



www.thistlebond.info

For the Bonding of Pintle Sleeves:

The Following ThistleBond section is concerned with the Bonding of pintle sleeves.

COMMON DEFECTS

Problems experienced during traditional shrink fit methods. Bi Metallic corrosion causing vibration and wear.

PREPARATION

All work should be carried out in strict accordance with the relevant ThistleBond Technical Data Sheet.

Large shafts or sleeves should be pre heated to ensure a substrate temperature minimum of 50 Deg F or 10C, in order that the product will flow evenly through the annular space between the components. There may be, therefore a requirement for space heating equipment. Pre fabricate a suitable sleeve ensuring an inner diameter of 1/2" – 1/6" Larger than the pintle diameter. Then pre drill the sleeve and tap at a minimum of three locations around the circumference at each end, to allow 1/4" in diameter and spaced at no more than 24" centres equidistant around the circumference of the sleeve.

SURFACE PREPARATION

a). Wash all surfaces to be treated with ThistleBond Universal Cleaner in order to remove all dirt and grease. Grit Blast all surface to be treated using an angular abrasive to give a surface finish of **Swedish Std Sa 2 1/2 ensuring a profile of 75 microns minimum.**

b). Alternatively, machine the outer surface of the pintle and the inner surface of the sleeve to produce a rough thread profile. On completion of all preparation and before the application of the product wash down all surfaces with Universal Cleaners.

APPLICATION TECHNIQUE

Place the sleeve on the pintle and use the jacking screw, pre coated with ThistleBond Release Agent to prevent bonding, to correctly locate and centralise the assembly. Mix appropriate amount of ThistleBond Rapid Setting Super Metal and apply a fillet of this material to seal the annular gap at each end of the sleeve. As soon as this sealing material is dimensionally stable, mix the ThistleBond Abrasion Resistant Ceramic Fluid product and load it into the disposable injection cartridges. Using suitable pneumatic

Equipment, immediately inject the material starting from the lowest point and working towards the highest in order to ensure that the annular space is completely filled. As general rule, material should be injected at one point until material appears at the surrounding ports. The first port should then be sealed with a suitable bung and injection recommenced at one of the surrounding ports. This process is then continued until all voids are filled and material is seen to exude from the highest ports. Following the relevant cure time, remove all jacking screws and mix a suitable grade of ThistleBond Super Metal Rebuilding System and fill the jacking screws. If necessary the sleeve can now be machined to final dimensions.

TECHNICAL SUMMARY

PRODUCT	CONSISTENCY	EROSION RESISTANCE	WORKING LIFE (20C)	FULL CURE (20C)
Rapid Setting Super Metal System	PASTE	MEDIUM	2-3 MINUTES	30 MINUTES
Abrasion Resistant Ceramic Carbide Fluid	LIQUID	HIGH	25 MINUTES	5 DAYS

ThistleBond Ceramic Carbide Abrasion Resistant Fluid has a fluid consistency with a compressive strength of 13,000 psi (ASTM D 965) and a tensile strength of 2800 psi (ASTM D 1002).

RECOMMENDED EQUIPMENT

Mixing and application tools are included in each pack of ThistleBond Product. Prior to carrying out the repair however, it is important that all necessary tools and equipment are available on site. These could include the following – *Grit Blasting equipment, ThistleBond Universal Cleaners, ThistleBond Release Agent, Protective Clothing, Polyethylene Tenting, Suitable centralising Jig or Template. New Pintle.*