



www.thistlebond.com

TRK19063/1201

# TECHNICAL DATA SHEET

## Plastic Steel

**ThistleBond 'Plastic Steel'** is a high performance multi purpose metal repair compound specifically developed for onsite repairs of damaged or faulty castings, corroded pumps, valves, pump or shafts

**ThistleBond 'Plastic Steel'** is formulated on a complex range of epoxy resins combined with a polyamino curing system which is reinforced with inert pigments and fillers to produce a pourable paste which has excellent resistance to corrosive liquids and gasses.

**ThistleBond 'Plastic Steel'** is ideally suited for use in tool rooms providing an economical solution to the problem of producing short run or prototype dies, jigs and fixtures.

**ThistleBond 'Plastic Steel'** is simple and easy to use, can be drilled, tapped or filed etc. just like the parent metal.

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

### SURFACE PREPARATION

Heavy contamination due to oil or grease must first be removed using **ThistleBond Cleaner**.

All loose material, rust and surface contaminants, including existing coatings, must be removed and the surface roughened by using an angle grinder, needle gun or abrasive blasting. Where grinding or needle gunning is used, the surface should be cross-scored to improve adhesion. Care must be taken, when angle grinding, to avoid polishing rather than roughening metal surfaces.

Where possible, abrasive blasting is the preferred surface preparation, especially in fluid flow repairs.

Surfaces should finally be carefully degreased using **ThistleBond Cleaner**. Cloths should be frequently changed to avoid spreading contamination. On deeply pitted surfaces or porous castings, **ThistleBond Cleaner** should be worked into the surface by brush and washed off using excess cleaner.

### MIXING

**ThistleBond 'Plastic Bronze'** is a two component solvent free material comprising resin and hardener components which must be mixed together prior to use.

The mixed material should be used within 30 minutes of mixing at 20°C (68°F). This time will be reduced at higher temperatures and extended at lower temperatures.

### APPLICATION

The mixed material should be pressed firmly onto the prepared area, working the material into any cracks and surface defects.

When **ThistleBond 'Plastic Steel'** is being used to bond two surfaces together, both surfaces should be coated with the material. The two pieces should then be pressed firmly together and clamped in position until the product has set, any excess material squeezed out should be scraped away before the **ThistleBond 'Plastic Steel'** begins to cure.

When a reinforcing Tape is being used to strengthen the repairs the tape should either be impregnated with **ThistleBond 'Plastic Steel'**, or the tape should be layed over the **ThistleBond 'Plastic Steel'** surface and stippled into the material before it cures, then additional **ThistleBond 'Plastic Steel'** applied over the surface.

Once **ThistleBond 'Plastic Steel'** has cured for a minimum of 4 hours at 20°C (68°F), sanding, grinding and machining etc. can be carried out using standard engineering practice.

**PHYSICAL CONSTANTS**

<b>Mixing Ratio</b>	Resin	Hardener	
	3	1	By Volume
	5	1	By Weight

<b>Appearance</b>	Resin	Dark Grey Paste
	Hardener	Grey Paste

<b>Drying &amp; Cure times at 20°C(68°F)</b>	Usable Life	30 minutes
	Gel Time	60 minutes
	Machining	2 hours
	Full Mechanical	3 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**

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

**PHYSICAL PROPERTIES**

**Compressive Strength** 1090kg/cm<sup>2</sup> (15500 psi)  
ASTM D 695

**Corrosion Resistance** 5000 hours  
ASTM B117

**Flexural Strength** 700kg/cm<sup>2</sup> (10000 psi)  
ASTM D 790

**Hardness (Rockwell R)** 100  
ASTM D785

**Heat Distortion** 90°C (195°F)  
ASTM D648

(Post Cured 24 hrs at 100°C/212°F)

**Nuclear Decontamination** Excellent  
BS4247 Part 1

**Tensile Shear Adhesion** 175kg/cm<sup>2</sup> (2500 psi)  
ASTM D1002  
(Grit Blasted Steel)

FOR FURTHER INFORMATION PLEASE CONTACT

**HEALTH AND SAFETY**

As long as normal good practice is observed **ThistleBond 'Plastic Steel'** can be safely used.

