

SUBSTITUTION REQUEST (After the Bidding/Negotiating Phase)

Project:	Substitution Request Number:
	From:
To:	Date:
	A/E Project Number:
Re:	
Specification Title:	Description:
Section: Page:	Article/Paragraph:
Proposed Substitution:	
Manufacturer:	Phone:
Address:	
Trade Name:	Model No.:
Installer:	Phone:
Address:	
Differences between proposed substitution and specified produce Point-by-point comparative data attached — REQUIRED BY	
Reason for not providing specified item:	
Similar Installation:	
Project: Arcl	chitect:
Address: Own	ner:
Date	e Installed:
	Yes; explain
Proposed substitution affects other parts of Work: No [
	(\$

SUBSTITUTION REQUEST

(After the Bidding/Negotiating Phase — Continued)

The Undersigned certifies:

- Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
- Same warranty will be furnished for proposed substitution as for specified product.
- Same maintenance service and source of replacement parts, as applicable, is available.
- Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule.
- Cost data as stated above is complete. Claims for additional costs related to accepted substitution which may subsequently become
 apparent are to be waived.
- Proposed substitution does not affect dimensions and functional clearances.
- Payment will be made for changes to building design, including A/E design, detailing, and construction costs caused by the substitution.

Signed by:					
Firm:					
Address:					
Telephone:					
Attachments:					
A/E's REVIEW AND ACT	TION				
Substitution approved - Substitution approved a Substitution rejected - U Substitution Request re	s noted - Make submi Jse specified materials	ttals in accordance with S s.			ocedures.
Signed by:				Date:	
Additional Comments: Other:	☐ Contractor	Subcontractor	Supplier	Manufacturer	A/E

AR-Series (Lube Adhesive)



Description

This product is an extruded, elastomeric seal that will seal an expansion or contraction joint opening from the intrusion of water and debris.

The cross-section has an arrangement of internal webs precisely located to exert continuous and uniform horizontal forces against the joint walls. It is designed for constant compression throughout the range of joint movement.

The seal is made of neoprene material that can be easily heat-spliced, making for seamless transitions from one piece of material to another of the same.

LEED Credits - One (1) LEED credit depending on the location of the project

Physical Properties

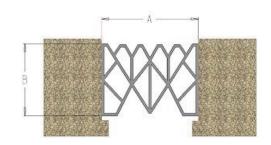
The system consists of two items: a compression seal and a lubricant-adhesive.

The compression seal is available in several designs of varying graduated widths. It is made of neoprene material, available in the color black. Table 1 shows the physical properties for these seals.

The lubricant-adhesive is a single-part, moisture-curing polyurethane and aromatic hydrocarbon solvent mixture. It conforms to properties presented in ASTM D4070 and shown in Table 2.

TABLE 1 – Physical Properties of EPDM-Based Thermo-Rubber Seal Element				
Property ASTM Test Method Requirement				
Tensile strength, min.	D412	1000 psi		
Elongation at break, min.	D412	410%		
Hardness, Type A duromete	er D2240 (modified)	67A		
Compression set	D395 (Method B)			
168h @ 77°F		24%		
168h @ 212°F		36%		
Tear strength	D624	140 lb/in		
Tension set	D412	10%		
100% modulus	D412	420 psi		
Specific gravity	D792	0.97		
Brittle point	D746	<-81°F		
•				

TABLE 2 – Physical Properties of Lubricant-Adhesive			
Property	Test Method Secti	on Requirement	
Solids Content, min %	10.1	60	
Homogeneity		Shall be uniform, no lumps	
		Or agglomerates, no	
		settlement in container	
Shear Ratio at:			
Min:			
At 20,000 to 100,000	cP	1.5	
At 100,001 to 200,000) cP	2.0	
At 200,001 to 300,000) cP	2.5	
Max		4.0	
Lubricating life, min. h	10.3	2	
Sag	10.4	No sagging	
Peel strength test	10.5	Max. Length peeled from	
		Concrete within 3 min.	
500-g load		None	
1000-g load		12mm (1/2 in.)	
Shelf life	11.1 Fo	or 6 months after Manufacturer	



