CHAMPS Work Order

Work Order: 1107579 **Type:** Modification **State:** 10 - Created

Description: 74B610 FAB AND INSTALL BULKHEAD AT P6 RM7 S2750/W1070

Equipment I.D.: 74-B-610 **Room:** S2750/W1070 **Management Level:** ML-1

Equipment Name: BULKHEAD, PANEL 6 RM 7 INTAKE BARRICADE

Function Class: SS **System:** VU03

Location: 534

Dept: UGOPS **USQ Screening or Evaluation No.** S11-0607 (N/A if not Required)

Priority: 4A

Planner: FARNSWORTH, JILL **Assign to:** FARNSWORTH, JILL

Account: W121010101 **Parent:**

INCIDENT ENERGY N/A	ECO NO CE/DATE ECO 12897 Jill Farnsworth 7-28-11	Safety/Date Howard Brown 8/3/11
ALARA/Date Richard Hayes 8/4/11	S/U. Eng/Date N/A	QA/DATE M Davis 8/4/11
RWP NO. N/A CH RAD CON/DATE	NEPA/DATE EXCLUDED; REV.12 ATTACHMENT 1, F	Planner/DATE Jill Farnsworth 7/28/11
FPE/EMM/DATE N/A	CRAFT/DATE Dan Calderon 8/10/11	CRAFT/DATE [illegible] 8-10-11
FWM/DATE [illegible] 8-10-11	WGM/DATE Dave Bromling 8/4/11	WGM/DATE N/A
COM Review/DATE: M Mbuk 8/10/11		

PROPOSED LOCKOUT/TAGOUT [ ]COM LO/TO Tag Number ~~H-WF-[illegible]~~ [ ]PLD LOTO [✓]N/A

PROPOSED PLD LOCKOUT/TAGOUT LOCATION: _____ (N/A for COM Lockout/Tagout)

if PLD, Lockout/Tagout performed at recommended Location _____ / _____ **Person performing PLD** **Date**

COM Release/Date Jim Hall 11/08/11	WGM Release/Date [illegible] 8-17-11
Work Authorized By: Signature Date: Jim Hall 08/17/11	QA Complete Date: M Davis 12/12/11
Work Area Inspection Completed Craft Date: [illegible] 11/9/11	Task Completed: Craft Date: Dan Calderon 11/9/11
FWM Work Comp/Date [illegible] 11-9-11	COM retest Comp/Date N/A
COM Work Complete/Date [illegible] 12/01/11	CE ECO Verified/Date ECO 12897 Jill Farnsworth 12-7-11

Overview of Work Performed: (Problems, solutions, retest requirements, retest results, parts used and cost)

FAB and install Bulkhead at P6 Rm 7 S2750/W1070

RECORDS

Task Preview Performed (sign and Date) See Step 7.1.2

COM, if cancelled, Sign/Date N/A	Planner/Date Jill Farnsworth 12-12-11

ACTION REQUEST

Section 1	ORIGINATOR			1107579
Name: Jill Farnsworth	Phone: 8212	Mail Stop:		Date: 7/20/2011
Equip. No. 74-B-610	Equip. Name:	BULKHEAD, PANEL 6 RM 7 INTAKE BARRICADE	System:	VU03

Description of problem:

Fabricate & Install bulkhead 74-B-610 at the P6RM7 intake point once RM7 is full of CH waste. (S2750/W1070)

Functional Classification: [ ] BOP [ ] SC [X] SS [ ] ITS

Status: [ ] In-Service [X] Out-of-Service [ ] Tagged Out

Compensatory Measure:

N/A

RCRA Inspection Item: [ ] CAS/CAMP [ ]

Section 2 **POD**

Work Order [✓] Nonconformance Condition - NCR Required [ ] Request for Evaluation (RFE) [ ]

Harry Stewart — POD Chairperson

7-21-11 — Date

RFE Assigned To:

Section 3 **Evaluator**

N/A [✓] Normal Wear and Tear (Provide justification) [ ] Nonconforming Condition [ ] Pages(s) Attached [ ]

Evaluator Print/Sign

Date

Section 4 **WORK CONTROL**

PRIORITY 4A

Need Date:

Harry Stewart 7-21-11

WCC Date

Section 5 **MODIFICATION APPROVAL**

TERRY PATTERSON PER TELE TROY PARKER 7-21-11

Maintenance Manager Chairperson Date

Section 6 **WORK GROUP**

Scope Title: [2] 74B610 FAB + Install Bulkhead at P6RM7 S2750/W1070

Work Group:	Craft Code:	Cost Account: N12101

Jill Farnsworth — Assigned Engineer

Field Work Manager: 7-21-11 — Date

Section 7 **WORK GROUP MANAGER**

Work Method: (A,C,E,F,M,MM)	Document Type (1,2,3)	Work Group Mananger: Date
M	3	7-21-11

Comments/Partial Release

COMMENTS

WORK ORDER NUMBER: 1107579 DATE: 08/17/11

COMMENTS PROVIDED BY: Jim Hollen UFO
Name/Organization

NOTE: Provide corrective actions necessary to incorporate comment in "Comments" section.

- ☐ Work instructions not clear. _____
- ☐ Requires additional work instructions. _____
- ☐ Insufficient retest instructions/requirements. _____
- ☐ Requires additional approvals. _____
- ☐ Contact Operations for tag-out at Step _____ or Time _____
- ☐ Not released. State reason: _____
- ☐ Outage required for work. _____
- ☐ Package should be worked with the following: _____
- ☐ Reschedule on: _____
- ☐ Permit required -- Contact: _____
- ☐ Other/Comments:

PARTIAL RELEASE

Instructions for Partial Release: Work through Step 8.1.6

Cognizant Operation Manager _____ Date 08/17/11

Work Group Manager _____ Date 8-17-11

WIPP Plant Work Suspension

1. Work Order Number: 1107579 M Date 8-21-11
2. Reason for Suspension:
   Bulkhead FAB and staged.
3. Steps of work instruction completed: 8.1.6
4. Work Group Manager [signature] Date 8-21-11
5. System and Component status

   OPERATIONS: [signature] Date 11-07-11
6. TO/LO N/A
7. Operations Release [signature] Date 11/07/11
8. Work Group Manager [signature] Date 11-7-11

W.O. NUMBER 1107579M
74B610
FAB & INSTALL BULKHEAD AT P6RM7 INTAKE
S2750/W1070

1.0 INTRODUCTION

Specifically, this work will accomplish the following:

- Fabricate bulkhead sections for a 30' wide x 13.5' tall bulkhead
- Stage bulkhead sections as directed by the UMM
- Install bulkhead sections at the P6RM7 intake point, just to the east of the chain link & brattice barricade once the room is full of CH waste.
- Seal the bulkhead and flashing
- Clean up the work area
- Tag the bulkhead

2.0 REFERENCES

BASELINE (DEVELOPMENTAL)

WP 10-WC3011	Work Control Process
WP 12-HP3600	Radiological Work Permits
WP 12 IS.01	Industrial Safety Program
WP 12 IS.01-1	Industrial Safety Program – Barricades and Barriers
WP 13-1	Quality Assurance Program Description
DOE/WIPP-07-3372	Waste Isolation Pilot Plant Documented Safety Analysis
DOE/WIPP-07-3373	Waste Isolation Pilot Plant Technical Safety Requirements
WP12-FP.01	Fire Protection Program
WIPP-023	Fire Hazards Analysis For the Waste Isolation Pilot Plant Carlsbad, New Mexico
30 CFR Part 57	Federal Mine Safety and Health Regulations for Metal and Non-metal Mines
ECO 12897	Fab & Install 74-B-610 at the P6RM7 intake point once P6RM7 is full of CH waste

REFERENCED (REQUIRED ON-HAND)

MSDS for FlexGrip 550 **(Attachment #4)**
MSDS for DAP Silicone Sealant **(Attachment #5)**
MSDS for GE Silicone GE012A **(Attachment #6)**
12-FP3002 Hot Work Permit (if welding outside of a designated hot work area)

3.0 MATERIAL LIST

ITEM	MATERIAL DESCRIPTION	QTY	UNIT	PR / WHSE STOCK NO.
1	Bulkhead Steel – See Cut Sheet, Attachment #1	N/A	N/A	UG
2	FlexGrip 550	1	Ea.	UG
3	Hilti Spads	As Needed	Ea.	UG
4	Hilti Bolts	As Needed	Ea.	UG
5	Sheet Metal Screws	As Needed	Ea.	UG
6	Brattice Cloth	100	Ft	UG
7	Silicone Sealant	As Needed	Tube	X-51-04105
8	RV Putty Tape	As Needed	Ft.	UG

4.0 EQUIPMENT LIST

PERSONAL PROTECTIVE EQUIPMENT AND SPECIAL TOOLS

DESCRIPTION	USED AT STEP
GLOVES – LEATHER	[ ] 8.1.3
FALL PROTECTION FULL BODY HARNESS	[ ] 8.2.6
FALL PROTECTION TIE-OFF	[ ] 8.2.6
GENERAL - SAFETY GLASSES W/ SIDE SHIELDS	[ ] 8.2.10

Paint Brush
Caulking Gun
Putty Knife
Tape Measure
Hilti Drill
Hilti Gun
Various Hand Tools
Various Shop Tools
Getman Lift Truck (or other suitable man lift device)
Fork Lift

5.0 PRECAUTIONS

The JOB HAZARDS CHECKLIST indicates types of hazards that may be present during the performance of this work. See the indicated section for precautions and mitigating actions.