Protective gloves should be worn during use.

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

**PACKAGING**

Supplied in 0.500kg 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](http://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  
E Mail: [info@thistlebond.com](mailto:info@thistlebond.com)



www.thistlebond.com

TRK19060/1201

# TECHNICAL DATA SHEET

## PlasSteel

**ThistleBond 'PlasSteel'** is a high performance, rapid curing synthetic metal repair compound in the form of a stick which has been specifically developed for on site repairs to metal components such as castings, worn threads, jigs and mould patterns.

**ThistleBond 'PlasSteel'** is based on a unique epoxy resin system co-reacted with an organo sulphur / amine blend which are then interspersed with specially chosen pigments and fillers which allow the base and activator components to be packed in intimate contact with each other. The reaction only occurs when the two components are hand mixed and the resultant blend produces a repair material with high physical and mechanical strength.

**ThistleBond 'PlasSteel'** also has the ability to set underwater which makes it highly suitable for submerged conditions.

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

### SURFACE PREPARATION

Heavy contamination due to oil or grease must be removed using **ThistleBond Cleaner**.

All loose material, rust and surface contaminants, including existing coatings, must be removed and the surface roughened by using an angle grinder, needle gun or abrasive blasting. Where grinding is used, the surface should be cross-scored to improve adhesion. Care must be taken, when angle grinding, to avoid polishing rather than roughening metal surfaces.

Surfaces should be carefully degreased again using **ThistleBond Cleaner**. Cloths should be frequently changed to avoid spreading contamination. On deeply pitted surfaces or porous castings, **ThistleBond Cleaner** should be worked into the surface by brush and washed off using excess cleaner.

### MIXING

Before mixing, hands should be treated with barrier cream or lightweight disposable gloves should be worn.

Sufficient product to complete the repair should be cut or broken from the stick. This should then be twisted and kneaded until a uniform colour is achieved with no streaks. The two components are colour coded to ensure complete mixing is achieved when the colour is uniform.

**ThistleBond 'PlasSteel'** should be used within 6 minutes of mixing at 20°C (68°F).

This time will be reduced at higher temperatures or extended at lower temperatures.

### APPLICATION

Prepared surfaces should be dry. The mixed material should be pressed firmly onto the prepared area, working the material into any cracks and surface defects.

When **ThistleBond 'PlasSteel'** is being used to repair leaking pipes, the flow through the pipe should be discontinued until the repair is made and the **ThistleBond 'PlasSteel'** is set. Any leaking fluid must be wiped from the prepared surface to render the surface as dry as possible before undertaking the repair.

When being used underwater it is important that **ThistleBond 'PlasSteel'** is applied direct to the parent material and not to a film of water. This can be achieved by applying finger pressure to the centre of the repair and moving the pressure progressively outwards towards the periphery, thereby excluding the moisture film between the repair and the parent material.

### Volume Capacity

66 cc (4 cu. in) per unit.

**PHYSICAL CONSTANTS**

<b>Mixing Ratio</b>	Supplied ready to use.	
<b>Appearance</b>	Concentric coloured stick of putty consistency.	
<b>Drying &amp; Cure times at 20°C/68°F</b>	Usable Life	6 minutes
	Initial Set	15 minutes
	Machining	30 minutes
	Full Mechanical	2 hours
<b>Volume Solids</b>	100%	
<b>V.O.C.</b>	Nil	
<b>Shelf Life</b>	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**

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

**PHYSICAL PROPERTIES**

<b>Flexural Strength</b>	230kg/cm <sup>2</sup> (3250 psi)	
ASTM D790		
<b>Compressive Strength</b>	350kg/cm <sup>2</sup> (5000 psi)	
ASTM D695		
<b>Tensile Shear Adhesion</b>	45kg/cm <sup>2</sup> (650 psi)	
ASTM D1002	(Grit Blasted)	
<b>Heat Distortion</b>	40°C (96°F)	
ASTM D648		
<b>Hardness (Shore D)</b>	85	
ASTM D2246		
<b>Corrosion Resistance</b>	5,000 hrs	
ASTM B117		

FOR FURTHER INFORMATION PLEASE CONTACT

**HEALTH AND SAFETY**

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

Keep skin contact to a minimum. Use barrier cream or disposable gloves. Wash off areas of contact with soap and water.

