

Abrasion and Wear Resistant Linings for Screw Conveyors



Paste-grade epoxy composite materials that combine abrasion-resistant ceramic aggregates for the repair and protection of solids handling machinery, such as screw conveyors.

Alternative to Hardfacing

These systems offer an excellent solution when hard facing is not possible. Hard facing is often undesirable due to the hot work involved, as well as being both expensive and time-consuming. Therefore, these cold-applied options are preferred due to their easy-to-install nature.

Belzona 1811

Designed to counteract the effects of coarse particle abrasion. Suitable for dry temperatures up to 150°C (300°F). It can be applied to thick layers onto vertical and horizontal surfaces.

Belzona 1812

Superior performance on equipment susceptible to fine particle abrasion. Suitable for dry temperatures up to 150°C (300°F). Capable of being applied in seamless layers.

Belzona 1813

For equipment operating at higher temperatures, this system is suitable for up to 200°C (392°F). As well as protecting against abrasive attack, it is resistant to a wide range of chemicals.

Belzona 9811

Combined with a Belzona paste grade, Belzona 9811 Alumina Tiles offer excellent abrasion resistance. They register a hardness of 9 Moh on the hardness scale.

Belzona Know-How *in Action:*

Biomass Plant in UK, 2012



Problem

The constant abrasion from wood chippings was causing significant damage to the screw conveyor. Engineers were finding that the shaft and flights would wear out within a few months of operation.

Solution

Belzona 1812 (Ceramic Carbide FP) was used as an alternative to other methods due to the ease of application. This reduced downtime and contributed further to the cost-effective nature of the system.

This screw conveyor was originally the spare, kept in the plant's warehouse. When its predecessor was removed due to extensive wear damage, the coated item went into service.

Due to the excellent performance, the customer is planning to coat additional screw conveyors for further abrasion protection.



Abrasion Resistance

Belzona's 1800 Series linings exhibit outstanding abrasion resistance due to a hardness comparable to basalt.



Easy Application

Mixing and applying is made simple as there is no need for specialist tools or hot work.



High Performance

This seamless abrasion resistant lining offers excellent adhesion and lasting performance.



Experience

Belzona 1800 Series has proven to be a long-lasting success in other industries featuring high abrasion, from Mining to Pulp and Paper.

BELZONA 1812

TECHNICAL DATA

Mixing ratio <i>(Base : Solidifier)</i>	4 : 1 by volume	4.5 : 1 by weight
Working life	20 minutes at 25°C (77°F)	
Shelf life	5 years	
Dry heat resistance	200°C (392°F)	
Adhesion <i>(tensile shear)</i>	Mild steel: 13.4 MPa (1,950 psi)	
Compressive strength	100.6 MPa (14,600 psi) after 7 day cure	
Volume capacity	440 cm ³ (26.85 in ³) / 1 kg	
Heat distortion temperature	50°C (122°F) at 20°C (68°F) cure	
Coverage rate	0.149 m ² (1.60 ft ²) / 1 kg at 3mm (0.125 in)	
Abrasion resistance	H10 - 51 mm ³ wet	