JOB HAZARDS CHECKLIST

HAZARD	MITIGATED AT SECTION
ROTATING EQUIPMENT PINCH POINT HAZARD	[ ] 8.1.1
HOT WORK ACTIVITY HAZARD	[ ] 8.1.2
SHARP OBJECT HAZARD	[ ] 8.1.3
POTENTIAL RADIOLOGICAL HAZARD	[ ] 8.2.4
HEIGHT HAZARD	[ ] 8.2.6
ADHESIVES & SEALANTS CHEMICAL HAZARD	[ ] 8.2.10

6.0 LIMITATIONS

[ ] 6.1. HOLD AND WITNESS POINTS

NONE

[ ] 6.2. TAGOUT/LOCKOUT

NONE

[ ] 6.3. OTHER LIMITATIONS

- Any employee who has a concern for employee safety, the safety of the environment, or the quality of the activity has the responsibility and authority to suspend the performance of that activity.
- Work shall be stopped when instructions cannot be performed as written.
- Brackets at the beginning of steps are optional place-keeping aids, and may be checked off as work progresses.
- All personnel affixing initials to these work instructions shall provide the information listed in the PERSONNEL DATA TABLE.
- The Technical Safety Requirements (TSRs) Manual contains Limiting Conditions for Operation (LCOs) and Specific Administrative Controls(SACs) which provide specific preventative or mitigative limits and

required actions for identified accident scenarios. Failure to comply with LCOs or SACs and their Required Actions constitutes a violation which must be immediately reported to the FSM. Specific LCOs and SACs applicable during performance of this procedure are referenced within the body of this procedure in bold brackets, e.g. **[LCO 3.X.X.].**

- Failure to complete a surveillance requirement (SR) within its specified frequency SHALL constitute a violation of the associated LCO and must be immediately reported to the Facility Shift Manager (FSM). Specific LCO Surveillances applicable during the performance of this procedure are referenced at the end of the implementing step in bold brackets, e.g. **[SR 4.X.X.X.].**

- If barriers are required for this work package they will be constructed and installed in a manner that will ensure their integrity throughout the expected duration of use and environmental conditions.

7.0 PREREQUISITES

[ ] 7.1. ADMINISTRATIVE

[ ] 7.1.1. Personnel performing this work review these work instructions and appropriate sections of the references listed in the REFERENCED (REQUIRED ON HAND) section.

[ ] 7.1.2. Before starting work, Work Group Manager/Field Work Manager conduct a pre-job safety meeting.

CRAFT	15-17-11 DATE
CRAFT	8/17/11 DATE
WGM/FWM	8-17-11 DATE

[ ] 7.2. TASK PREPARATION

[ ] 7.2.1. Obtain materials and equipment shown in Materials and Equipment section.

8.0 PERFORMANCE

[ ] 8.1. FABRICATE 74-B-610

WARNING

Rotating Equipment/Pinch Point Hazard Exists

This warning applies to section [ ] 8.1.4

Performance of this activity will expose personnel to Rotating Shop Equipment and Pinch Point Hazards associated with lifting heavy pieces of steel

[ ] 8.1.1. Mitigating Steps for Rotating Equipment/Pinch Point Hazards

[ ] 8.1.1.1. Ensure guards and covers provided on rotating equipment are securely in place.

[ ] 8.1.1.2. Ensure loose clothing, long hair or jewelry are contained so as not to become entangled in rotating equipment.

[ ] 8.1.1.3. Never use hands or other body parts to stop rotating, moving equipment or wind-milling equipment.

[ ] 8.1.1.4. Use proper PPE (i.e. gloves, steel-toed boots) when lifting or moving heavy objects such as steel. Always maintain awareness of hand and foot placement in relation to the heavy object so as to avoid pinch points.

[signature] 18-17-11

CRAFT DATE

WARNING

Hot Work Activity Hazard Exists

This warning applies to section [ ] 8.1.4

Performance of this activity may expose personnel to flames, sparks or other ignition sources. Examples of areas of concern are welding, cutting, grinding and open flame soldering in non-designated Hot Work areas.

[ ] 8.1.2. Mitigating Steps for Hot Work Activity Hazards

[ ] 8.1.2.1. A Hot Work Permit is required for work that may generate flames, sparks or other ignition sources that is performed outside of a designated Hot Work Area.

[ ] 8.1.2.2. Shop work must be performed following the posted designated Hot Work Permit requirements.

[ ] 8.1.2.3. Cutting, welding, grinding or open flame soldering of galvanized or stainless steel, cadmium, lead or coated metal surfaces will require Industrial Hygiene evaluation prior to performance of work.

[ ] 8.1.2.4. Perform all Hot Work in accordance with the Hot Work Permit.

WARNING

Sharp Object Hazard Exists

This warning applies to section [ ] 8.1.4

Performance of this activity will expose personnel to sharp steel edges

[ ] 8.1.3. Mitigating Steps for Sharp Object Hazards

[ ] 8.1.3.1. Wear leather or cut resistant gloves as a minimum when handling sheet metal or other types of steel with sharp or rough edges.

[ ] 8.1.4. Fabricate 3 bulkhead sections **OR** modify existing sections using the Cut Sheet **(Attachment #1)** and the drawing on **Attachment #2.** The UMM will determine if there are existing sections that can be modified as opposed to fabricated.

CRAFT 18-17-11 DATE

[ ] 8.1.5. Stage the bulkhead sections per direction from the UMM.

[ ] 8.1.6. UMM have this package suspended until P6RM7 is ready for the bulkhead installation.

WGM/FWM 18-21-11 DATE

[ ] 8.2. INSTALL BULKHEAD 74-B-610 AT P6RM7 INTAKE (S2750/W1070)

[ ] 8.2.1. Underground Mine Manager/Designee ensure that the chain link and brattice barricade has been dropped and secured at the intake point of Panel 6 Room 7 (S2750/W1070).

WGM/FWM/Designee 11-9-11 DATE

[ ] 8.2.2. COM verify that structures, systems and components (SSC's), administrative controls and design features are aligned in proper configuration before releasing this work order for bulkhead installation work. Verify that the waste face is a STATIC WASTE FACE. **[ ] LCO 3.4.2**

COM 11-9-11 DATE

[ ] 8.2.3. Before starting work, Work Group Manager/Field Work Manager conduct a pre-job safety meeting.

CRAFT 11/9/11 DATE

CRAFT 11/9/11 DATE

WGM/FWM 11-9-11 DATE

WARNING

Potential Radiological Hazard Exists

This warning applies to section [ ] 8.2.5

A sign should be posted in the work area indicating whether or not an RWP is required to enter the area.

[ ] 8.2.4. Mitigating Steps for Potential Radiological Hazards

[ ] 8.2.4.1. If RWP is required, request Operations Health Physics (OHP) record number on Sign-Off Sheet. If not required, N/A this step and continue.

N/A _____ / _____
CRAFT DATE

[ ] 8.2.4.2. If RWP is required, all personnel read the RWP, discuss radiological hazards, precautions and mitigating actions to be taken as shown in the RWP. If an RWP is not required, mark sign-off 'N/A' and continue.

N/A _____ / _____
CRAFT DATE

[ ] 8.2.5. WORK AREA INSPECTION

[ ] 8.2.5.1. **UFE/URW** or **IS/IH** personnel monitor the area around the intake point of P6RM7 for carbon tetrachloride (CCl4) using a MiniRAE 3000 while personnel are working in the area. Less than 5 ppm of CCl4 is acceptable to work in. Document the results in Table 1 at the end of these work instructions.

[ ] 8.2.5.2. **Mine Ops Craft:** Inspect work area for safe working conditions (for example ventilation, accessibility, ground control, etc.) and ensure any problems are corrected before starting work.

CRAFT DATE

WARNING

Height Hazard Exists

This warning applies to section [ ] 8.2.7

- Performance of this activity may expose personnel to falling from elevated work platforms while removing chain link, drilling bulkhead installation holes, installing the installation bolts in the back, or sealing the bulkhead.

[ ] 8.2.6. Mitigating Steps for Height Hazards

[ ] 8.2.6.1. Reference Section 4, above, for specific PPE required for the performance of this work.

[ ] 8.2.6.2. Qualified Person determine that the fall protection equipment required, has a current certification and identify the anchorage to be used for attachment of the personal fall protection equipment.

[ ] 8.2.6.3. Lanyards three feet long or less can be attached to the breast (front) "D" ring of the harness. Six-foot lanyards must be attached to the back "D" ring of the harness.

[ ] 8.2.6.4. Establish barriers on the ground around the work area.

NOTE

This note applies to section [ ] 8.2.7

The work of installing the bulkhead in S2750 at the P6RM7 intake point will be occurring around/near a STATIC WASTE FACE. **LCO 3.3.7 AND LCO 3.3.8** do not apply. It will still be prudent to park liquid fueled vehicles greater than 25 feet from the work area once you have finished using them in the work area.

[ ] 8.2.7. Cut chain link along the back and ribs of the bulkhead installation location as needed to obtain a better seal to the salt.

[ ] 8.2.8. Install the bulkhead in P6 at the Room 7 intake point (S2750/W1070) as shown on **Attachment #3,** east of the P6RM7 closure barricade. Use RV putty tape between the bulkhead sections to provide a better seal.

[ ] 8.2.9. Field fit a double thickness of brattice around the bulkhead as the flexible flashing used to seal the bulkhead to the salt. Space the Hilti nails close enough together to provide a tight seal. **Use care when sealing around the VOC tubes on the north rib – don't damage the tubes.**

11/9/11

CRAFT DATE

WARNING

Adhesives & Sealants Chemical Hazard Exists

This warning applies to section [ ] 8.2.11

Performance of this activity may expose personnel to Chemical Hazard – Adhesives and Sealants hazards. Areas of concern are eye, skin, and breathing injuries.