PRODUCT	MIN. WIDTH IN (MM)	MID-RANGE IN (MM)	MAX. WIDTH IN (MM)	TOTAL MOVEMENT IN (MM)	DIM. A: IN (MM)	DIM. B: IN (MM)
AR-200	1.00" (25.4)	1.50" (38.1)	2.00" (50.8)	1.00" (25.4)	2.00"(50.8)	1.75" (44.4)
AR-225	1.13" (28.7)	1.69" (42.9)	2.25" (57.2)	1.13" (28.7)	2.25" (57.2)	1.75" (44.4)
AR-250	1.38" (35.1)	2.00" (49.3)	2.50" (63.5)	1.13" (28.7)	2.50" (63.5)	2.25" (57.2)
AR-300	1.75" (44.4)	2.38" (60.5)	3.00" (76.2)	1.25" (31.8)	3.00" (76.2)	2.25" (57.2)
AR-400	2.13" (54.1)	3.00" (78.0)	4.00" (101.6)	1.87" (47.5)	4.00" (101.6)	3.00" (76.2)
AR-500	2.25" (57.2)	3.63" (92.2)	5.00" (127.0)	2.75" (69.9)	5.00" (127.0)	3.50" (88.9)
AR-600	2.13" (54.1)	4.00" (103.4)	6.00" (152.4)	3.87" (98.3)	6.00" (152.4)	4.25" (107.9)



AR-Series

INSTALLATION INSTRUCTIONS

Recommended Tools

- Electric grinder
- Soft wire wheel– 4" or 6" diameter
- Hand wire brushes
- Clean cloth rags
- Duct tape
- 8" sharp knife– hack saw
- Miter box
- Putty knives & paint brushes (disposable)

Pre-Installation Inspection

- 1. Prior to installation of the expansion joint profile, the installer will visit the site and notify the proper authority in writing of any conditions (done under other sections) that might be detrimental to the installation or performance of the expansion joint. Coordinate the installation with related work. Detrimental conditions are determined to be:
 - a) Irregularities in joint opening width exceeding 1/4"
 - b) Unsound concrete, joint opening side walls, and/ or substrate
 - c) Moisture, oil, or other contaminates
 - d) Migrating cracks to the edge of the joint opening
 - e) Construction joints intersecting perpendicular to the joint opening

Material Preparation

Preparation of Surfaces of Block-Out Recess in Deck:

1. All surfaces to receive the compression seal profile should be dry, clean, and sound concrete free of loose, cracked, delaminated, and spalled sections. Repair any sections that do not meet these criteria. The surfaces to receive the profile shall be sandblasted to exposed aggregate. Sandblasting will increase the surface area and enhance the bond capacity of the adhesive. The sandblast process will also remove all laitance and other bond- inhibiting contaminants.

Preparation of Joint Interfaces:

- 1. Form or saw cut the groove/joint opening into the concrete to the recommended depth. Assure that the interfaces, whether concrete or steel, run parallel to each other for the length of the run. Walls should be plumb to the top surface of the concrete and should be spaced at a consistent width across the joint. Unsound concrete must be removed and repaired.
- 2. Clean dirt, stones, and standing water from the joint opening. Use a stiff bristled brush and compressed air to remove all dust. Sandblast the vertical walls of the groove to remove laitance and contaminants and increase bond area for the adhesive.



Material Installation

- 1. Immediately prior to installation, the interface walls should be blown out again.
- 2. Uncoil the seal and allow it to relax. Clean the seal with clean rags and alcohol.
- 3. Apply the lube/adhesive to the side of the seal and to the walls of the joint opening.
- 4. Insert the profile in the gap to the proper depth. Excess adhesive above the ribbed area must be removed with a trowel or putty knife. Clean any excess drips or smeared lube/adhesive from the top of the seal. Remove any excess adhesive using organic solvents and a clean cloth rag.
- 5. Allow the lube/adhesive to cure twenty-four hours (at temperature 70 degrees F). Maximum bond strength (at room temperature) is usually achieved within forty-eight hours.



