remove victim from exposure. If difficulty with breathing, administer oxygen. If breathing has stopped administer artificial respiration, preferably mouth-to-mouth. Seek medical attention.
- Eyes: Flush eyes with water, lifting upper and lower lids occasionally for 15 minutes. Seek medical attention.
- Skin: Remove contaminated clothing. Wash thoroughly with soap and water. If irritation persists seek medical attention. Wash contaminated clothing before reuse.
- Ingestion: Do NOT induce vomiting; give large quantities of water and at least one ounce of vinegar in water; get immediate medical attention. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquids into lungs. Do NOT give anything by mouth to an unconscious person.

9. **SPECIAL PROTECTION INFORMATION:**

Ventilation: Ventilation is generally not required.

Personal Protection Equipment: Do NOT wear contact lenses when working with this material. Use chemical goggles/safety glasses with side shields and Nitrile gloves. Selection of specific items such as boots and apron will depend on operation. Wear respirator protection whenever airborne concentrations exceed TLV or TWA limits; use NIOSH/OSHA approved respirators equipped with an organic vapor cartridge for listed hazard.

Confined spaces, rooms, or tanks are areas where concern for TLV's is especially important. Reference OSHA Regulation CFR 29 1910.134 for recommended respiratory protection.

10. **ADDITIONAL INFORMATION:**

Average Shelf Life: Refer to Product Data Sheet.

Special Instructions: Keep from freezing

**REGULATORY INFORMATION:**

Title III Section 302: CASRN 1310-73-2 RQ 1000 LB.

Title III Section 311/312: Health hazard: Immediate  
Physical hazard: None

Title III Section 313: None above deminimis.

State: California No reportable chemicals.

WHMIS Classification: Class D, Div. 2, Sub B  
Class E

Canadian Domestic Substance List: All chemicals are listed.

10. **ADDITIONAL INFORMATION:** (cont'd)

**TRANSPORTATION**

National Motor Freight Classification (NMFC): NOT DETERMINED

Description: NOT DETERMINED

Emergency Response Guide Page No.: NOT REGULATED

DOT Reportable Quantity: > 25,000 Ga.

Shipping Name: NOT REGULATED - USE NMFC DESCRIPTION

Marine Pollutant: NL

P = Moderate

PP = Severe

WS = Water Sheen

NL = Not Listed

ND = Not Determined

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