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

**PACKAGING**

Supplied in 0.125 kg units.

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.


**ThistleBond**
[www.thistlebond.com](http://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  
 E Mail: [info@thistlebond.com](mailto:info@thistlebond.com)

## Rapid Setting Super Metal Repair Paste

**ThistleBond 'Rapid Setting Super Metal Repair Paste'** is a high performance rapid curing metal engineering grade repair compound specifically developed for rapid turn round of metal repairs where excellent mechanical strength and easy machining properties are required.

**ThistleBond 'Rapid Setting Super Metal Repair Paste'** is formulated on a complex blend of polyether and polyester urethane resins combined with a polyamine catalyst curing system reinforced with a phosphor steel alloy which enhances the corrosion and chemical resistance of the whole system.

**ThistleBond 'Rapid Setting Super Metal Repair Paste'** can be applied to any damaged metal component as well as glass, fibreglass and composites and is ideal for rapid repairs to pipes, tanks, radiators, threads, sumps, casings and ducting.

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

### SURFACE PREPARATION

Heavy contamination due to oil or grease must first be removed using **ThistleBond Cleaner**.

All loose material, rust and surface contaminants, including existing coatings, must be removed and the surface roughened by using an angle grinder, needle gun or abrasive blasting. Where grinding or needle gunning is used, the surface should be cross-scored to improve adhesion. Care must be taken, when angle grinding, to avoid polishing rather than roughening metal surfaces.

Where possible, abrasive blasting is the preferred surface preparation, especially in fluid flow repairs.

Surfaces should finally be carefully degreased using **ThistleBond 'Cleaner'**. Cloths should be frequently changed to avoid spreading contamination. On deeply pitted surfaces or porous castings, **ThistleBond 'Cleaner'** should be worked into the surface by brush and washed off using excess cleaner.

Parts (for example, threads or bearing surfaces) which must remain in position during application must not adhere to **ThistleBond 'Rapid Setting Super Metal Repair Paste'** must be coated with **ThistleBond 'Release Agent'** prior to application of the **ThistleBond 'Rapid Setting Super Metal Repair Paste'**.

### MIXING

**ThistleBond 'Rapid Setting Super Metal Repair Paste'** is a two component solvent free material comprising resin and hardener components which must be mixed together prior to use.

Measure 1 volume of resin component and 1 volume hardener component onto a clean mixing board or other suitable surface. The two components should then be thoroughly mixed until completely streak free.

The mixed material should be used within 3 minutes of mixing at 20°C (68°F). This time will be reduced at higher temperatures and extended at lower temperatures.

### APPLICATION

Prepared surfaces should be clean and dry. The mixed material should be pressed firmly onto the prepared area, working the material into any cracks and surface defects.

When a reinforcing tape is being used to strengthen the repairs the tape should either be impregnated with **ThistleBond 'Rapid Setting Super Metal Repair Paste'**, or the tape should be laid over the **ThistleBond 'Rapid Setting Super Metal Repair Paste'** surface and stippled into the material before it cures, then additional **ThistleBond 'Rapid Setting Super Metal Repair Paste'** applied over the surface.

Once the **ThistleBond Rapid Setting Super Metal Repair Paste** has reached initial set, the material can be separated from the surfaces treated with **ThistleBond 'Release Agent'**.

When **ThistleBond 'Rapid Setting Super Metal Repair Paste'** is being used to repair leaking pipes, the flow through the pipe should be turned off until the repair is finished. Any leaking liquid must be wiped off the surface to ensure the surface is completely clean and dry before application commences.

