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TECHNICAL DATA SHEET

Ceramic Carbide 88

ThistleBond 'Ceramic Carbide 88' is a high performance ceramic enhanced epoxy coating designed for use as a lining for equipment in fluid flow environments.

ThistleBond 'Ceramic Carbide 88' is based on a high molecular weight epoxy resin and a polyamine adduct reinforced with carbide and inert flow enhancing pigments to produce a system with a high level of abrasion, adhesion and erosion resistance.

ThistleBond 'Ceramic Carbide 88' is simple and easy to use and has excellent adhesion to both grit blasted and manually prepared surfaces which makes it an ideal lining for pumps, valves, or any equipment where long term corrosion protection is required.

Before proceeding, please read the following information carefully to ensure that the correct application procedure is fully understood.

SURFACE PREPARATION

Steel Surfaces: All dust and loose material should be scraped away. Oil and grease should be removed with **ThistleBond 'Cleaner'**. Surfaces should then be abrasive blast cleaned to a minimum Sa2½ BS7079 Part A1 : 1989 or equivalent with a blast profile of 75 microns (3 mil) corresponding to 'Medium' in BS7079 Part C3/ISO 8503/1. All loose abrasive dust and debris must be blown clear or vacuum cleaned away. Where grit blasting cannot be carried out the steel surface should be thoroughly abraded or chemically cleaned with all oil and grease being removed.

Equipment that has been salt impregnated should, after blasting, be left overnight to allow salts to sweat from the metal.

Alternatively, surfaces should be warmed with a blow torch or similar to bring salts up to the surface. The surface should once again be blast cleaned.

This procedure must be repeated until no further sweating of impregnated salt is evident.

Aluminium Surfaces: All oil and grease must be removed by thoroughly degreasing and the metal surface should then be abraded or lightly abrasive blasted.

MIXING

ThistleBond 'Ceramic Carbide 88' is a two component material comprising resin and hardener components which must be mixed together prior to use.

Stir the resin component, continue stirring whilst adding all the contents of the hardener component and mix until homogeneous. To ensure thorough mixing it is advisable that the mixed product is transferred to another container and the original container is scraped out, and further mixing carried out to ensure a homogeneous mix is obtained.

The mixed product must be used within 4 hours of mixing at 20°C (68°F).

APPLICATION

Application should not be carried out when the temperature is below 7°C (45°F) nor when the relative humidity exceeds 90% or the surface to be coated is less than 3°C above the dew point.

ThistleBond 'Ceramic Carbide 88' can be applied by brush, roller or spray.

ThistleBond 'Ceramic Carbide 88' is supplied ready for use for application by brush or roller, but may require thinning for application by spray depending on equipment used.

Good quality brushes and mohair rollers are recommended for these methods of application and the **ThistleBond 'Ceramic Carbide 88'** should be applied to give a uniform coating thickness.

Airless Spray Application: Equipment with minimally a 30:1 pump ratio should be used. Spray tips with a 13-15 thou orifice should be used. Tip pressure approximately 2000 psi.

NOTE: When airless spray is being used, excessively high tip spraying pressure should be avoided, the minimum pressure at the pump conducive to good atomisation should be used.

Conventional Spray: Most types of equipment are suitable.

A typical set up would comprise:

Devilbis JGA Gun
1.4 mm Needle and Nozzle
704 Aircap

All equipment must be cleaned IMMEDIATELY after use with **ThistleBond 'Cleaner'**.

Theoretical Coverage Rate

3.7 m² / kg at 125 microns dft (40 ft² / litre at 5 mils dft)

Recommended Film Thickness

Wet 200 microns (8 mils)
Dry 125 microns (5 mils)

PHYSICAL CONSTANTS

Mixing Ratio 3.5 parts resin to 1 part hardener by volume.

Appearance Resin Thixotropic Liquid
Hardener Clear Liquid

Drying & Cure

Times at 20°C/68°F	Usable Life	4 hours
	Touch Dry	1 hours
	Hard Dry	8 hours
	Minimum Overcoating	6 hours
	Maximum Overcoating	48 hours
	Full Cure	7 days

Volume Solids 65%

V.O.C. 372gm/litre

Shelf Life Use within 5 years of purchase. Store in original sealed containers at temperatures between 5°C (40°F) and 30°C (86°F).

FOR FURTHER INFORMATION PLEASE CONTACT

PHYSICAL PROPERTIES

Impact Resistance BS3900 E3	Direct-5 mm Reverse-2.5 mm
Dry Heat Resistance ASTM D246	120°C (248°F)
Direct Pull Adhesion ASTM D4541	70kg/cm ² (1000 psi) (abrasive blast cleaned steel)
Salt Fog Resistance ASTM B117	Excellent, unaffected after 5,000 hours exposure
Tensile Shear Adhesion ASTM D1002	140kg/cm ² (2000 psi)
Flexibility ASTM D522-4	32%
Humidity Resistance BS 3900 Part F2	Unaffected 5,000 hours exposure

HEALTH AND SAFETY

As long as normal good practice is observed **ThistleBond 'Ceramic Carbide 88'** can be safely used.

Protective Gloves should be worn to prevent skin contact. Vapour masks should be worn for spray application.

A fully detailed Material Safety Data Sheet is either included with the material or is available on request.

PACKAGING

Supplied in 5 kg packs.

The information provided in this Product Data Sheet is intended as a general guide only and should not be used for specification purposes. The information is given in good faith but we assume no responsibility for the use made of the product or this information because this is outside the control of the company. Users should determine the suitability of the product for their own particular purposes by their own tests. Detailed specifications are available on request from the company.



www.thistlebond.com

ThistleBond Division of E. Wood Ltd.
Standard Way, Northallerton,
N. Yorks. U.K. DL6 2XA
Tel: +44(0)1609 780170
Fax: +44(0)1609 780438 & 777905