CON-E-CO
MIXER LINER REPLACEMENT

SAFETY AND INSTALLATION INSTRUCTIONS

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ITW Irathane Systems
An Illinois Tool Works Company
engineered solutions to abrasion and corrosion problems

Safety Considerations For Attaching Liners With Weld Washers...

The following points should be considered when attaching liners with weld washers. As with any welding operation, there are specific OSHA regulations governing this procedure. These regulations, which are lised in OSHA 29 CFR 1910 251-257, cover fire watch requirements, personal protective equipment, and ventilation etc. and should be read and understood before welding procedures begin.

In addition to the OSHA regulations on welding, however, there are other specific safety issues to consider when welding in close proximity to polyurethane coatings. A potential occurrence is localized ignition and subsequent combustion of coating from welding sparks and head build-up. In addition to smoke, this combustion will typically result in the following hazardous decomposition products: Carbon Monoxide, Carbon Dioxide, Oxides of Nitrogen, and potentially, traces of Hydrogen Cyanide. In order to control these contaminants below permissible exposure limits outlined by OSHA in 29 CFR 1910.1000, local exhause ventilation, fans, or appropriate respiratory protection should be used. Furthermore, it is recommended that for arc welding, the weld size should be limited and the amperage lowered to minimize the heat build-up and associated hazardous decomposition. In addition, if the welding is carried out in a confined space, then the various requirements of the OSHA Confined Space Standard (29 CFR 1910.146) must be met.

If the potential hazards outlined above are given due consideration, and planned for accordingly, then the procedure of welding in close proximity to polyurethane coatings can be carried out safely.

If you require further information, please contact your Irathane Systems Technical Representative.

SAFETY PRECAUTIONS

When involved in the Moving, Set-Up, Operation, or Maintenance of construction equipment such as that manufactured by the Concrete Equipment Company, Inc., the safety of all individuals in the vicinity of the equipment, whether operating personnel or others, should be of primary consideration.

1. MOVING
   No vehicle should be utilized in moving construction equipment that is not equipped with the tractive or braking power to handle the load being hauled or towed. Brake lights and turn signals must be installed and in proper working order.

2. SET-UP
   Only qualified riggers should be entrusted with the jacking up or hoisting of construction equipment. Hoisting equipment must be adequate with reasonable safety margins to safely raise the equipment without danger of damage to equipment or injury to personnel in the vicinity. Hoisting equipment must be properly supported to prevent settlement, slippage, or overturning of any element involved.

Foundations, either temporary or permanent must be properly designed and installed to adequately support their intended loads. Concrete foundations must be properly designed, placed and cured prior to placing of equipment.

Connection of electrical power to main service panel should be done only by a qualified electrician. The electrician should be instructed to observe the precautions printed on the warning decal inside the main service panel. Warranty on the plant electrical and electronic equipment is voided if the incoming electrical power is not properly connected. The ground rod to ensure proper operation of electronic equipment and to reduce the hazard of electrical shock to plant personnel.

3. OPERATION AND MAINTENANCE

- Proper clothing while on the job is important. Wear safety shoes to protect your toes from falling objects. Do not wear hanging clothes or neckties on the job. This type of clothing can get caught in moving parts of the equipment and generally hinders work. Wear gloves whenever possible. The wearing of hard hats and safety glasses or goggles is required by most safety-conscious organizations.

- Mark all inflammable materials such as oils, greases, and gasoline. Store these materials in an incombustible building situated away from the operating plant. NO SMOKING while handling flammable material.

- Only qualified electricians should handle any kind of work on electrical equipment. Avoid touching any loose or misplaced electrical wire. Consider them all dangerous.

Mixer Safety

This mixer is a powerful, capable machine. It is safe when supervised and operated properly.

Management is responsible for thorough Supervisor and Operator safety training. This is not a place to take shortcuts.

The Occupational Safety and Health Administration (OSHA) places responsibility for employee safety on employers. This responsibility covers lockouts, Material Safety Data Sheets (MSDS), work in confined spaces, and possibly other items.

The warning decals on the machine are designed to alert the operator or maintenance personnel to hazards around the machine. These warnings must be heeded. Supervisors are responsible for insuring the decals remain in place and legible. Refer to the following page for specific decals and locations. Additional decals are available from CON-E-CO.

A positive lockout procedure must be implemented. During any inspection or maintenance operations, the main panel must be locked out, with positive means of preventing accidental starting.

LINER REPLACEMENT PROCEDURE

THIS IS THE RECOMMENDED REPLACEMENT PROCEDURE
FOR CON-E-CO MIXER DRUM AND BLADE LINERS

* Consult MSDS sheet and implement all appropriate safety measures (confined spaces, lock-out/tag-out, etc) to ensure the safety of the personnel changing the liners
* Identify all liners that are worn out or damaged to the point that they need to be replaced .
*Remove snap-in plugs from effected liners with a large screwdriver.
* Using a 1" hole saw cut the weld washer loose from the attachment weld

Once you have a portion of the liner loose, it may be desirable to use a come-along or similar device to pull the liner away from the steel while using an air chisel on the underside of the liner to break the welds.