[ ] 8.2.10. Mitigating Steps for Chemical Hazards

[ ] 8.2.10.1. The following MSDS's are provided with this work package:

FlexGrip 550 – Attachment #4
DAP Silicone Sealant – Attachment #5
GE Silicone Sealant – Attachment #6

[ ] 8.2.10.2. When using FlexGrip 550:

- Wear approved eye protection
- Wear protective rubber gloves (Hycron, neoprene, or nitrile)
- Ensure that there is adequate ventilation to prevent vapor fumes from accumulating
- Avoid rubbing your eyes while handling the FlexGrip 550

CRAFT 11-9-11 DATE

[ ] 8.2.10.3. When using DAP Silicone Sealant

- Wear approved eye protection
- Wash skin at meal time and at the end of the shift
- Use suitable gloves (nitrile rubber, butyl rubber)
- Ensure that there is adequate ventilation to prevent vapor fumes from accumulating.

CRAFT 11/9/11 DATE

[ ] 8.2.10.4. When using GE GE012A Silicone Sealant

- Wear approved eye protection
- Ensure that there is adequate ventilation to prevent vapor fumes from accumulating
- Use cloth gloves at a minimum to protect hands.

CRAFT 11/9/11 DATE

[ ] 8.2.11. Seal all the remaining cracks including but not limited to sheet metal seams with FlexGrip 550.

[ ] 8.2.12. Seal the brattice along the floor with loose muck placed on top of the brattice.

[ ] 8.2.13. Seal the brattice-to-salt and brattice-to-metal seams with Silicone Sealant.

[ ] 8.2.14. Remove all tools and debris from the work area when the work is completed.

CRAFT 11/9/11 DATE

[ ] 8.3. TAGGING AND LABELING OF EQUIPMENT

[ ] 8.3.1. Tag the bulkhead with the tag provided with this work package.

CRAFT 11/9/11 DATE

[ ] 8.4. TASK VERIFICATION

[ ] 8.4.1. Equipment Testing

[ ] 8.4.1.1. UMM/Designee ensure that the bulkhead is properly installed and sealed.

WGM/FWM 11-9-11 DATE

[ ] 8.4.2. Operational Testing

NONE

[ ] 8.5. RESTORATION TO OPERATIONAL STATUS

[ ] 8.5.1. Inform UG Services that the work is complete and the bulkhead is ready for use.

Jim Haller / 11/09/11
URW/UFE DATE

WGM/FWM 11-8-11
WGM/FWM DATE

[ ] 8.5.2. Work Group Manager/Field Work Manager conduct post-job review.

WGM/FWM 11-8-11
WGM/FWM DATE

[ ] 8.6. COMMENTS

Document additional action or other data below:

N/A
N

N/A /
CRAFT DATE

N/A /
RESP ENG DATE

[ ] 8.7. PERSONNEL DATA

[ ] 8.7.1. All personnel affixing initials to these work instructions shall provide the information listed in the PERSONNEL DATA table below:

PERSONNEL DATA

PRINTED NAME	SIGNATURE	INITIALS	DATE
Ronnie Crockett	Ronnie Crockett	RC	11/7/11
Mathew Ratzlaff	Mathew Ratzlaff	MR	11/9/11
Jim Hollen	Jim Hollen	JH	12/12/11

TABLE 1 CCL4 READINGS

DATE	TIME	CCL4 READING (PPM)	INSTRUMENT NUMBER	INSTRUMENT OPERATOR
11/7/11	9:35	2.4	652	Ron Crockett
11/8/11	1225	1.9	652	Ron Crockett
11-9-11	0810	.03	619	Jim Hollen

ATTACHMENT #1
CUT SHEET
74-B-610

MODULAR SECTION WITH LEG ATTACHMENT
(2 modular pieces need to be fabricated. Cuts are for one modular piece)