Field Quality Control

- 1. Work that does not conform to the specified requirements must be corrected and/or replaced as directed by the manufacturer and/or engineer.
- 2. Manufacturer/installer shall supply guaranty/warranty to the owner authority, as required.



SPECIFICATION

Division 07900

AR-Series Neoprene Sealing System

PART 1 - GENERAL

1.01 Summary

A. Section Includes: Furnishing of all materials, labor and equipment necessary for the surface preparation and the installation of the sealed expansion joints in accordance with the details shown on the plans and these specifications. The design is arranged to flex in response to joint movement and to seal against the intrusion of deck drainage.

B. Related Sections:

- 1. Section 03300 Cast-in-place concrete
- 2. Section 07900 Waterproofing, including sealants and coatings

1.02 References

- A. American Society for Testing and Materials (ASTM):
 - 1. ASTM D412
 - 2. ASTM D471
 - 3. ASTM D573
 - 4. ASTM D1149
 - 5. ASTM D3542

1.03 Quality Assurance

- A. Application Qualifications: The manufacturer of the expansion joint seal will provide a technically qualified representative who will train the installer on the proper techniques for installing the seal. Each installation will be registered and approved by the manufacturer.
- B. For the purpose of designating type and quality for work of this section, drawings and specifications are based on products manufactured or furnished by the manufacturer listed in Part 2 of this section. No other products will be considered for use.
- C. Execute work of this section by skilled, trained applicators conforming to installation methods and procedures in accordance with the manufacturer's printed instructions. The applicator must be licensed by the manufacturer or approved by him. In the latter case, the manufacturer's technical representative must be present for the installation of three (3) joint lengths equaling no less than 100 LF of joint.
- D. Do not proceed with the work until surfaces to receive the expansion joints have been inspected by the engineer and approved by the manufacturer. Correct any deficiencies in the surfaces to receive the expansion joints, as recommended by the manufacturer and engineer.

- E. Do not proceed with the work when temperatures are below 40° F or expected to fall below 40° F. Do not proceed with the work when temperatures are above 90° F, unless approved in writing by the manufacturer.
- F. Manufacturer will have a minimum of five (5) years experience specializing in expansion joint systems for similar applications.

1.04 Submittals

- A. Submit in accordance with this Specification, unless otherwise indicated.
- B. Product Data: Manufacturer's specifications and technical data including the following:
 - 1. Manufacturer's installation instructions, specially written for this project
 - 2. Certified test reports indicating compliance with performance requirements specified herein
- C. Shop Drawings: Indicate dimensioning, membrane size, model number, general construction, specific modifications, installation procedures.
 - 1. Temperature/Adjustment Table, indicating joint width at various temperatures
 - 2. Dimensions based on anticipated movement for the joint location, as supplied by the engineer
- D. Quality Control Submittals:
 - 1. Statement of Qualifications
 - 2. Design Data
 - 3. Test Reports
- E. Contract Close-out Submittals: In accordance with this Specification, submit:
 - 1. Operating and Maintenance Manuals
 - 2. Special Warranties

1.05 Delivery, Storage and Handling

- A. Packing and Shipping: Deliver products in original unopened packaging with labels and seals unbroken.
- B. Storage and Protection: Store materials in accordance with manufacturer's recommendations in area protected from weather, moisture, open flame and sparks. Adhesive must be stored at temperatures between 40°F and 90°F.

1.06 Warranty

A. Warranty will state that the material and installation of the joint system complies with requirements of the contract documents and the manufacturer's printed instructions for installing the expansion joints.

