



## Shaftless Screw Conveyor Liners

A major benefit of shaftless screw conveyors is the elimination of intermediate hanger bearings to support the screw sections. Intermediate hanger bearings are a constant maintenance issue and can be a restriction to bulk material flow. Shaftless screw conveyors rely on trough liners to support the shaftless spiral and provide a bearing surface.

Selection of the appropriate liner material and attachment method is critical to ensuring a relatively low maintenance shaftless screw conveyor. KWS utilizes extensive experience and an application database when selecting trough liner materials for a specific application. We have developed a secure liner attachment method that simplifies installation and replacement. As we are not limited to proprietary or own-brand liners, we can review the requirements in an unbiased and commercially efficient way to ensure the best match for the job.

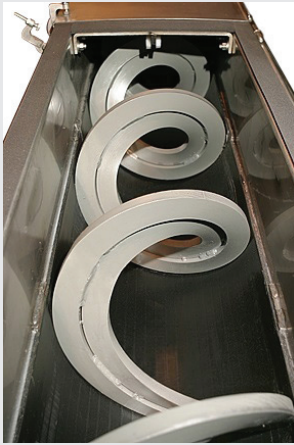
Some of the liners available from KWS include:

- Ultrahigh molecular weight polyethylene (UHMW)
- Polyurethane
- Oil impregnated UHMW
- Wear-Alert UHMW
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- AR400 wear bars
- Alumina silica ceramic

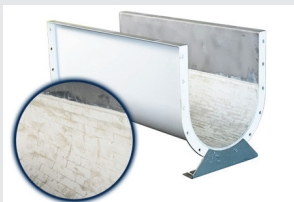
### Features

Variety of Liner Materials –

- **UHMW** – Low coefficient of friction material that wears relatively slowly for most applications where the product conveyed has some liquid and little or no inorganic particulate (e.g. sand or grit)
- **Polyurethane** – This material has all the attributes of UHMW but is more abrasion resistant. It should be considered on applications with moderate levels of inorganics.
- **Oil Impregnated UHMW** – UHMW infused with oil is typically used where there is little liquid in the product being conveyed or where due to the layout of the conveyor, there are sections of conveyor that may run “dry” or without product for prolonged periods of time.
- **Wear-Alert UHMW** – KWS uses a two-color liner to provide a visual indicator that the liner life has expired. When the top layer is worn through, a second highly contrasting color layer becomes visible and indicates that the liner must be replaced. Measuring liner thickness on equipment that is in service is difficult and this is a very useful feature for plant operators.
- **Wear-Alert oil impregnated UHMW** – This is the best combination of wear characteristics and support for maintenance staff. This liner is worth the investment given cost to change liners and the impact of not changing liners in a timely manner.
- **AR400 Wear Bars** – This is a lower cost spiral bearing material for use on abrasive materials (e.g. grit and screenings with high grit content). A number of wear bars are positioned longitudinally and at intervals around the inside diameter of the trough.



Wear Alert Trough Liner



Alumina Ceramic Trough Liner



UHMW Trough Liner



### KWS Manufacturing

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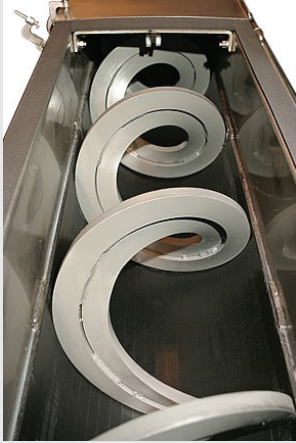
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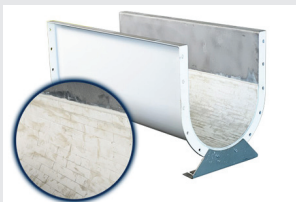
[www.kwsmfg.com](http://www.kwsmfg.com)



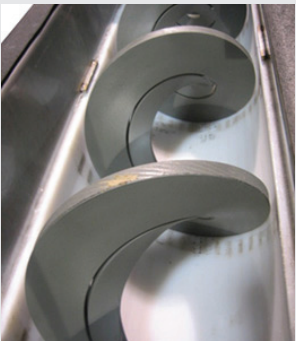
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Wear Alert Trough Liner



Alumina Ceramic  
Trough Liner



UHMW Trough Liner

- **Alumina Silica Ceramic** – KWS has developed the use of this material into a practical, replaceable trough liner for use where the conveyed product is extremely abrasive.

**Liner Attachment Method** – Stainless steel clips are used to secure liners to the trough and are welded intermittently along the top edges of the liner. Additionally, the edges of the trough liner are sealed using silicone sealant to prevent bulk materials from migrating under the liner.

### Benefits

**Simplified Replacement** – The KWS liner attachment system securely fastens liner sections to the trough while allowing liners to be removed and replaced quickly and without the need for special tools.

**Reduced Downtime and Maintenance** – KWS trough liners are selected based on the requirements of the application to ensure that downtime and maintenance are minimized. Trough liner life can be as high as five years depending on the application and duty cycle.



**Design  
Engineering  
Manufacturing**

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