* Thoroughly grind the surface of the blades and/or drum so as to remove any old liner welds and create a smooth surface to attach the new liners to.
* Position the new liner in place making sure that it is as tight as possible to the blade and/or drum surface.
* Begin plug welding the steel insert (weld washer) to the blade and/or drum surface using as quick and cool of a welding process as possible. (MIG/wire feed welding is the preferred method and offers the best results)
* Immediately cool the weld area with compressed air to reduce the possibility of heat degradation of the urethane adjacent to the weld area.
* When attaching the new liners start at one end and work to the other end of the liner. Do not skip around to different areas of the same liner.
* Finally, install the urethane snap-in plugs using a large dead-blow mallet.

- Do not enter any bin or hopper containing aggregate or bulk cement while filling or batching operations are in progress. Sudden draw-down of materials during batching operations can cause entanglement of personnel or clothing in the discharge mechanism.

- Face mask respirators must be worn by personnel entering bulk cement storage bins, particularly while aeration equipment is in operation.

- Periodically check foundations for signs of failure or shifting that could allow structure to fall.

- Make sure handrails and walkways are in good repair and clear of tools, spare parts and obstructions.

- Do not drop material or tools from walkways or ladders without being positive that no one is below.

- All protective guards for moving belts, pulleys, shafts, etc. should be replaced after adjustment or maintenance of equipment.

- Proper oil levels must be maintained in gear boxes, low pressure blower, and air compressor. Warranty is voided on any item which is not properly lubricated.

- Never adjust or lubricate equipment while it is operating. Before adjusting or lubricating, throw main circuit breaker OFF and lock service panel to insure against accidental start-up of any part of the machine.

- Always look around equipment before starting to make sure no one is near moving parts.

- Stand clear of hauling equipment that is dumping material into hoppers.

- Keep spilled or loose material cleaned up around plant.

- The main electrical service panel and control panel should both be padlocked to prevent tampering by unauthorized personnel and to prevent injury due to electrical shock.

Material Safety Data Sheet
(M.S.D.S.)

Irathane 3040

ITW Irathane Systems, 4045 Sinton Rd., Colorado Springs, CO 80907
Emergency Telephone No.: (800) 424-9300 (CHEMTREC)
Other Information calls: (719) 636-5286

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM RATINGS: HEALTH: 1*
FLAMMABILITY: 1
REACTIVITY: 0

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SECTION 1. PRODUCT IDENTITY

TRADENAME: IRATHANE 3040
CHEMICAL FAMILY: Polyurethane Elastomer

SECTION 2. HAZARDOUS INGREDIENTS

INGREDIENT	WEIGHT PCT.	CAS NO.	TLV-TWA1,2,3	NOTE

Under the definition of "article", this product does not fall within the scope of Code of Federal Regulations Title 29, 1910.1200 for hazardous materials.

1. "TLV" means the Threshold Limit Value exposure (8-hour time-weighted average, unless otherwise noted) established by ACGIH, the American Conference of Governmental Industrial Hygienists.
   "OSHA PEL" refers to the permissible exposure limits for airborne contaminants as specified in 29 CFR 1900.1000.
2. "n/e" Indicates that neither TLV nor OSHA Permissible Exposure Limit has been established.

NOTES: A1–human carcinogen., A2-suspect carcinogen. C–ceiling limit (not a TWA). D–the TLV applies to dusts; this ingredient is not a dust as sold in our product. S–absorption through skin may be a significant route of exposure. "TC" indicates a "Toxic Chemical" subject to the reporting requirements of SARA Section 303 (40 CFR Sec. 372).

SECTION 3. PHYSICAL PROPERTIES

BOILING POINT (F): n/d
MELTING POINT (F): n/d
PERCENT SOLIDS BY WEIGHT: 100
PH (5% by weight in water): 7.0
VAPOR DENSITY (Air=1): n/d
SPECIFIC GRAVITY: 1.19
APPEARANCE & ODOR:
EVAPORATION RATE (BuAc=1): n/d
SOLUBILITY IN WATER: n/d
VAPOR PRESSURE (mmHg): n/d

VOLATILE ORGANIC COMPOUNDS (VOC): 0 lbs/gal (EPA Reference Method 24) Note: *N/d = not determined.

SECTION 4. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: >360°F, METHOD: TCC EXPLOSIVE LIMITS IN AIR: Lower - n/d Upper - n/d
EXTINGUISHING MEDIA: WATER CO2 -Yes DRY CHEMICAL -Yes FOAM-Yes ALCOHOL FOAM

SPECIAL FIREFIGHTING PROCEDURES: Firefighters should wear self-contained breathing apparatus and protective clothing.
UNUSUAL FIRE AND EXPLOSION HAZARDS: During a fire, irritating and/or toxic gases or mists may be present as a result of thermal decomposition or combustion.