- B. Warranty will state the responsibility of the installer/manufacturer to stand behind the installed system for the warranty period indicated and for the conditions listed below:
 - 1. Leakage of the parking deck system.
 - 2. Abrasion and wear of the materials resulting from normal traffic loading

PART 2 - PRODUCTS

2.01 Manufacturers

- A. AR- Series Neoprene Compression Seal System with Lubricant/adhesive components will be designated as the following:
 - 1. AR-Series seal profiles as supplied by EMS, Inc., 13311 Main Road, Akron, NY 14001 Phone: (716) 542-3991 Fax: (716) 542-3996
 - 2. Polyurethane, Lubricant/adhesive as supplied by EMS, Inc., 13311 Main Road, NY 14001 Phone: (716) 542-3991 Fax: (716) 542-3996

2.02 Components and Materials

- A. Compression Seal Profile: The extruded profile will be made from polychloroprene (neoprene). The material will have a minimum 2,000-psi tensile strength requirement and 250% elongation at break. [See manufacturer's data sheet entitled "AR Series Seals" for more information.] The profile will be structured so that its cross-section features a multi-celled, web design that exerts a constant pressure on the joint wall interfaces.
- B. Polyurethane Adhesive: The adhesive is a one part polyurethane material. It is 100% reactive and will develop a strong bond in approximately eight to ten hours at room temperature. A full cure will develop within twenty-four hours at 70° F.

PART 3 - EXECUTION

3.01 Inspection

A. Prior to installation of the expansion joint profile, the installer will visit the site and notify the proper authority in writing of any conditions (done under other sections) that might be detrimental to the installation or performance of the expansion joint. Coordinate the installation with related work.

3.02 Preparation of Surfaces of Joint Opening in Deck

A. All surfaces to receive the AR-series compression seal profile will be dry, clean, and sound concrete free of loose, cracked, delaminated, and spalled sections. Repair any sections that do not meet these criteria. The surfaces to receive the AR-series profile will be sandblasted to exposed aggregate. Sandblasting increases surface area to increase bond capacity of the lube/adhesive and removes all laitance and other bond-inhibiting contaminants.

3.03 Preparation of Joint Interfaces

- A. Form or saw cut the groove/joint opening into the concrete to the recommended depth shown. Assure that the interfaces, whether concrete or steel, run parallel to each other for the length of the run. Walls should be plumb to the top surface of the concrete and should be spaced at a consistent width across the joint. Unsound concrete must be removed and repaired.
- B. Clean dirt, stones and standing water from the joint opening. Use a stiff bristled brush and compressed air to remove all dust. Sandblast the vertical walls of the groove to remove laitance and contaminants, and increase bond area for the adhesive.

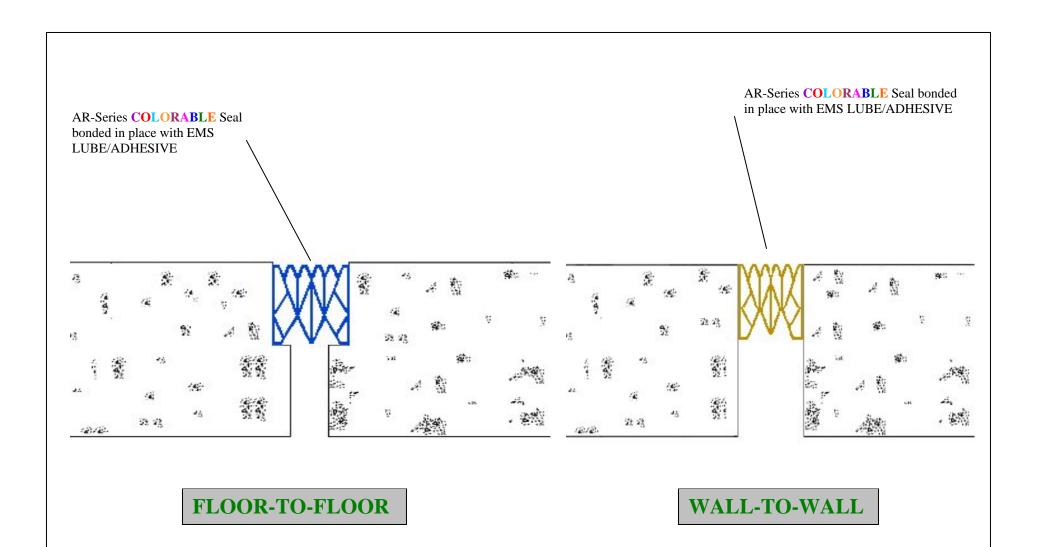
3.04 Installation of the Compression Seal

