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TECHNICAL DATA SHEET

Abrasion Resistant Ceramic Carbide Fluid

ThistleBond 'Abrasion Resistant Ceramic Carbide Fluid' is a high performance fluid grade engineering resurfacing compound designed for use in fluid flow environments.

ThistleBond 'Abrasion Resistant Ceramic Carbide Fluid' uses a complex blend of epoxy resins and a polyamino-amide curing system reinforced with carbide and ceramic particles to produce a coating with a high level of abrasion and erosion resistance combined with optimum physical and mechanical strength.

ThistleBond 'Abrasion Resistant Ceramic Carbide Fluid' offers outstanding protection against impingement, entrainment and erosion / corrosion conditions.

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

SURFACE PREPARATION

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.

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.

On sections of repair which are not required to bond to the **ThistleBond 'Abrasion Resistant Ceramic Carbide Fluid'** these surfaces should be treated with **ThistleBond 'Release Agent'**. Machining of **ThistleBond 'Abrasion Resistant Ceramic Carbide Fluid'** will cause excessive tool wear so care should be taken to finish the repair to the required size or dimensions. Formers treated with **ThistleBond 'Release Agent'** can be used to minimise machining.

MIXING

ThistleBond 'Abrasion Resistant Ceramic Carbide Fluid' is a two component material comprising resin and hardener components which must be mixed together before use.

Mix the entire contents of the resin and hardener containers.

Alternatively measure three volumes of resin component and one volume of hardener into a clean container. The two components should be thoroughly mixed until completely streak free.

The mixed material should be used within 25 minutes of mixing at 20°C (68°F). This time will be reduced at higher temperatures and extended at lower temperatures.

APPLICATION

Application should not be carried out at temperatures below 5°C nor when relative humidity exceeds 85% or when the surface to be coated is less than 3°C above the dew point.

The mixed material should be applied to the prepared area using a clean brush or squeegee, application should be carried out as soon as possible after surface preparation is complete, and certainly the same day, otherwise flash blasting will be necessary before application.

Where necessary a reinforcement tape should be stippled into the mixed product and further material applied over the tape. For large areas the tape should be overlapped.

In areas where a second layer of **ThistleBond 'Abrasion Resistant Ceramic Carbide Fluid'** is required, this application must be carried out within the initial set time for the first layer, otherwise the surface must be lightly abraded or flash blasted.

Machining of **ThistleBond 'Abrasion Resistant Ceramic Carbide Fluid'** will cause excessive tool wear so care should be taken to finish the repair to the required size or dimensions. Formers treated with **ThistleBond 'Release Agent'** can be used to minimise machining.

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

Theoretical Coverage Rate

1.6 m² / kilo at 250 microns dft (17 ft² per kilo at 10 mils)

Volume Capacity

400 cc (24.4 cu ins) per kilo

Recommended Film Thickness

Wet 250 microns (10 mils)

Dry 250 microns (10 mils)

PHYSICAL CONSTANTS

Mixing Ratio	Resin	Hardener	
	3	1	By volume
	8	1	By weight

Appearance	Resin	Hardener	Coloured Paste
			Amber Liquid

Drying & Cure

times at 20°C/68°F	Usable Life	25 minutes
	Initial Set	3 hours
	Grinding Time	6 hours
	Full Mechanical	5 days

Volume Solids 100%

V.O.C. Nil

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).

Operating Temperature

	Maximum	Continuous
Dry Heat	250°C (480°F)	120°C (248°F)
Wet Heat	120°C (248°F)	70°C (158°F)

FOR FURTHER INFORMATION PLEASE CONTACT

PHYSICAL PROPERTIES

Compressive Strength ASTM D695	915 kg/per cm ² (13000 psi)
Tensile Strength ASTM D1002 (Grit blasted steel)	195 kg/per cm ² (2800 psi)
Flexural Strength ASTM D790	635 kg/per cm ² (9000 psi)
Rockwell Hardness ASTM D785	100
Abrasion Resistance ASTM D4060	0.065 ml loss per 1000 cycles (CS17 wheel 1 kg load)
Heat Distortion Temperature ASTM D648	60°C (175°F)
Corrosion Resistance ASTM B117	5000 hours

HEALTH AND SAFETY

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

Protective gloves should be worn.

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

PACKAGING

Supplied in 1kg 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

