

Polyurethane Liner Kits: Proper Care and Maintenance

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Over the past decade, concrete industry producers have adopted polyurethane liners for central mix drums. In fact, most Original Equipment Manufacturers now offer polyurethane liner kits as a standard option. Years of field research, performance testing and product evaluation have proven that polyurethane liners offer the best protection against the harsh production environment found in the concrete industry.

Operational Success of Polyurethane Liners in the Concrete Industry

The success of this liner material in the mix drums has led to application success in other areas of the plant as well. Liner kits for aggregate bins, weigh batchers, directional chutes and dump cones are all available in high-performance polyurethane. Market acceptance has been excellent, with top producers being the largest adopters of urethane technology.

Switching to polyurethane liners is an investment in operational efficiency. The polyurethane liner delivers superior longevity against impact and abrasive wear. Users of polyurethane kits report the following key performance factors:

- Superior resistance to material build up
- Lighter weight - reducing loads on structures, drives, bearings and gears
- Shock resistance, vibration absorption and noise reduction
- Exceptional durability

Polyurethane liners typically come in kit form, with a variety of pre-cut shapes and sizes designed to fit specific process equipment. Several different attachment options are offered and thickness can be adjusted to suit the application. Polyurethane liners are also available in standard sheet sizes, including 4'x8', 4'x10', 5'x8' and 5'x10'. Polyurethane liners are easy to order, easy to install and will reduce maintenance requirements.

Maintenance Procedures for Polyurethane Liners

Polyurethane liners will perform for a very long time with proper care and maintenance. Performing the following maintenance procedures throughout the life of the liner will ensure trouble-free operation.

Of course, as with any piece of mechanical equipment it is important to read all installation documentation to understand the process thoroughly. In addition to reading the liner installation documentation, we recommend you follow this quick checklist of installation and maintenance procedures for all your polyurethane components.

Installation

Many liner kits offer embedded steel disks. These are used as bolt anchors or tack welds to the structure. During installation make sure that every weld disk is completely attached. Once the liner has been properly installed and the plant is operational, make a daily visual inspection of the equipment.

Seam Maintenance

During the installation procedure, special attention should be paid to seams or gaps, with the installer filling any seams or gaps that appear between the liner sections. A fast set polyurethane-based caulk adhesive with a 100-minute cure time or faster is recommended. If that is unavailable, then pure silicone caulk is a good second choice. It's a good idea to contact the manufacturer of the liner if you have any questions regarding the installation. Seams should be inspected weekly and resealed as required.

Plug Fitting

All plugs should fit snug. If a plug pops out or becomes loose, material may penetrate through the weld hole. Use caulk to secure loose plugs and seal any holes as soon as possible.

Accidental Gouges or Tears

In the event that a gouge or tear occurs, use a polyurethane-based caulking adhesive to fill holes or fix damaged areas. The affected area should be cleaned, dried, stripped of grease or other contaminants and patched. Do this as soon as possible after you notice the gouge or tear in order to eliminate aggravation of the affected area.

Cleaning

Cleaning your liner will loosen and remove any material buildup that may occur during the course of normal production. Cleaning should be done at the end of each production period or more frequently if you are working with fast-setting admixes. Use a high-pressure hose to remove stubborn deposits before they have a chance to harden and grow. Cycles of clean aggregate may also be used if buildup is wide spread (for example when using Cement Treated Base).

Chipping

When chipping is required, use plywood boards to protect the liners from miscues that could result in gouges or tears. For areas around mixer blades, air chisels are more maneuverable and less bulky. For buildup on seams or on other drum sections, use a hammer or another wide displacement strike tool. The resilient urethane should compress enough to release the concrete without chiseling.

Mixing Blades and Blade Liner Cleaning

Mixing blade liners often wear two times faster than drum liners. This is due to the shearing action of the material in the mix environment. Most blade liner kits are designed with replaceable tip sections at the perimeter. Because these areas are the most susceptible to wear, we recommend welding bar stock along the leading edges of the blade liners. This welding creates a barrier that resists material penetration between the poly liner and the steel blade. Neglecting the blade tips could result in damage to the blades themselves, so be sure to replace blade liner tips as necessary.

Storage for Future Installation

Proper maintenance and care begins as soon as the liner kit is received. If the liner will not be installed in the near future, protect it from the elements. Ultraviolet rays, solar heat and oxidation of the weld disks may degrade the quality of the liner over time. If polyurethane-lined equipment is going to be out of service for a long period of time, position the equipment for proper water drainage.

The bottom line is that polyurethane liners can extend the operational life of your equipment. Performing proper maintenance and caring for your liners will ensure that you receive longterm performance from the equipment. ■

For more information about polyurethane liner kits or their maintenance, call Argonics, Inc. at 800-991-2746, or visit www.argonics.com. Founded in 1994, Argonics Inc. is one of the world's largest producers of castable polyurethane elastomers. With state-of-the-art production facilities in Gwinn, Mich. and Louisville, Colo., Argonics provides high-performance urethane solutions for the concrete, conveyor, mining and municipal industries with its team of qualified personnel. For more information visit the company's Web site at www.argonics.com.

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