- A. Immediately prior to installation, the interface walls should be blown out again.
- B. Uncoil the seal and allow it to relax.
- C. Apply the lube/adhesive to the joint interfaces and onto the sides of the profile using a 2" trowel.
- D. Insert the profile in the gap to the proper depth. A small amount of excess lube/adhesive should be visible above the ribbed area. Remove any additional adhesive using organic solvents.
- E. Allow the lube/adhesive to cure eight to ten hours (at room temperature). Maximum bond strength (at room temperature) is usually achieved within twenty-four hours.

3.05 Field Quality Control

- A. Work that does not conform to the specified requirements will be corrected and/or replaced as directed by the manufacturer and engineer.
- B. Manufacturer/installer will supply guaranty/warranty to the owner authority, as required.

END OF SECTION



NO.	Description	Date	Ву

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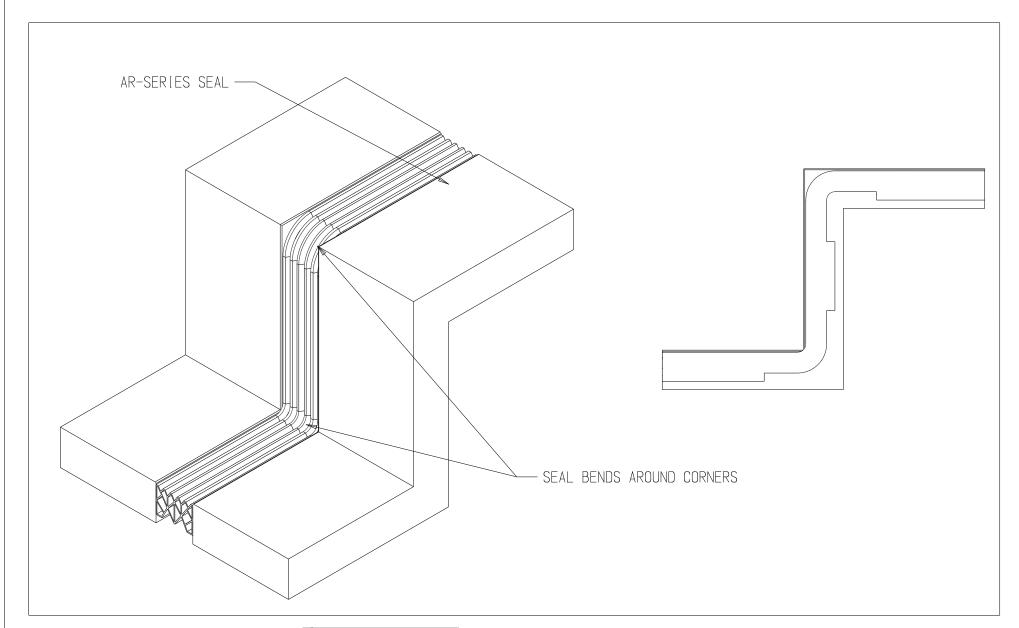


13311 Main Road • Akron • New York • 14001 Phone: (716) 542-3991 • Fax: (716) 542-3996 • E-mail: sales@eriemetal.com

PROJECT:

TITLE: AR-Series **COLORABLE** Joint Seals

Detailed by: AWG	Date: 10/9/00
Checked By: LJB	Date: 10/21/00
Scale: NTS	EMS Job #:
Sheet No.: 1 of 1	Drawing No.: CD-100-2