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

### Volume Capacity

570cc (34.7cu ins) per kilo

**PHYSICAL CONSTANTS**

<b>Mixing Ratio</b>	Resin	Hardener
	1	1 By Volume
	4	3 By Weight

<b>Appearance</b>	Resin	Black Paste
	Hardener	White Paste

<b>Drying &amp; Cure Times at 20°C (68°F)</b>	Usable Life	3 minutes
	Initial Set	10 minutes
	Machining	30 minutes
	Full Mechanical	2 hours

**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).

**Food Contact** Meets FDA Requirements CFR 21.175.300 for food contact.

**Operating Temperature**

	<b>Maximum</b>	<b>Continuous</b>
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**

<b>Flexural Strength</b>	500 kg/cm <sup>2</sup> (7100 psi)
ASTMD790	
<b>Compressive Strength</b>	860 kg/cm <sup>2</sup> (12200 psi)
ASTMD695	
<b>Tensile Shear Adhesion</b>	175 kg/cm <sup>2</sup> (2500 psi)
ASTMD1002	Grit Blasted Steel
<b>Heat Distortion</b>	52°C (125°F)
ASTMD648	
<b>Hardness (Shore D)</b>	80
ASTMD2246	
<b>Corrosion Resistance</b>	5,000 hrs
ASTMB117	

**HEALTH AND SAFETY**

As long as normal good practice is observed **ThistleBond 'Rapid Setting Super Metal Repair Paste'** can be safely used.

The wearing of rubber gloves is advisable during use.

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

**PACKAGING**

Supplied in 0.175kg 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](http://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**  
**E Mail: info@ thistlebond.com**



www.thistlebond.com

TAC877/0903

# TECHNICAL DATA SHEET

## Copper Anti-Seize

**ThistleBond 'Copper Anti-Seize'** is a high performance lubricating compound designed for application to components prior to assembly to prevent seizure and allow easy dismantling after service.

**ThistleBond 'Copper Anti-Seize'** is based on a unique blend of high temperature oils and soft metallic fillers to produce a compound that has excellent temperature performance and resistance to corrosion or chemical attack.

**ThistleBond 'Copper Anti-Seize'** has high resistance to pressure and will resist severe expansion, contraction or vibration and allows components to be freed after service upto 1100°C (2012°F).

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

### SURFACE PREPARATION

Surfaces should be clean, dry and free from contamination, any contamination should be wiped from the surface using clean cloths.

### MIXING

**ThistleBond 'Copper Anti-Seize'** is a single component material supplied ready for use which may require stirring prior to use to incorporate any slight separation.

### APPLICATION

**ThistleBond 'Copper Anti-Seize'** should be applied to all prepared surfaces by brush ensuring complete wetting out of the treated surface.

Following application, the treated components can be assembled and any excess **ThistleBond 'Copper Anti-Seize'** scraped clear or wiped off with a clean dry rag.

All equipment should be cleaned immediately after use with **ThistleBond 'Cleaner'**.

### PHYSICAL CONSTANTS

**Mixing Ratio** Supplied ready for use

**Appearance** Thixotropic Copper Liquid

**Volume Solids** 100%

**V.O.C** Nil

**Shelf Life** Use within 12 months of purchase. Store in original sealed containers at temperatures between 5°C (40°F) and 30°C (86°F)

### HEALTH AND SAFETY

As long as good practice is observed **ThistleBond 'Copper Anti-Seize'** can be safely used.

Protective gloves are advisable during use to minimise skin contact.

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

### PACKAGING

Supplied in 0.500kg.

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](http://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**  
**E Mail: [info@thistlebond.com](mailto:info@thistlebond.com)**

FOR FURTHER INFORMATION PLEASE CONTACT



www.thistlebond.com

TAC879/0903

# TECHNICAL DATA SHEET

## Dewatering System

**ThistleBond 'Dewatering System'** is a highperformance, spray applied penetrant and lubricant with dewatering capabilities.