2" x 4" TS

Length	# of Pieces Required
13' 6"	2
9' 8"	2

2" x 2" TS

Length	# of Pieces Required
12' 8"	1
4' 9"	6
10"	2
6"	4

3" x 5" TS

Length	# of Pieces Required
8"	1

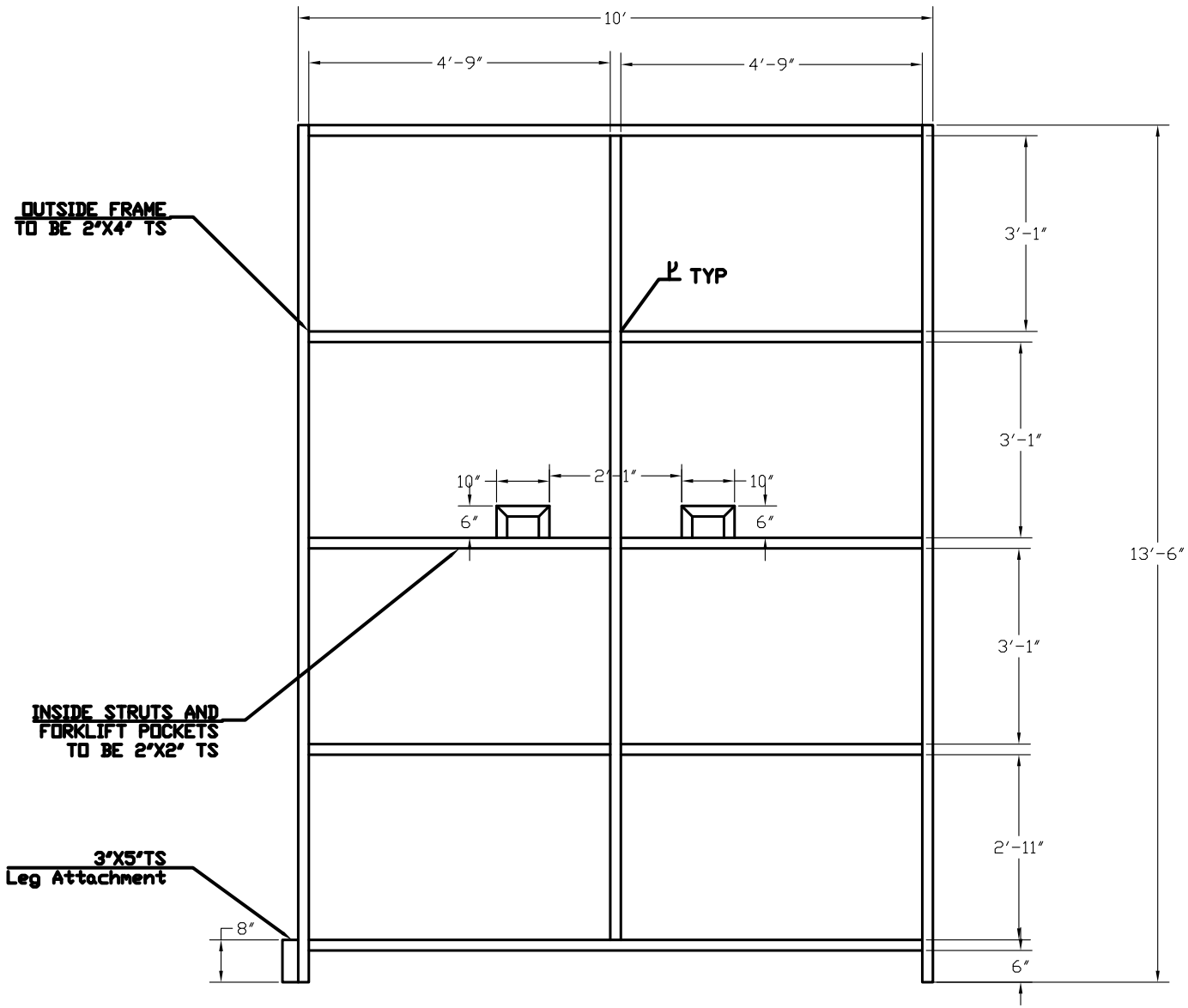
MODULAR SECTION – **NO** LEG ATTACHMENT

2" x 4" TS

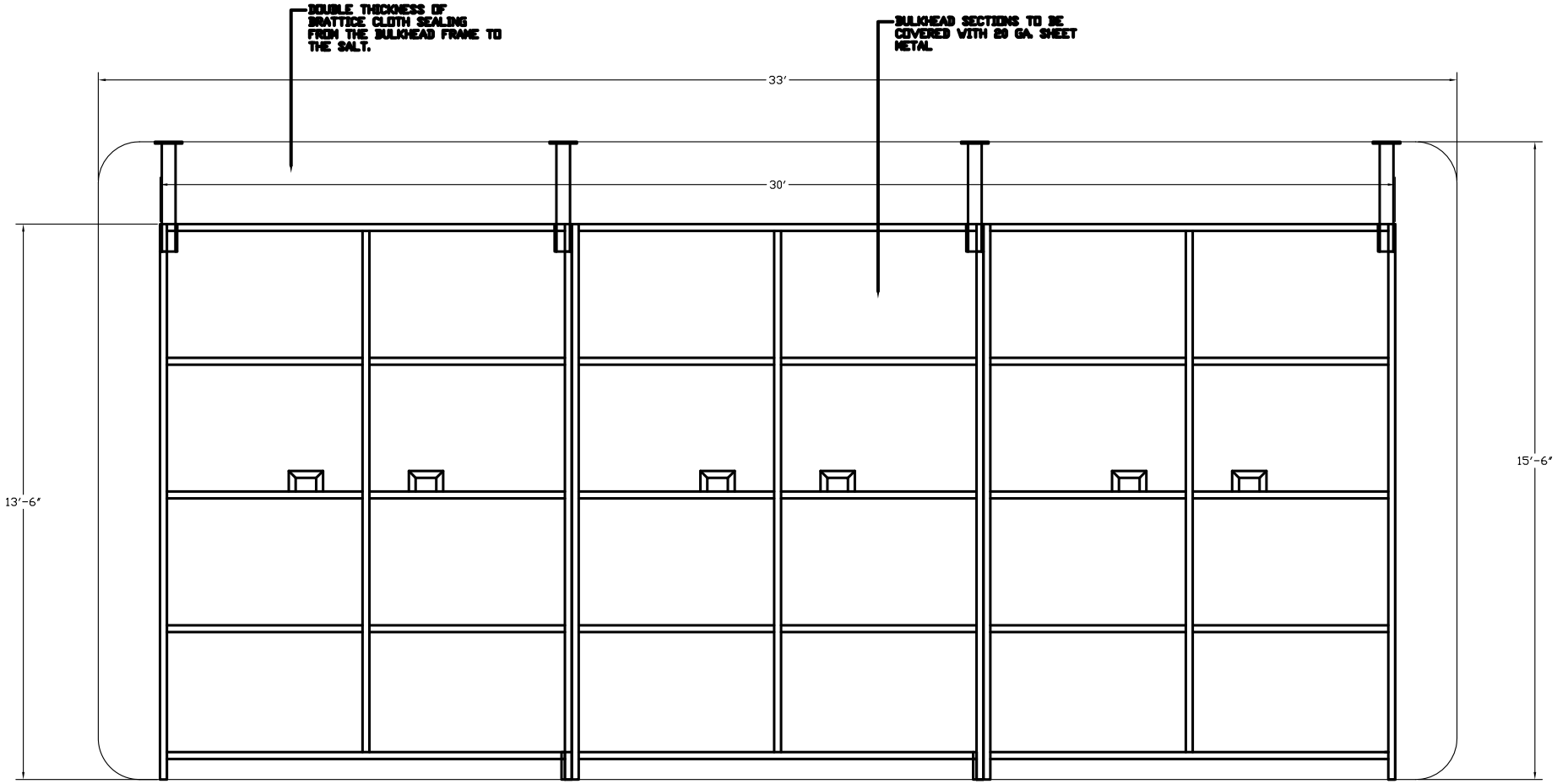
Length	# of Pieces Required
13' 6"	2
9' 8"	2

2" x 2" TS

Length	# of Pieces Required
12' 8"	1
4' 9"	6
10"	2
6"	4



74-B-610 MODULAR SECTION
2 SECTIONS WILL HAVE THE LEG ATTACHMENT
1 SECTION WILL NOT HAVE THE LEG ATTACHMENT



74-B-610
LOOKING WEST
S2750 AT P6 RM7 INTAKE

NOTES:

1. DRIFT DIMENSIONS ARE NOMINAL
2. SHEET METAL SEAMS TO BE SEALED WITH FLEXGRIP 550.
3. PLACE MUCK ALONG THE FLOOR-TO-BRATTICE INTERFACE FOR SEALING.
4. SEAL THE BRATTICE-TO-SALT AND THE METAL-TO-BRATTICE INTERFACES WITH A SEALANT APPROVED BY THE VU03 CE.
5. USE RV PUTTY TAPE TO SEAL BETWEEN THE SECTIONS DURING INSTALLATION

HARDCAST CARLISLE

ATTACHMENT #4
WO # 1107579M

W3234

MATERIAL SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: FlexGrip 550
Synonyms: Water-Based Mastic

Manufacturer/Supplier
Carlisle Coatings & Waterproofing Incorporated
900 Hensley Lane
Wylie, TX 75098
Internet Address: http://www.ccwcompanies.com/
Fax Number: (972) 442-0076

Phone Numbers
Medical Emergency:
CHEMTREC (USA): (800) 424-9300
CHEMTREC (International):
MSDS Assistance: (972) 442-6545
Fax On Demand: NA
Technical Assistance: (888) 229-2199
Customer Service: (888) 229-0199

2. COMPONENT INFORMATION

Component	CAS No.	Percent Range	Hazardous in Blend
Ethylene Glycol	107-21-1	0.2 - 2	
Methanol	67-56-1	0.5 - 3	

This product is not hazardous according OSHA 29 CFR 1910.1200.
Hazards:
Flammable/Combustible No **Acute Toxin** No **Chronic Toxin** No **Carcinogen** No
Pressure No **Reactive** No **Exposure Limit** ___ **Target Organ** ___ **Other** ___

2A. OTHER INGREDIENTS Greater than 3%

Component	CAS No.
Latex	25067-01-0
Calcium Carbonate	1317-65-3
Clay	1332-58-7
Chlorinated Paraffin	63449-39-8 Blend

3. HAZARDS IDENTIFICATION

Emergency and Hazards Overview:
May cause moderate irritation to eyes. May be harmful if swallowed. Read and understand all health and safety information on the product label and Material Safety Data Sheet before use.

Ratings
Health 1 **Flammability** 0 **Reactivity** 0

Primary Route of Exposure: Skin x Inhalation x Eye x Ingestion x

Health Effect Information

Eye Contact: May cause eye irritation if wiped or rubbed into eyes.

Skin Contact: May cause mild skin irritation on prolonged or repeated contact.

Inhalation: Breathing high concentrations of vapors may cause nausea & irritation of nose, throat, & respiratory tract. Respiratory symptoms associated with pre-existing lung disorders may be aggravated by exposure to this material.

Ingestion: Ingestion of large quantity may cause initial central nervous system stimulation, followed by

depression.

Medical Conditions Aggravated by Exposure: Prolonged exposure to vapors could aggravate pre-existing disorders in lungs, kidney and liver.

4. FIRST AID INFORMATION

Eye Contact: Flush with water for 15 minutes. Get medical attention immediately.

Skin Contact: Wipe off and wash skin with soap and water. Promptly remove contaminated clothing and wash before reuse.

Inhalation: Remove to fresh air. If breathing has stopped, start artificial respiration. Oxygen may be administered. Consult physician immediately

Ingestion: Do not induce vomiting unless directed to do so by a physician. Consult a physician immediately.

Notes to Physician: This product contains ethylene glycol, Hexahydro-1, 3,5-triethyl-s-triazine (not in a reportable amount).

5. FIRES AND EXPLOSION INFORMATION

Flammable Properties

Flash Point: No flash to boiling — **Test Method:** Closed cup

Flame extension: NA — **Test Method:** NA

Flammable Limits in Air

Upper Percent: NA

Lower Percent: NA

Auto ignition Temperature: NA — **Test Method:** NA

NFPA Classification: H 1 F 0 R 0

Extinguishing Media: CO_2, foam, dry chemical or water spray.

Fire Fighting Measures

Special Fire Fighting Procedures and Equipment: Firemen must wear full-face air-supplied masks and full protective clothing.

Unusual Fire and Explosion Conditions: This product is not sensitive to physical shock or static discharge. Exposure of closed container to temperatures above the boiling point could cause pressure buildup and container rupture.

Hazardous Combustion By-Products: CO, CO_2, unburned hydrocarbons, or nitrous oxides.

6. ACCIDENTAL RELEASE MEASURES

Personnel Safeguards: Evacuate non-essential personnel to safe areas. Clean-up responders should wear proper protective clothing and gloves before entering the affected area.

Regulatory Notifications: Certain component of this product is defined as hazardous according to U.S. EPA. Spill reporting requirements and reportable quantities vary by region.

Consult all applicable state and local regulations. For Canada, observe all precautions noted above.

Containment and Clean up: Prevent product from entering drinking water supplies or streams. Observe above precautions, collect liquid with inert, noncombustible material and remove for disposal.

7. HANDLING AND STORAGE INFORMATION

Handling: Normal use condition doesn't produce respirable Silica. However, sanding, grinding, and burning might release respirable Silica. Keep out of reach of children. Launder contaminated clothing. Wash hands with soap and water after use, especially before eating or drinking.

Storage: Store in a dry, well ventilated environment away from heat, above 35 deg F and below 110 deg F. Keep containers closed when not in use. Do not pressurize, cut weld or grind containers.

Empty Container Warnings

Drums: Drums may be reused after wash.

Plastic: Plastic containers may be reused after wash.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION INFORMATION

Exposure Limits and Guidelines

Component	CAS No.	Exposure Limit
Methanol	67-56-1	200 ppm OSHA PEL 200 ppm ACGIH TWA, 250 ppm STEL
Ethylene Glycol	107-21-1	50 ppm OSHA PEL/Ceiling

Personal Protective Equipment

Eye/Face Protection: Wear safety goggles or face shield. Contact lenses should not be worn.

Skin Protection: Use protective rubber gloves (Hycron, neoprene, or nitrile).

Respiratory Protection: Provide adequate ventilation to maintain vapors below PEL/TWA. If vapor levels are exceeded, use NIOSH approved respirator, both during and immediately after application, until vapor levels are below limits.

Personal Hygiene: Avoid rubbing eyes during handling. Use good personal hygiene practices to avoid incidental ingestion.

Engineering Controls / Work Practices

Ventilation: Provide local exhaust or area ventilation to maintain concentration of vapors below PEL/TWA.

