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TECHNICAL DATA SHEET

Heavy Duty Ceramic Carbide Compound

ThistleBond 'Heavy Duty Ceramic Compound' is a high performance abrasion resistant metal repair compound specifically developed for use where resistance to sliding abrasion is required.

ThistleBond 'Heavy Duty Ceramic Compound' is based on a complex of epoxy resins and polyamino-amide curing system reinforced with carbide and ceramic particles to produce a coating with a high level of adhesion, abrasion and erosion resistance combined with optimum physical and mechanical strength.

ThistleBond 'Heavy Duty Ceramic Compound' has excellent adhesion to most metallic surfaces in one easy application and offers outstanding protection to chutes, hoppers, pipe elbows, chippers, valves, pumps and equipment subject to aggressive attack from dry solids and slurries.

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 'Heavy Duty Ceramic Compound'** these surfaces should be treated with **ThistleBond 'Release Agent'**.

MIXING

Transfer the entire content of the resin and hardener containers onto a clean mixing board. Alternatively, measure three volumes of resin component and one volume of hardener onto a clean mixing surface. The two components should be thoroughly mixed until streak free. The use of a small trowel is advisable for easy mixing.

The mixed material should be used within 60 minutes of mixing at 20°C (68°F). The 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 90% or when the surface to be repaired is less than 3°C above the dew point.

The prepared surface must be dry and free from condensation. The mixed material should be applied to the prepared area, using a trowel or float.

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.

The mixed **ThistleBond 'Heavy Duty Ceramic Compound'** should be applied by spatula or pallet knife to the surface, pressing firmly into the surface to avoid air entrapment.

In areas where a second layer of **ThistleBond 'Heavy Duty Ceramic Compound'** is required, this application must be carried out within the initial set time for the first layer, otherwise surfaces must be flash blasted before further application.

Machining of **ThistleBond 'Heavy Duty Ceramic Compound'** 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.

Once the **ThistleBond 'Heavy Duty Ceramic Compound'** has reached initial set the material can be separated from surfaces treated with **ThistleBond 'Release Agent'**.

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

Volume Capacity

563cc (33 cu ins) per kilo

PHYSICAL CONSTANTS

Mixing Ratio	Resin	Hardener	
	3	1	By volume
	4	1	By weight

Appearance	Resin	Hardener
	Dark Grey Paste	Off White Paste

Drying & Cure

Times at 20°C/68°F	Usable Life	60 minutes
	Initial Set	3 hours
	Grinding Time	8 hours
	Full Mechanical	5 days

Volume Solids	100%
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V.O.C.	Nil
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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).
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Food Contact	Meets FDA CFR 21.175.300 requirements for food contact.
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Operating

Temperature

	Maximum	Continuous
Dry Heat	200°C (390°F)	120°C (212°F)
Wet Heat	120°C (248°F)	70°C (158°F)

FOR FURTHER INFORMATION PLEASE CONTACT

PHYSICAL PROPERTIES

Compressive Strength ASTM D695	1055 kg per cm ² (15000 psi)
Flexural Strength ASTM D790	420 kg per cm ² (6000 psi)
Tensile Shear Adhesion ASTM D4060	140 kg per cm ² (2000 psi) (Abrasive Blasted Mild Steel)
Abrasion Resistance ASTM D4060	20 mg loss per 1000 cycles (1 kg load CS 17 wheel)
Heat Distortion ASTM D648	60°C (140°F)
Hardness (Rockwell R) ASTM D785	100
Corrosion Resistance ASTM B117	5000 hours

HEALTH AND SAFETY

As long as normal good practice is observed **ThistleBond 'Heavy Duty Ceramic Compound'** does not present a hazard during use.

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

PACKAGING

Supplied in 5kg 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.



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