**ThistleBond 'Dewatering System'** is based on a unique blend of water repellent oils together with ionic and non ionic additives specially developed as an extremely versatile dewatering and lubricating fluid. The product is ideal for the penetration of corroded bolts and the prevention of water ingress into electrical components, and does not leave any carbon or resin deposits on electrical contacts.

**ThistleBond 'Dewatering System'** is simple and easy to use and can also be used as a temporary coating on metal parts (upto 3 months outside and 12 months inside) to prevent corrosion.

**ThistleBond 'Dewatering System'** meets the requirements of Ministry of Defence Specification DEF STAN68-10/2 for corrosion prevention and PX/24 NATO CODE C-634 for water displacement.

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

### SURFACE PREPARATION

When **ThistleBond 'Dewatering System'** is to be used for corrosion protection, surfaces to be treated should be cleaned and any contamination removed.

For other uses of **ThistleBond 'Dewatering System'** there are no special requirements for surface preparation, although any heavy deposits of dirt or silt should first be removed.

### MIXING

**ThistleBond 'Dewatering System'** is a single component material supplied ready for use in an aerosol and should only require shaking prior to use.

### APPLICATION

**Dewatering:** Spray **ThistleBond 'Dewatering System'** onto affected area / component ensuring that released water is drained from affected area.

**Penetrating:** Spray **ThistleBond 'Dewatering System'** onto seized component and allow to penetrate, repeat procedure with badly seized parts.

**Lubrication:** Spray **ThistleBond 'Dewatering System'** onto surfaces requiring lubrication.

**Corrosion Protection:** After surfaces have been cleaned, a uniform film of **ThistleBond 'Dewatering System'** should be sprayed over the surface ensuring that any irregularities are completely coated.

Clean all equipment after use with **ThistleBond 'Cleaner'**.

### PHYSICAL CONSTANTS

**Mixing Ratio** Supplied ready for use

**Appearance** Amber liquid

**Volume Solids** 20.5%

**V.O.C** 570gms/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).

### HEALTH AND SAFETY

In the wet state **ThistleBond 'Dewatering System'** is highly flammable.

Adequate ventilation should be provided in confined areas. Undue skin contact should be avoided.

Eyes should be protected from splashes/spray.

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

### PACKAGING

Supplied in 375 ml 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](http://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**  
**E Mail: [info@thistlebond.com](mailto:info@thistlebond.com)**

FOR FURTHER INFORMATION PLEASE CONTACT



www.thistlebond.com

# TECHNICAL DATA SHEET

## RELEASE AGENT

### Single Component Fast Drying Releasing Coating

**ThistleBond 'Release Agent'** is a high performance, simple to use fast drying system designed for application to surfaces where adhesion to Thortex Repair Systems is not required, and to facilitate easy mould release.

**ThistleBond 'Release Agent'** is based on a unique blend of wax and none ozone depleting solvents producing a fast drying, safe to use coating.

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

#### SURFACE PREPARATION

All surfaces should be clean, dry and free from other contamination.

Areas which are not to be coated with **ThistleBond 'Release Agent'** should be protected to avoid contamination.

#### MIXING

**ThistleBond 'Release Agent'** is a single component material and should only require stirring prior to use to incorporate any slight separation.

#### APPLICATION

**ThistleBond 'Release Agent'** should be applied to the surfaces to be treated using the brush supplied in the container.

Care should be taken to ensure all surfaces are coated, taking care to avoid excessive thickness.

#### PHYSICAL CONSTANTS

**Mixing Ratio** Supplied ready for use.

**Appearance** Hazy liquid.

#### Drying & Cure times at

**20°C (68°F)** Touch Dry 5 - 8 minutes\*  
Overcoating Time 2 - 4 hours\*

\* Depending on prevailing conditions

**Volume Solids** 7%

**V.O.C.** 700 gm/litre

**Shelf Life** Use within 5 years of purchase. Store in original sealed containers at temperatures between 10°C (50°F) and 30°C (86°F).

#### HEALTH AND SAFETY

As long as normal good practice is used **ThistleBond 'Release Agent'** can be safely used.

Adequate ventilation should be provided in confined areas.