Other: Source of clean water should be available in the work area for flushing eyes and skin. Wash thoroughly with soap and water after use and before eating.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Gray Mastic	**Vapor Pressure:** 17 mm Hg @ 20°C
Odor: Typical latex with slight ammonia odor	**Vapor Density (air=1):** <air
Physical state: Mastic	**Percent Volatile by Weight:** 34 – 36
pH: 9.0 – 9.5	**Volatile Organic Content:** 75 gpl (water excluded)
DOT Corrosivity: NA	**Molecular Weight:** NA
Boiling Point: 212°F	**Average Carbon Number:** NA
Melting Point: NA	**Viscosity @ 77 F:** >300 K cps
Specific Gravity: 1.28	
Pour Point: NA	
Solubility in Water: Miscible with water	
Octanol / Water Coefficient: Log K_{ow} = NA	

10. STABILITY AND REACTIVITY INFORMATION

Chemical Stability: Stable

Conditions to Avoid: Avoid extreme heat, fire and temperature.

Incompatible Materials to Avoid: Avoid strong acids, strong oxidizers.

11. TOXICOLOGICAL INFORMATION (will only print available data)

Ethylene Glycol
Primary Eye Irritation: Irritating
Primary Skin Irritation: NA
Acute Dermal Toxicity: Product toxicity has not been determined.
Subacute Dermal Toxicity: NA
Dermal Sensitization: NA
Inhalation Toxicity: Product toxicity has not been determined.
Inhalation Sensitization: NA
Oral Toxicity: Product toxicity has not been determined. Following are component data:
LD_{50}, Ethylene Glycol: Rat 4,000 mg/kg
Mutagenicity: NA
Carcinogenicity: NA
Reproductive Toxicity: Product toxicity has not been determined. Following are component data:
Ethylene Glycol: Pregnant Rat 1.25g/kg and above: increased malformed fetus
Pregnant Mice 750 mg/kg and above: increased malformed fetus
Teratogenicity: NA
Immunotoxicity: NA
Neurotoxicity: NA
No other toxicological information available

12. ECOLOGICAL INFORMATION

Ethylene Glycol
Aquatic Toxicity: Not known
Terrestrial Toxicity: Not known
Chemical Fate and Transport: Not known
No other ecological information available

13. DISPOSAL INFORMATION

Regulatory Information: Consult all regulations (federal, state, provincial, local etc.) or a qualified waste disposal firm when characterizing waste for disposal.

Waste Disposal Methods: Recover free liquid. Absorb residue and dispose of according to local, state and Federal EPA regulation. Empty container: may contain explosive vapors. Do Not cut, puncture or weld on or nearby.

14. TRANSPORTATION INFORMATION

U.S. Department of Transportation (DOT)
Highway / Rail: Not regulated by DOT

The DOT description is provided to assist in the proper shipping classification of this product and may not be suitable for all shipping descriptions.

Other: No other information available.

15. REGULATORY INFORMATION

Regulatory Lists

U.S. TSCA Inventory: All components of this material are on the US TSCA Inventory or exempt from listing on the TSCA Inventory.

Sara Section 313: This product contains the following Sara, Title III, Section 313 Chemicals:

Chemical	CAS Number	Percent in Product
Methanol	67-56-1	0.5 - 3
Ethylene Glycol	107-21-1	0.2 - 2

IARC Group: NA

Regulatory Lists Searched

This product contains a mixture of one or more components found on the following State List at or above OSHA de minimis quantities

Health & Safety: NA
Environmental: NA
International: NA
State: FL, MA, MN, PA, NJ, WA
National Inventories: NA

SARA 311 / 312 Categories (For the chemicals above)
Acute: Yes **Chronic:** Yes **Fire:** Yes **Pressure:** No **Reactive:** No
Regulated: No

California Proposition 65 Information: Warning! None in the list

Canadian WHMIS Classification

Methanol

Class: Class B2 and D2B

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations (CPR). This MSDS contains all the information required by the CPR.

Canadian Environmental Protection Act (CEPA)

All reportable chemical substance is listed on the Domestic Substances List (DSL) or otherwise complies with CEPA new substance notification requirements.

National Pollution Release Inventory (NPRI)

This product contains the following chemical subject to the reporting requirements of the CEPA subsection 16(1), NPRI.

Chemical	CAS Number	Percent in Product
Methanol	67-56-1	0.2 – 2
Ethylene Glycol	107-21-1	0.5 – 2

Other Regulations: No other information available.

16. OTHER INFORMATION

Health and Environmental Label Language

All ingredients contained in this product are included on the US EPA Toxic Substances Control Act (TSCA) inventory or exempt from listing on the TSCA inventory. All ingredients contained in this product comply with the requirements of the Canadian Environmental Protection Act (CEPA) and are listed on the Domestic Substance List (DSL) or Non-Domestic Substance List (NDSL)

MSDS Revisions

Previous Version Date: 04/20/05

Section

Old Information: 16- part MSDS version with updated Shipping Information

New Information:

Prepared By: R&D Department **Date:** 08/15/06

Disclaimer of Warranty: The information contained herein is based upon data and information available to us, and reflects our best professional judgment. This product may be formulated in part with components purchased from other companies. In many instances, especially when proprietary or trade secret materials are used, CCWI Company must rely upon the hazard evaluation of such components submitted by that product's manufacturer or importer. No warranty of merchantability, fitness for any use, or any other warranty is expressed or implied regarding the accuracy of such data or information. The results to be obtained from the use thereof, or that any such use does not infringe any patent, since the information contained herein may be applied under conditions of use beyond our control and with which we may be unfamiliar, we do not assume responsibility for the results of such application. This information is furnished upon the condition that the person receiving it shall make his own determination of the suitability of the material for his particular use.

XIAMETER

XIAMETER(R)
Material Safety Data Sheet

ATTACHMENT #5
WO# 1107579M

W3489

Version: 1.5
Revision Date: 2005/06/01

DAP(R) 100% SILICONE RUBBER SEALANT CLEAR, 8641

1. PRODUCT AND COMPANY IDENTIFICATION

Dow Corning Corporation
South Saginaw Road
Midland, Michigan 48686

24 Hour Emergency Telephone: (989) 496-5900
Customer Service: (989) 496-6000
Product Disposal Information: (989) 496-6315
CHEMTREC: (800) 424-9300

MSDS No.: 04061395
Revision Date: 2005/06/01

Generic Description: Silicone elastomer
Physical Form: Paste
Color: Colorless
Odor: Acetic acid odor

NFPA Profile: Health 2 Flammability 1 Instability/Reactivity 0

Note: NFPA = National Fire Protection Association

2. OSHA HAZARDOUS COMPONENTS

CAS Number	Wt %	Component Name
17689-77-9	1.0 - 5.0	Ethyltriacetoxysilane
4253-34-3	1.0 - 5.0	Methyltriacetoxysilane

The above components are hazardous as defined in 29 CFR 1910.1200.

3. HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS

Acute Effects

Eye: Direct contact may cause moderate irritation.

Skin: May cause moderate irritation.

Inhalation: Material is not likely to present an inhalation hazard at ambient conditions. However, if material is heated or high vapor/aerosol concentrations are attained, central nervous system depression may occur, which is characterized by drowsiness, dizziness, confusion or loss of coordination.

Oral: Low ingestion hazard in normal use.

Prolonged/Repeated Exposure Effects

Skin: No known applicable information.

Inhalation:	No known applicable information.
Oral:	No known applicable information.

Signs and Symptoms of Overexposure

No known applicable information.

Medical Conditions Aggravated by Exposure

No known applicable information.

The above listed potential effects of overexposure are based on actual data, results of studies performed upon similar compositions, component data and/or expert review of the product. Please refer to Section 11 for the detailed toxicology information.

4. FIRST AID MEASURES

Eye:	Immediately flush with water for 15 minutes. Get medical attention.
Skin:	Remove from skin and wash thoroughly with soap and water or waterless cleanser. Get medical attention if irritation or other ill effects develop or persist.
Inhalation:	Material is not likely to present an inhalation hazard at ambient conditions. If material is heated or vapor/mist/dust/fumes are generated, care should be taken to prevent inhalation. In case of exposure to vapor/mist/dust/fumes, move to fresh air.
Oral:	No first aid should be needed.
Comments:	Treat according to person's condition and specifics of exposure.

5. FIRE FIGHTING MEASURES

Flash Point:	> 212 °F / > 100 °C (Closed Cup)
Autoignition Temperature:	Not determined.
Flammability Limits in Air:	Not determined.
Extinguishing Media:	On large fires use dry chemical, foam or water spray. On small fires use carbon dioxide (CO2), dry chemical or water spray. Water can be used to cool fire exposed containers.
Fire Fighting Measures:	Self-contained breathing apparatus and protective clothing should be worn in fighting large fires involving chemicals. Determine the need to evacuate or isolate the area according to your local emergency plan. Use water spray to keep fire exposed containers cool.
Unusual Fire Hazards:	None.

Hazardous Decomposition Products

Thermal breakdown of this product during fire or very high heat conditions may evolve the following hazardous

decomposition products: Carbon oxides and traces of incompletely burned carbon compounds. Silicon dioxide. Formaldehyde.

6. ACCIDENTAL RELEASE MEASURES

Containment/Clean up: Observe all personal protection equipment recommendations described in Sections 5 and 8. Wipe up or scrape up and contain for salvage or disposal. Clean area as appropriate since spilled materials, even in small quantities, may present a slip hazard. Final cleaning may require use of steam, solvents or detergents. Dispose of saturated absorbant or cleaning materials appropriately, since spontaneous heating may occur. Local, state and federal laws and regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which federal, state and local laws and regulations are applicable. Sections 13 and 15 of this MSDS provide information regarding certain federal and state requirements.

Note: See section 8 for Personal Protective Equipment for Spills. Call (989) 496-5900, if additional information is required.

