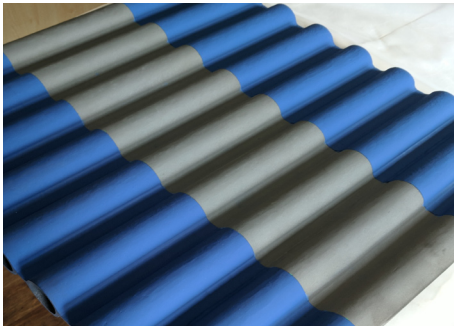


CERAMIC TECHNICAL DATASHEET

K-GUARD ARC

Boiler Tube Abrasion Resistant Coating



Key Benefits

- **System can be applied in-situ**
- **Flexible application**
- **Protection against on-going corrosion and slag build-up**
- **System can last-up 2 years**

Manufacture

K-GUARD ARC is an inorganic water based ceramic coating technology incorporating an advanced proprietary blend of ceramic and metallic additives. The coating is designed to achieve maximum wear resistance characteristics for metallic surfaces subjected to severe high temperature erosion. This single component technology is 50% solids by weight containing zero VOCs.

Application

The K-GUARD ARC includes increased levels of ceramic mineral content, proving it to be an ideal application to help combat areas within the boiler system that suffer from severe effects of wear and abrasion, within the Energy from Waste and Power Generation industry.

Installation

K-GUARD ARC system includes heavy loading of ceramic additives and requires frequent mixing during the installation phase, it is recommended to mix the content for atleast 2-3 minutes until a uniform colour is achieved and dispersed equally with the use of an industrial hand mixer.

After screening the mixture through a 60 to 80 mesh filter, the coating is applied in thin multiple passes through an airless setup, with a maximum thickness of 30 microns (1.2 mils) dry per pass. Each pass must be dry to touch prior to applying additional coats. The theoretical coverage rate is 13 sqm for the 6.5 L kit at 250 microns. Minimum 63 microns (2.5 mils) to 75 microns (3 mils). The coating will need to undergo a curing process once it has been left to air dry. Please refer to the K-GUARD curing schedule for further details on the curing process.

Forms of supply

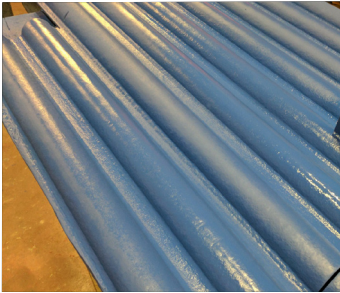
The coating is provided in a range of kit sizes, accompanied with the exact amount of setting agent required for the application. As the coating is water based, we recommend the setting agent is used as part of the process, as this provides a high degree of resistance against increased levels of humidity levels. We recommend consultation takes place with one of our qualified engineers in order to assess its suitability for particular applications. Should you have a req e would welcome the opportunity in discussing your application needs using our fully trained staff and workforce, alternatively we will be happy to consult with or supervise your own workforce.

ARC Coating System

For more aggressive environments, it is advised to pre-treat the boiler tubes with an inconell system. Kingfisher would advise on implementing an arc coating system before applying K-GUARD ARC.

K-GUARD ARC

Boiler Tube Abrasion Resistant Coating



Typical list of applications

- **Boiler waterwalls**
- **Economizer tubes**
- **Air heater tubes**
- **Wear plates**
- **Superheater tubes**
- **Steam drum**
- **Tube shields**
- **Fireside components**

Use warm soap and water to clean tools immediately after use. Once the coating is dry, the material must be abraded off. Store between 10°C(50°F) and 27°C(80°F). DO NOT FREEZE. Use product within 6 months of receiving.

Mechanical Properties

Performance Property	Test Method	Result
Hardness	ASTM D2240	90 Shore D
X-Cut Adhesion	ASTM D6677	Rating 10
Pull off Adhesion	ASTM D4541	Greater than 15,200 kPa (2,200 psi)
Abrasion	ASTM D4060	Less than 15mg loss
Temperature Resistance		Up to 1200 °C
Viscosity, cP		3,000 to 4,000 cP
Solids Content	ASTM D1259	50%
Volatile Organic Compounds	ASTM D2369	0 grams/liter

Physical Properties

Color	Blue
No. Components	Single
Air Dry (23 °C. / 50% RH)	15 to 20 minutes
Heat Cure	Consult with manufacturer
Min Recoat	Dry to touch (print free)
Max Recoat	24 hours
Max thickness per coat	60 microns (wet), 30 microns (dry)
Suggested thickness	150 to 200 microns (dry)