Undue skin contact should be avoided.

Eyes should be protected from splashes by wearing goggles.

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

**PACKAGING**

Supplied in 30ml units.

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.

FOR FURTHER INFORMATION PLEASE CONTACT



[www.thistlebond.com](http://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**  
**E Mail: [info@thistlebond.com](mailto:info@thistlebond.com)**



www.thistlebond.com

# TECHNICAL DATA SHEET

## '60' DUROMETER Rapid Paste Elastomer

**ThistleBond '60 DUROMETER Rapid Paste Elastomer'** is a 60 Durometer high performance rapid curing paste grade elastomer which has been specifically developed for the repair of rubber components by trowel or putty knife and is suitable for use on impellers, chutes, hoppers, valves, rollers, gaskets, hoses, conveyor belts, off road tyres etc.

**ThistleBond '60 DUROMETER Rapid Paste Elastomer'** is based on a complex blend of polyols and polyesters in combination with amine catalysts and activators to produce a cold vulcanising product with outstanding mechanical strength.

The properties of **ThistleBond '60 DUROMETER Rapid Paste Elastomer'** have been designed to match factory produced rubbers.

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

### SURFACE PREPARATION

All existing dirt, oil and grease should be removed and the surface wiped with **ThistleBond 'Cleaner'**.

Any areas of frayed or fragmented rubber should be cut away to provide a sound repair area.

Smooth surfaces, including metals, should be mechanically etched to produce a good profile, with abrasive blasting being preferred for metal substrates. Rubber surfaces are best roughened using a stiff wire brush / comb.

Edges of repair areas of belts, hoses, tyres etc. should be undercut.

All loose dust and particles should be blown clear of the prepared surface.

On certain repairs such as gaskets and castings where one surface is not required to bond to the **ThistleBond '60 DUROMETER Rapid Paste Elastomer'**, these surfaces should be treated with **ThistleBond 'Release Agent'**.

### PRIMING

All areas to be repaired or resurfaced should be first primed with **ThistleBond '60 DUROMETER Rapid Paste Elastomer Primer'**.

**ThistleBond '60 DUROMETER Rapid Paste Elastomer Primer'** is supplied as a two component product comprising 100 gm of primer in a cone topped tin and a small glass bottle of catalyst.

The contents of the catalyst bottle should be added to the primer container immediately prior to use and the container should then be shaken to ensure complete mixing is achieved.

After use the container should be resealed, taking care not to contaminate the contents, this resealed **ThistleBond '60 DUROMETER Rapid Paste Elastomer Primer'** will have a limited shelf life of up to 3 months.

The primer should be applied with a soft bristled brush to give an even, but low coating thickness, taking care to avoid ponding of the primer.

The primer should be allowed a minimum of 10 minutes and a maximum of 1 hour at 20°C (68°F) before applying the **ThistleBond '60 DUROMETER Rapid Paste Elastomer'**

### MIXING

**ThistleBond '60 DUROMETER Rapid Paste Elastomer'** is a two component material which must be mixed together prior to use.

Two volumes of resin and one volume of hardener should be measured onto a clean surface and the two components mixed thoroughly to produce a smooth streak free material.

Thorough mixing is extremely important, and once the material appears mixed, a further period of mixing should be carried out to ensure there is not unmixed material.

The mixed material should be used within 10 minutes of mixing at 20°C (68°F).

**APPLICATION**

The mixed material should be pressed firmly onto the prepared area working the product into cracks or defects on the surface. Where necessary, reinforcement tape should be bedded into the material and overlapped to provide multi-layer reinforcement.