7. HANDLING AND STORAGE

Use with adequate ventilation. Product evolves acetic acid (HOAc) when exposed to water or humid air. Provide ventilation during use to control HOAc within exposure guidelines or use respiratory protection. Avoid eye contact. Avoid skin contact. Do not take internally. Avoid breathing vapor. Keep container closed.

Use reasonable care and store away from oxidizing materials. Keep container closed and store away from water or moisture.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

CAS Number	Component Name	Exposure Limits
17689-77-9	Ethyltriacetoxysilane	See acetic acid comments.
4253-34-3	Methyltriacetoxysilane	See acetic acid comments.

Acetic acid is formed upon contact with water or humid air. Provide adequate ventilation to control exposures within guidelines of OSHA PEL: TWA 10 ppm and ACGIH TLV: TWA 10 ppm, STEL 15 ppm.

Engineering Controls

Local Ventilation: Recommended.
General Ventilation: Recommended.

Personal Protective Equipment for Routine Handling

DAP(R) 100% SILICONE RUBBER SEALANT CLEAR, 8641

Eyes:	Use proper protection - safety glasses as a minimum.
Skin:	Wash at mealtime and end of shift. Contaminated clothing and shoes should be removed as soon as practical and thoroughly cleaned before reuse. Chemical protective gloves are recommended.
Suitable Gloves:	Nitrile Rubber. Butyl Rubber.
Inhalation:	Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines. IH personnel can assist in judging the adequacy of existing engineering controls.
Suitable Respirator:	Respiratory protection is not needed under ambient conditions. If vapor/mist/dust/fumes are generated when material is heated or handled, the following is advised. General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators.

Personal Protective Equipment for Spills

Eyes:	Use full face respirator.
Skin:	Wash at mealtime and end of shift. Contaminated clothing and shoes should be removed as soon as practical and thoroughly cleaned before reuse. Chemical protective gloves are recommended.
Inhalation/Suitable Respirator:	Respiratory protection recommended. Follow OSHA Respirator Regulations (29 CFR 1910.134) and use NIOSH/MHSA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.
Precautionary Measures:	Avoid eye contact. Avoid skin contact. Do not take internally. Avoid breathing vapor. Keep container closed. Use reasonable care.
Comments:	Product evolves acetic acid (HOAc) when exposed to water or humid air. Provide ventilation during use to control HOAc within exposure guidelines or use respiratory protection. When heated to temperatures above 150 C (300 F) in the presence of air, product may form formaldehyde vapors. Physical and health hazard information is readily available from Dow Corning Corporation and the Material Safety Data Sheet.

Note: These precautions are for room temperature handling. Use at elevated temperature or aerosol/spray applications may require added precautions.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Form: Paste

DAP(R) 100% SILICONE RUBBER SEALANT CLEAR, 8641

Color:	Colorless
Odor:	Acetic acid odor
Specific Gravity @ 25°C:	1.007
Viscosity:	Not determined.
Freezing/Melting Point:	Not determined.
Boiling Point:	Not determined.
Vapor Pressure @ 25°C:	Not determined.
Vapor Density:	Not determined.
Solubility in Water:	Not determined.
pH:	Not determined.
Volatile Content:	Not determined.

Note: The above information is not intended for use in preparing product specifications.

10. STABILITY AND REACTIVITY

Chemical Stability:	Stable.
Hazardous Polymerization:	Hazardous polymerization will not occur.
Conditions to Avoid:	None.
Materials to Avoid:	Oxidizing material can cause a reaction. Water, moisture, or humid air can cause hazardous vapors to form as described in Section 8.

11. TOXICOLOGICAL INFORMATION

Special Hazard Information on Components

No known applicable information.

12. ECOLOGICAL INFORMATION

Environmental Fate and Distribution

Complete information is not yet available.

Environmental Effects

Complete information is not yet available.

Fate and Effects in Waste Water Treatment Plants

Complete information is not yet available.

Ecotoxicity Classification Criteria

Hazard Parameters (LC50 or EC50)	High	Medium	Low
Acute Aquatic Toxicity (mg/L)	<=1	>1 and <=100	>100
Acute Terrestrial Toxicity	<=100	>100 and <= 2000	>2000

DAP(R) 100% SILICONE RUBBER SEALANT CLEAR, 8641

This table is adapted from "Environmental Toxicology and Risk Assessment", ASTM STP 1179, p.34, 1993.

This table can be used to classify the ecotoxicity of this product when ecotoxicity data is listed above. Please read the other information presented in the section concerning the overall ecological safety of this material.

13. DISPOSAL CONSIDERATIONS

RCRA Hazard Class (40 CFR 261)

When a decision is made to discard this material, as received, is it classified as a hazardous waste? No

State or local laws may impose additional regulatory requirements regarding disposal.

Call (989) 496-6315, if additional information is required.

14. TRANSPORT INFORMATION

DOT Road Shipment Information (49 CFR 172.101)

Not subject to DOT.

Ocean Shipment (IMDG)

Not subject to IMDG code.

Air Shipment (IATA)

Not subject to IATA regulations.

15. REGULATORY INFORMATION

Contents of this MSDS comply with the OSHA Hazard Communication Standard 29 CFR 1910.1200.

TSCA Status: All chemical substances in this material are included on or exempted from listing on the TSCA Inventory of Chemical Substances.

EPA SARA Title III Chemical Listings

Section 302 Extremely Hazardous Substances (40 CFR 355):
None.

Section 304 CERCLA Hazardous Substances (40 CFR 302):
None.

Section 311/312 Hazard Class (40 CFR 370):
Acute: Yes
Chronic: No
Fire: No

Pressure: No
Reactive: No

Section 313 Toxic Chemicals (40 CFR 372):
None present or none present in regulated quantities.

Supplemental State Compliance Information

California

Warning: This product contains the following chemical(s) listed by the State of California under the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) as being known to cause cancer, birth defects or other reproductive harm.

None known.

Massachusetts

CAS Number	Wt %	Component Name
7631-86-9	7.0 - 13.0	Silica, amorphous

New Jersey

CAS Number	Wt %	Component Name
70131-67-8	> 60.0	Dimethyl siloxane, hydroxy-terminated
7631-86-9	7.0 - 13.0	Silica, amorphous
64742-46-7	<=7.0	Hydrotreated middle petroleum distillates
17689-77-9	1.0 - 5.0	Ethyltriacetoxysilane
4253-34-3	1.0 - 5.0	Methyltriacetoxysilane

Pennsylvania

CAS Number	Wt %	Component Name
70131-67-8	> 60.0	Dimethyl siloxane, hydroxy-terminated
7631-86-9	7.0 - 13.0	Silica, amorphous
64742-46-7	<=7.0	Hydrotreated middle petroleum distillates

DAP(R) 100% SILICONE RUBBER SEALANT CLEAR, 8641

16. OTHER INFORMATION

Prepared by: Dow Corning Corporation

These data are offered in good faith as typical values and not as product specifications. No warranty, either expressed or implied, is hereby made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.

http://www.xiameter.com

GE Silicones

ATTACHMENT #6
WO# 1107579M

W0385.1

FORMAT: USA
PRODUCT: GE012A

MATERIAL SAFETY DATA SHEET
SILICONE RUBBER COMPOUND

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MANUFACTURED BY:
GE SILICONES
260 HUDSON RIVER ROAD
WATERFORD, NY 12188

EMERGENCY PHONE (24 HRS)
(518) 237-3330

SUPPLIED BY:
GE SILICONES
260 HUDSON RIVER ROAD
WATERFORD, NY 12188

EMERGENCY PHONE (24 HRS)
(518) 237-3330

REVISED: 09/21/00
PREPARER: CE HANNIGAN
CHEMICAL FAMILY/USE: SILICONE RUBBER SEALANT
FORMULA: MIXTURE

2. COMPOSITION/INFORMATION ON INGREDIENTS

PRODUCT COMPOSITION/ CAS REG NO.	APPROX. WGT. %	ACGIH TLV TWA	ACGIH TLV STEL	OSHA PEL TWA	OSHA PEL STEL	UNITS
1. HAZARDOUS METHYLTRIACETOXYSILANE 4253-34-3	1-5	10(R)	NE	10(R)	NE	PPM
2. NON-HAZARDOUS POLYDIMETHYLSILOXANE SILANOL/STPD 70131-67-8	60-80	-	NE	-	NE	-
DIMETHYLPOLYSILOXANE 63148-62-9	5-10	NE	NA	NE	NA	NA
TREATED FUMED SILICA 68611-44-9	5-10	10	NE	15	NE	MG/M3

See Section 15 for description of any WHMIS Trade Secret(s).

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:
This section not in use
POTENTIAL HEALTH EFFECTS:
INGESTION:
May be harmful if swallowed.
1^ SKIN CONTACT:
Uncured product contact will irritate lips, gums and tongue.
Uncured product contact may irritate the skin.
INHALATION:
Causes irritation of the mouth, nose, and throat.
Applies only in uncured state.
EYE CONTACT:
Uncured product contact irritates eyes.
MEDICAL CONDITIONS AGGRAVATED:
None known.
SUBCHRONIC (TARGET ORGAN) EFFECTS:
None known
CHRONIC EFFECTS/CARCINOGENICITY:
This product or one of its ingredients present 0.1% or more
is NOT listed as a carcinogen or suspected carcinogen by
NTP, IARC, or OSHA.
PRODUCTS/INGREDIENTS
This space reserved for special use.
PRINCIPLE ROUTES OF EXPOSURE:
Dermal - skin.
Inhalation.
OTHER:
Acetic acid released during curing.