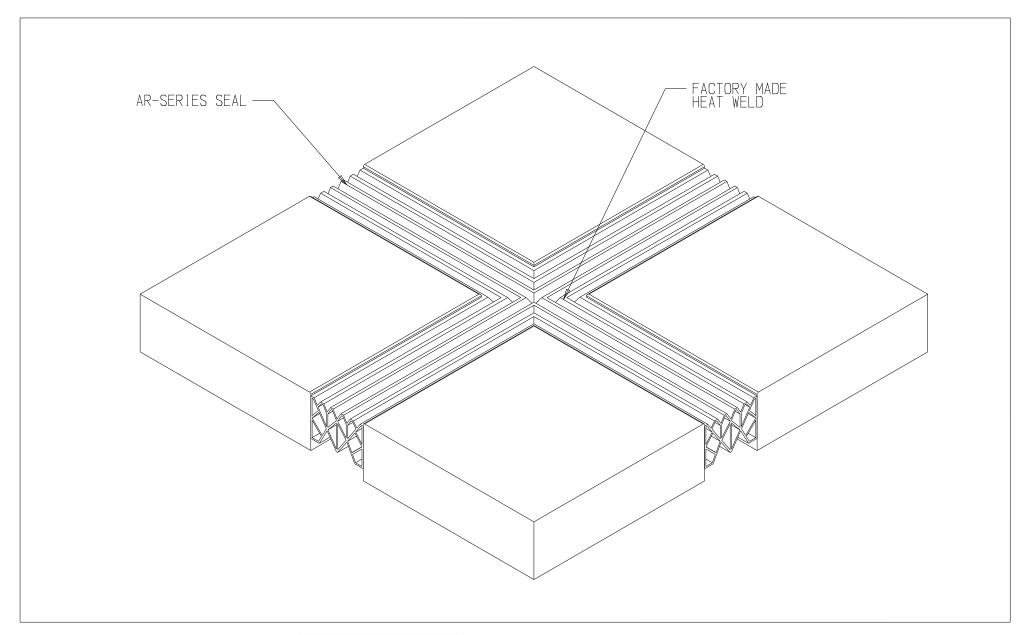


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PROJECT:

TITLE: AR-SERIES -CURB DETAIL

Detailed by:	Date:6-13-07
Checked by:	Date:
Scale: NTS	EMS Job #:
Sheet #:	Drawing #:





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PROJECT:

TITLE: AR-SERIES -CROSS INTERSECTION DETAIL

Detailed by:	Date:6-13-07
Checked by:	Date:
Scale: NTS	EMS Job #:
Sheet #:	Drawing #:



SECTION I – MATERIAL IDENTIFICATION

MATERIAL NAME: LUBE ADHESIVE

MANUFACTURER: Erie Metal Specialties, Inc.

SUPPLIER: Erie Metal Specialties, Inc.

 13311 Main Road
 13311 Main Road

 Akron, NY 14001
 Akron, NY 14001

EMERGENCY PHONE: (716) 542-3991

CHEM-TREC: (800) 424-9300

SECTION II – HAZARDOUS INGREDIENTS

Hazardous Ingredients	CAS Number	<u>WT%</u>	Exposure Limits	
			OSHA (PEL/TWA)	ACVGIH(TLV/TWA)
Xylene	1330.20.7	74.0%	n/a	n/a
Zinc Oxide	1314-13-2	5.0%	n/a	n/a

SECTION III - HAZARDS IDENTIFICATION

Hazard Description: Harmful

Information pertaining to particular damages for man and environment:

Flammable

Harmful by inhalation and in contact with skin

Irritating to skin

Classification System:

The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

HMIS ratings (0-4):

Health 2 Fire 3 Reactivity 0

SECTION IV - FIRST AID MEASURES

General Information: Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident is necessary.

Eye: Immediately flush with plenty of clean water for at least 15 minutes and get immediate medical attention.

Skin: Remove contaminated clothing. Clean affected area(s) thoroughly with soap and water. Consult a doctor if irritation continues.

Inhalant: Remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Seek medical attention.

Ingestion: Transport to a medical facility immediately.