---

4. FIRST AID MEASURES

INGESTION:
Rinse mouth with water several times.
SKIN:
To clean from skin, remove completely with a dry cloth or paper
towel, before washing with detergent and water.
Get medical attention if irritation persists.
INHALATION:
Move person to fresh air.
EYES:
In case of contact, immediately flush eyes with plenty of water
for at least 15 minutes and get medical attention if irritation
persists.
NOTE TO PHYSICIAN:
None known.

---

5. FIRE FIGHTING MEASURES

FLASH POINT: NA (C) NA (F)
METHOD : NA
IGNITION TEMP : UNK (C) UNK (F)
1^ FLAMMABLE LIMITS IN AIR - LOWER (%): UNK

FLAMMABLE LIMITS IN AIR - UPPER (%): UNK
SENSITIVITY TO MECHANICAL IMPACT (Y/N): NO
SENSITIVITY TO STATIC DISCHARGE:
Sensitivity to static discharge is not expected.
EXTINGUISHING MEDIA:
All standard firefighting media
SPECIAL FIREFIGHTING PROCEDURES:
None known.

---

6. ACCIDENTAL RELEASE MEASURES

ACTION TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:
Wipe, scrape or soak up in an inert material and put in a container for disposal.
Wash walking surfaces with detergent and water to reduce slipping hazard.
Wear proper protective equipment as specified in the protective equipment section.
Increase area ventilation.

---

7. HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:
Keep container closed when not in use.
Avoid contact with skin and eyes.
Use only in a well ventilated area.
Remove contact lenses before using sealant. Do not handle lenses until all sealant has been cleaned from the fingertips, nails and cuticles. Residual sealant may remain on fingers for several days and transfer to lenses and cause severe eye irritation.
Product releases acetic acid during application and curing.
Use mechanical ventilation to stay below TLV of 10 ppm acetic acid.
Uncured product contact irritates eyes.
Uncured product contact may irritate skin.
Use in a well ventilated area to prevent irritation by vapors.

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS:
Eyewash stations.
Use in a well ventilated area.
1^ RESPIRATORY PROTECTION:
Use in a well ventilated area.
Use approved NIOSH respiratory protection if TLV exceeded or

overexposure is likely.
PROTECTIVE GLOVES:
Cloth gloves.
EYE AND FACE PROTECTION:
Safety glasses.
OTHER PROTECTIVE EQUIPMENT:
None known.
VENTILATION:
Use only in well ventilated area.

---

9. PHYSICAL AND CHEMICAL PROPERTIES

PRODUCT INFORMATION:

BOILING POINT	:	NA	(C)	NA	(F)
VAPOR PRESSURE(20 C)(MM HG)	:	NA			
VAPOR DENSITY (AIR=1)	:	NA			
FREEZING POINT	:	NA	(C)	NA	(F)
MELTING POINT	:	NA	(C)	NA	(F)
PHYSICAL STATE	:	SOLID			
ODOR	:	ACETIC ACID			
COLOR	:	TRANSLUCENT			
ODOR THRESHOLD (PPM)	:	UNK			
% VOLATILE BY VOLUME	:	<3.9			
EVAP. RATE(BUTYL ACETATE=1)	:	<1			
SPECIFIC GRAVITY (WATER=1)	:	1.04			
DENSITY (KG/M3)	:	1040			
ACID/ALKALINITY (MEQ/G)	:	NA			
PH	:	NA			
VOC EXCL.H2O & EXEMPTS(G/L)	:	<41			
SOLUBILITY IN WATER (20 C)	:	INSOLUBLE			

SOLUBILITY IN ORGANIC SOLVENT (STATE SOLVENT): TOLUENE

---

10. STABILITY AND REACTIVITY

STABILITY: STABLE
HAZARDOUS POLYMERIZATION: WILL NOT OCCUR
HAZARDOUS THERMAL DECOMPOSITION/COMBUSTION PRODUCTS:
Carbon monoxide.
Carbon dioxide.
Silicon dioxide.
Acetic acid.
1^ INCOMPATIBILITY (MATERIALS TO AVOID):
None known.
CONDITIONS TO AVOID:
None known.

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11. TOXICOLOGICAL INFORMATION

PRODUCT INFORMATION:
ACUTE ORAL LD50 (MG/KG): NA
ACUTE DERMAL LD50 (MG/KG): NA
ACUTE INHALATION LC50 (MG/L): NA
OTHER:
None.

AMES TEST: UNKNOWN

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12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION: No data at this time
CHEMICAL FATE INFORMATION: No data at this time

---

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD:
Disposal should be made in accordance with federal, state and local regulations.

---

14. TRANSPORT INFORMATION

DOT SHIPPING NAME: NONE
DOT HAZARD CLASS: NOT DOT REGULATED
DOT LABEL(S): NONE
UN/NA NUMBER: NONE
PLACARDS: NONE
IATA:
NOT REGULATED BY IATA
IMO IMDG-code: NOT REGULATED FOR OCEAN TRANSPORTATION
EMS No: NA
EUROPEAN CLASS:
RID (OCTI): NONE
1^ ADR (ECE) : NONE
RAR (IATA): NONE

---

15. REGULATORY INFORMATION

SARA SECTION 302:
None Found
SARA (311,312) HAZARD CLASS:
ACUTE HEALTH HAZARD
SARA (313) CHEMICALS:
NONE
CPSC CLASSIFICATION: NA
WHMIS HAZARD CLASS:
D2A VERY TOXIC MATERIALS
D2B TOXIC MATERIALS
WHMIS TRADE SECRET:
None
EXPORT:
SCHDLE B/HTSUS: 3214.10 Mastic Based on Rubber
ECCN: EAR99
HAZARD RATING SYSTEMS
HMIS FLAMMABILITY 0 , REACTIVITY 0 , HEALTH 2
NFPA FLAMMABILITY 0 , REACTIVITY 0 , HEALTH 2
CALIFORNIA PROPOSITION 65:
NONE

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16. OTHER INFORMATION

This product or its components are on the European inventory of existing commercial chemicals (EINECS).....
.....
These data are offered in good faith as typical values and not as product specifications. No warranty, either expressed or implied, is made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.
.....

C =	ceiling limit	NEGL =	negligible
EST=	estimated	NF =	none found
NA =	not applicable	UNKN =	unknown
NE =	none established	REC =	recommended
ND =	none determined	V =	recomm. By vendor
By-product = reaction by-product, TSCA inventory status not required under 40 CFR part 720.30(h-2)		SKN =	skin
		TS =	trade secret
		R =	recommended
		MST =	mist
STEL = short term exposure limit		NT =	not tested

.....

DATE PRINTED: 09/25/00

Working Copy

Modification Impact Sheet

WORK ORDER NO. 1107579 M

SIGNATURE SIGN-OFF

1. Spare parts needed?	YES	(NO)	
2. Before equipment operation?	YES	(NO)	
3. Store stock request No. N/A	YES	(NO)	4. CE: JD Farnsworth 7-28-11
5. Fire protection system training needed?	YES	NO	
6. Before equipment operation?	YES	NO	8. FPE: N/A
7. CTS Number: N/A	YES	NO	9. EMM: N/A
10. New PMP or revision to existing needed?	YES	(NO)	
11. Before equipment operation?	YES	(NO)	
12. CTS Number: N/A	YES	(NO)	13. WGM: Maintenance Signature Required
14. Maintenance training needed?	YES	(NO)	
15. Before equipment operation?	YES	(NO)	
16. CTS Number: N/A	YES	(NO)	17. WGM: Maintenance Signature Required
18. New operating procedure or revision to existing procedure needed?	YES	(NO)	
19. Before equipment operation?	YES	(NO)	
20. CTS Number: N/A	YES	(NO)	21. COM:
22. Operations training needed?	YES	(NO)	
23. New panel schedule needed?	YES	(NO)	
24. Before equipment operation?	YES	(NO)	
25. CTS Number: N/A	YES	(NO)	26. COM:

Hazard Identification Checklist

AJHA ID:	Waste Isolation Pilot Plant:
Work Title: WO #1107579M	Date Of Walkdown 8-1-11
Work Scope: FAB + INSTALL 74-B-610 @ P6RM7 INTAKE	

Yes	Hazard
	1. **Portable heating equipment used?**
	2. **Fire system maintenance?** Will the maintenance involve a special fire suppression system such as Halon, Dry Chemical or C02?
	3. **Confined space entry?**
	- **Permit-required confined space?**
	. . . Atmospheric hazards exist in the space?
	. . . Atmospheric hazards introduced ?
	. . . Engulfment/entrapment hazards?
	. . . Potential for introducing adjacent hazards ?
	. . . Mechanical, electrical, or physical safety hazards?
	. . . Reclassify from permit required confined space (PRCS) to non-permit required confined space (NPCS)?
	- **Non-Permit Confined Space?**
	. . . Atmospheric hazards introduced ?
	. . . Potential for introducing adjacent hazards ?
	. . . Mechanical, electrical, or physical safety hazards ?
	- **Space not classified?**
	. . . Will the space be entered for hazard identification?
	4. **Operation of internal combustion engine within a building or enclosed space?** (Not Underground)
	5. **Prepping surfaces, painting, or finishing?**
	- **Preparing surfaces?**
	. . . Abrasive blasting?
	. . . Bead blasting?

	- **Spray painting?**
	- **Flammable or combustible materials?**
	- **Solvent-based paints?**
	- **New paints/products being used?**
	6. Lead or lead-containing materials? This includes work with lead paint, lead shielding, melting and pouring of lead, lead soldering, and any other activity involving lead or lead containing materials
	7. Significant noise sources?
	8. Airborne dusts/particulates ?
	9. Thermal stress (heat or cold stress/hypothermia)?
	- **Heat stress?**
	. . . Radiant heat?
	- **Special-high heat stress situations?**
	- **Cold stress/hypothermia?**
	10. Gas cylinders (bottles) used or affected by the work?
	11. Hot work (Welding, torch cutting, grinding, burning, braising) ? Activity involves elec arc, oxy-fuel gas welding/cutting operations, heavy grinding, brazing, light grinding, tig-welding, or similar activities?
	- **Grinding Activities ?**
	. . . On Uncoated Steel ?
	. . . On Coated Steel or Concrete ?
	. . . On Other (Specify in Comments)
	- **Arc Welding on Carbon Steel?**
	12. Heavy, frequent or awkward lifting?
	13. Ergonomic hazards?
	- **Awkward posture?**
	- **Highly repetitive motion?**
	- **Moderate to high hand-arm vibration?**
	14. Poor Illumination?
	15. Construction, structure modification, or additions?
	- **Installation of new floor coverings?**
	- **Glues and/or adhesives?**
	- **Modifications affecting fire protection features?**

	- Concrete and masonry construction?
	. . . Forms and shoring?
	. . . Concrete pumps?
	. . . Use of a loading skip with a concrete mixer one cubic yard or greater?
	. . . Conveyor/pug mills/concrete batch plants?
	. . . Use of a pneumatic hose? NOTE: IF YES, THEN SEE THE SECTION ON PNEUMATIC TOOLS
	. . . Installing pre-cast concrete?
	. . . Masonry wall construction?
	- Steel erection?
	16. Demolition work?
	- Structure damaged by fire, flood, explosion, or other cause?
	- Hazardous chemicals, gases, explosives, or flammable materials?
	- Multistory structure?
	- Stairs or passageways?
	- Chutes?
	. . . Chute steeper than 45 degrees?
	- Removal of materials through floor openings?
	- Removal of walls, masonry sections, or chimneys?
	- Manual removal of floors?
	- Mechanical demolition?
	- Removal of walls, floors, and material with equipment?
	17. Chemicals/chemical products?
	- Chemicals/chemical products used?
	. . . Explosive-or shock-sensitive chemicals used
	. . . Flammable chemicals used?
	. . . Combustible chemicals used?
	- New chemicals/chemical products?
	- Potential release of gas/vapor?
	18. Aerial lifts/ elevating work platforms?
	- Work on or near electrical conductors?
	- Lift used within 20 feet of high voltage conductor?

	- Will lift/platform be use while in motion?
	- Vehicle mounted platform?
	- Uneven Ground?
	19. Portable ladder?
	- Exposure to elevation of 6 feet or greater?
	- Step ladder used?
	- Straight ladder used?
	- Extension ladder used?
	- Rolling ladder used (stairs)?
	20. Falls from elevation?
	- Personal fall arrest (or restraint) system used?
	- Standard fall protection is NOT feasible?
	21. Slip or trip hazards?
	22. Hazards from falling objects?
	23. Roof work/access?
	- Working within 6 feet of the edge of a flat roof?
	- Roof/structure properly maintained?
	- Roof/structure not maintained?
	24. Hoisting, rigging, or cranes?
	- Mobile crane?
	. . . Boom assembly or dismantling?
	. . . Work near electrical power or communication lines?
	- Overhead or gantry crane?
	. . . Remote operation?
	- Material hoists or monorail cranes?
	- Critical lift?
	- Rigging with lifting eyes or swivel hoist rings?
	25. Use of forklift?
	- Critical lift?
	- Moving explosive or flammable materials?
	- Work near electrical power lines or other overhead obstructions?
	26. Use of motor vehicles?

	- 50-150 Volts?
	. . . Circuit breaker or fused switch operation, door/covers closed?
	. . . Circuit breaker or fused switch operation, door/covers open?
	. . . Verifying absence of power, energized work, < 1.2 cal/sq. cm ?
	. . . Verifying absence of power, > 1.2 cal/sq. cm ?
	. . . Remove bolted covers, < 1.2 cal/sq.cm ?
	. . . Trouble shooting miner?
	- 151-600 Volts?
	. . . Work on energized parts, < 1.2 cal/sq. cm ?
	. . . Work on energized parts, > 1.2 cal/sq. cm ?
	. . . Work on energized parts, > 5 cal/sq. cm, ≤ 8 cal/sq. cm?
	. . . Circuit breaker or fused switch operation, door / covers closed?
	. . . Circuit breaker or fused switch operation, door / covers open?
	. . . Insert or remove power circuit breakers?
	. . . Insert or remove low voltage starter buckets?
	. . . Phasing?
	. . . Moving Insulated Energized Mining Cable *(151 - 600 Volts)*?
	. . . Racking breaker to connect/disconnect position?
	. . . Remove bolted covers, < 1.2 cal/sq. cm *(151-600 Volts)?*
	. . . Remove bolted covers, ≥ 1.2 cal/sq. cm ?
	. . . Verifying absence of power, < 1.2 cal/sq. cm?
	. . . Verifying absence of power, ≥ 1.2 cal/sq. cm, ≤ 5 cal/sq. cm?
	. . . Verifying absence of power, > 5 cal/sq. cm, ≤ 8 cal/sq. cm?
	- 601-15,000 Volts?
	. . . CB, fused switch, LIS operation, doors/covers closed?
	. . . CB, fused switch, LIS operation, doors/covers open?
	. . . Verifying absence of power ?
	. . . Insert/Remove Power Circuit Breakers?
	. . . Insert / Remove Low Voltage Starter Buckets?
	. . . Phasing *(601 - 15,000 Volts)* ?
	. . . Moving Insulated Energized Mining Cable?
	. . . Racking breaker to connect/disconnect position *(601 - 15,000 Volts) ?*

	- Use of vehicle off road?
	- Use of vehicles underground?
	- Light utility vehicles used (e.g., golf carts, and gators, etc.)?
	- Pinch point or 'running-under' obstacle?
	27. Heavy equipment operation?
	- Hauling material over public roads?
	- Overhead and other obstructions?
	- Work near possible flying debris?
	28. Transport equipment, hauling, or loading/off loading?
	- Transportation and receipt of hazardous materials?
	- Service of multi-piece and single piece rim wheels?
	- Powered mobile equipment operated off-highway?
	- Towing or pulling loads?
	29. Stored Energy?
	30. Electrical shock hazards ?
	31. Electrical Maintenance Work?
	- Battery – Gel Sealed?
	. . . Verifying absence of voltage?
	. . . Replacing the battery?
	. . . Cleaning / brushing terminals?
	. . . Removing the battery leads?
	. . . Applying torque to the bolts?
	. . . Taking voltage readings ?
	- Battery – Lead Acid?
	. . . Verifying absence of power?
	. . . Adding water?
	. . . Replacing battery?
	. . . Cleaning/brushing terminals?
	. . . Taking voltage readings?
	. . . Testing specific gravity?
	. . . Removing battery leads?
	. . . Applying torque to bolts?

	. . . Remove bolted covers?
	. . . Work on energized parts, >1.2 cal/sq. cm, ≤ 8 cal/sq. cm?
	. . . Installing grounding clusters?
	. . . Trouble shoot miner, <1.2 cal/sq. cm?
	32. Fiber Optic Installation or Maintenance?
	33. Use of Laser?
	34. Portable hand-held tools used?
	- Powered tools?
	. . . Compressed air? (Including pneumatic tool)?
	- Hand tools?
	. . . Power drill?
	35. Rotating/Articulating machinery?
	36. Machine guarding issues?
	37. Pinch Point
	38. Blind penetration of walls, floors, ceilings, roofs, other surfaces?
	- Penetrates a fire/smoke barrier?
	- Rebar cut during penetration?
	- Potential contact with energized electrical circuit, including heat trace?
	39. Waste generation?
	- Combustible/flammable waste?
	- Dangerous waste/hazardous waste?
	- Other waste?
	- Waste minimization technique?
	40. Hazardous waste activity?
	- Combustible waste forms?
	- Hazardous waste activity at TSD?
	- Hazardous waste characterization, cleanup, or disturbance?
	41. Radiation Hazard?
	42. Excavation?
	43. Working outside?
	- Working over or near water?
	- Desert Animals?

	- **Potential severe weather?**
	- **High wind exposure?**
	- **Lightning?**
	44. Working alone ?
	45. Multiple discipline? (Work requiring more than one crew)?
	46. Adjacent hazardous activities?
	47. Changing conditions?
	48. Ground control hazards?
	49. Mine ventilation?
	50. Sharp objects? Workers will be handling sharp objects such as knives, awls, screwdrivers, razors, shards or objects with sharp edges such as metal flashing, opened cans, or damaged metal surfaces.
	51. Rented or Sub-contractor Equipment?
	52. Biohazards?
	53. User Added Hazards (1)
	54. User Added Hazards (2)
	55. User Added Hazards (3)
	56. User Added Hazards (4)
	57. User Added Hazards (5)
	58. User Added Hazards (6)

	59. User Added Hazards (7)
	60. User Added Hazards (8)
	61. User Added Hazards (9)
	62. User Added Hazards (10)

Comments:

Comments:

Comments:

Walk Down Participants			
Print Name	**Signature**	**Craft/Organization**	**Date**
JILL FARNSWORTH	Jill Farnsworth	ME	8-1-11
DAN CALDERON	Dan Calderon	MPS/Welder	8/1/11
RONNIE CROCKETT	Ronnie Crockett	U/G Safety / Wrks	8/1/11

Task Lead		
Print Name	**Signature**	**Date**
KATHY LITTLETON per tele for FARNSWORTH	Kathy Littleton	12-1-11

RECORDS