SEEK MEDICAL ATTENTION IF SYMPTOMS PERSIST



MATERIAL NAME: LUBE ADHESIVE

SECTION V - FIRE FIGHTING MEASURES:

Flash Point: 30°C (86°F)

Flammable Limits (% volume in air): Lower =1.1 Vol% Upper: 7.0 Vol%

Auto Ignition Temperature: Product is not self igniting

Ignition Temperature: 500.0°C (932°F)

Danger of Explosion: Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

Extinguishing Media: Extinguish with CO2, sand, extinguishing powder. DO NOT USE WATER.

Fire Fighting Instructions: Closed containers may rupture violently when exposed to heat. Irritating vapors may be released during a spill. Combustion by-products may be hazardous. Do not use water to cool containers. Do not incinerate closed containers. Do not enter confined fire space without full bunker gear including a positive pressure, NIOSH approved, self contained breathing apparatus.

SECTION VI – REACTIVITY DATA:

STABILITY: Stable

<u>DECOMPOSITION PRODUCTS:</u> No decomposition if used according to specifications.

<u>DANGEROUS REACTIONS:</u> Strong oxidizers, acids and bases.

<u>DANGEROUS PRODUCTS OF DECOMPOSITION:</u> Oxides of carbon, nitrogen and hydrocarbons, hydrogen chloride (thermal degradation products).

SECTION VII – TOXICOLOGICAL INFORMATION:

Xylene 1330-20-7:

 Oral
 LD50
 4300 mg/kg (rat)

 Dermal
 LD50
 2000 mg/kg (rabbit)

Primary Irritant Effect:

Skin Irritant to skin and mucous membranes

Eye- Irritating effect

Sensitization Sensitizing effect through inhalation is possible with prolonged exposure

Additional Information- Product shows the following dangers according to internally approved calculation methods for preparations:

- Harmful
- Irritant

Components with limit values that require monitoring at the workplace:

1330-20-7	xylene
PEL	435 mg/m³, 100 ppm
REL	Short-term value: 655 mg/m³, 150 ppm Long-term value: 435 mg/m³, 100 ppm
TLV	Short-term value: 651 mg/m³, 150 ppm Long-term value: 434 mg/m³, 100 ppm BEI
1314-13-22	rinc oxide
PEL	15* 5** 5*** mg/m³ Dust only *total dust **respirable dust ***fume
REL	Short-term value: C 15* 10*** mg/m³ Long-term value: 5 5*** mg/m³ *15-min; dust only ***fume
TLV	Short-term value: 10 R mg/m³ Long-term value: 2 R mg/m³



MATERIAL NAME: LUBE ADHESIVE

SECTION VIII- HANDLING & STORAGE PRECAUTIONS:

HANDLING: Avoid inhalation, skin and eye contact. Practice good personal hygiene. Wash repeatedly with soap and water

during the work day.

VENTILATION: Mechanical and local exhaust should be used for indoor use.

PERSONAL PROTECTION: Wear clean, long-sleeved, body-covering clothing. Use impervious gloves, chemical splash

goggles and full face shield. In the absence of adequate ventilation, NIOSH-certified respiratory protection for organic vapor should be used as necessary. In case of intensive or longer exposure,

use respiratory protective device that is independent of circulating air.

STORAGE: Store containers tightly closed with adequate ventilation in a cool dry area. Treat as flammable and protect against electrostatic charges.

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: tan (greenish) liquid

ODOR: Characteristic

BOILING POINT: 137°C (279°F)

MELTING POINT: n/e

VAPOR PRESSURE @ 20°C or 68°F (mm/HG): 6.7 hPa

VAPOR DENSITY: (Air = 1): n/e

SOLUBILITY IN WATER: not miscible or difficult to mix

SPECIFIC GRAVITY (H20=1): 0.93700

EVAPORATION RATE: (n-Butyl Acetate = 1): n/e

% VOLITILES BY VOLUME: n/e

SOLIDS CONTENT: 26.0%

SOLVENT CONTENT: Organic solvents: 74.0 %

ADDITIONAL INFORMATION: weight per gallon 7.8 lbs

VOC= 693 G/L or 5.77 lbs/gallon 693 G/L SCAQMD RULE 1168 METHOD

SECTION X - ACCIDENTAL RELEASE MEASURES:

SPILL: Remove all sources of ignition (flames, sparks, etc.) Provide adequate ventilation. Avoid prolonged breathing of vapors. Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Dispose of contaminated material as waste in accordance with federal, state, and local regulations. Ensure adequate ventilation. Do not flush with water or aqueous cleansing agents.

<u>DISPOSAL:</u> Dispose of in accordance with all federal, state and local regulations. If uncertain of local requirements, contact the proper environmental authorities for information on waste disposal. May not be disposed of with household garbage.

<u>SECTION XI – PROPER D.O.T. SHIPPING INFORMATION:</u>

Hazard Class: 3

Identification Number: UN1133

Packing Group: II

Proper Shipping Name: Adhesives

SECTION XII – U.S. REGULATORY INFORMATION:

SARA:

- Section 355 (extremely hazardous substances):
 - None of the ingredients are listed
- Section 313 (specific toxic chemical listings):
 - o 1330-20-7 Xylene
- TSCA (Toxic Substances Control Act):
 - All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements.
 13311 Main Road Akron. New York 14001 Phone 716-542-3991 Fax 716-542-3996



MATERIAL NAME: LUBE ADHESIVE

PROPOSISTION 65:

- · Chemicals known to cause cancer:
 - None of the ingredients are listed.
- Chemicals known to cause reproductive toxicity:
 - o None of the ingredients are listed.
- (DSL) Canada Domestic Substance List
 - All components of this product are on the DSL Canada Domestic Substance List) or are exempt from DSL requirements
- Cancerogenity Categories
 - o EPA (Environmental Protection Agency)

Xylene 1330-20-7 D
 Zinc Oxide 1314-13-2 D

- IARC (International Agency for Research and Cancer)
 - Xylene 1330-20-7 3
- NTP (National Toxicology Program)
 - None of the ingredients are listed.
- TLV (Threshold Limit Value Established by ACGIH)
 - Xylene 1330-20-7 A4
- MAK (German Maximum Workplace Concentration)
 - None of the ingredients are listed.
- o NIOSH-Ca (National Institue for Occupational Safety and Health)
 - None of the ingredients are listed.
- OSHA-Ca (Occupational Safety & Health Administration)
 - None of the ingredients are listed.
- o Product Related Hazard Information:
 - The product has been classified and marked in accordance with directives on hazardous materials.
- Hazard-determining Components of Labeling:
 - Xylene
- Risk Phases:
 - Flammable
 - Harmful by inhalation and in contact with skin
 - Irritating to skin
- National Regulations:
 - Water Hazard Class
 - Class 2 (self assessment): hazardous for water; Do not allow product to reach ground water, water course, or sewage system. Danger to drinking water if even in small quantities leak into the ground.

SECTION XIII – U.S. REGULATORY INFORMATION:

This MSDS complies with 20 CRF 1910.1200 (THWE HAZARD COMMUNICATION STANDARD). Although the information and recommendations set forth herein (hereinafter "information") are presented in good faith and believed to be correct as of the date hereof, Erie Metal Specialties, Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will Erie Metal Specialties, Inc. be responsible for damages of any nature whatsoever resulting from the use of, misuse or reliance upon information. No representations or warranties, either expressed or implied, or merchantability, fitness for a particular purpose or any other nature are made hereunder with respect to information or the product to which information refers. Regulatory requirements are subject to change and may differ from one location to another. It is the buyer's responsibility to ensure its activities comply with Federal, State or Provincial, and local laws and regulations.

ISSUE DATE:......01/05/09 SUPERCEDES:.......10/09/08

PREPARED BY: Erie Metal Specialties, Inc.

13311 Main Road Akron, NY 14001