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

**Volume Capacity**

900cc (54.8 cu ins) per kilo

**PHYSICAL CONSTANTS**

Mixing Ratio	Resin	Hardener	
	2	1	By volume
	2	1	By weight

Appearance	Resin	Hardener
	Resin	Opaque Straw Paste
	Hardener	Coloured Paste

**Drying & Cure times at**

<b>20°C (68°F)</b>	Usable Life	10 minutes
	Initial Set	30 minutes
	Machining	1 hour
	Full Mechanical	24 hours

<b>Volume Solids</b>	100%
----------------------	------

<b>V.O.C.</b>	Nil
---------------	-----

<b>Shelf Life</b>	Use within 12 months 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	120°C (250°F)	80°C (176°F)
Wet Heat	80°C (175°F)	50°C (122°F)

FOR FURTHER INFORMATION PLEASE CONTACT

**PHYSICAL PROPERTIES**

<b>Tensile Strength</b> ASTMD412	70 kg/cm <sup>2</sup> (1000 psi)
<b>Tear Strength</b> ASTMD624	36 kg/cm (200 pli)
<b>Elongation</b> ASTMD412	800%
<b>Shore A Hardness</b> ASTMD2240	60
<b>Peel Adhesion (concrete and steel)</b> ASTMD903	9 kg/cm (50 pli) - cohesive failure in 60 DUROMETER
<b>Dielectric Strength</b> ASTMD149	16 volts/micron (400 volts/mil)

**HEALTH AND SAFETY**

As long as normal good practice is observed **ThistleBond '60 DUROMETER Rapid Paste Elastomer'** 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 0.125kg sachets.

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](http://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



www.thistlebond.com

TRK19062/1201

# TECHNICAL DATA SHEET

## PlasBronze

**ThistleBond 'PlasBronze'** is a high performance, rapid curing synthetic metal repair compound in the form of a stick which has been specifically developed for on site repairs to metal components such as castings, worn threads, jigs and mould patterns.

**ThistleBond 'PlasBronze'** is based on a unique epoxy resin system co-reacted with an organo sulphur / amine blend which are then interspersed with specially chosen pigments and fillers which allow the base and activator components to be packed in intimate contact with each other. The reaction only occurs when the two components are hand mixed and the resultant blend produces a repair material with high physical and mechanical strength.

**ThistleBond 'PlasBronze'** also has the ability to set underwater which makes it highly suitable for submerged conditions.

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

### SURFACE PREPARATION

Heavy contamination due to oil or grease must be removed using **ThistleBond Cleaner**.

All loose material, rust and surface contaminants, including existing coatings, must be removed and the surface roughened by using an angle grinder, needle gun or abrasive blasting. Where grinding is used, the surface should be cross-scored to improve adhesion. Care must be taken, when angle grinding, to avoid polishing rather than roughening metal surfaces.

Surfaces should be carefully degreased again using **ThistleBond Cleaner**. Cloths should be frequently changed to avoid spreading contamination. On deeply pitted surfaces or porous castings, **ThistleBond Cleaner** should be worked into the surface by

### MIXING

Before mixing, hands should be treated with barrier cream or lightweight disposable gloves should be worn.

Sufficient product to complete the repair should be cut or broken from the stick. This should then be twisted and kneaded until a uniform colour is achieved with no streaks. The two components are colour coded to ensure complete mixing is achieved when the colour is uniform.

**ThistleBond 'PlasBronze'** should be used within 6 minutes of mixing at 20°C (68°F).

This time will be reduced at higher temperatures or extended at lower temperatures.

### APPLICATION

Prepared surfaces should be dry. The mixed material should be pressed firmly onto the prepared area, working the material into any cracks and surface defects.

When **ThistleBond 'PlasBronze'** is being used to repair leaking pipes, the flow through the pipe should be discontinued until the repair is made and the **ThistleBond 'PlasBronze'** is set. Any leaking fluid must be wiped from the prepared surface to render the surface as dry as possible before undertaking the repair.

When being used underwater it is important that **ThistleBond 'PlasBronze'** is applied direct to the parent material and not to a film of water. This can be achieved by applying finger pressure to the centre of the repair and moving the pressure progressively outwards towards the periphery, thereby excluding the moisture film between the repair and the parent material.

### Volume Capacity

66 cc (4 cu. in) per unit.

**PHYSICAL CONSTANTS**

<b>Mixing Ratio</b>	Supplied ready to use.	
<b>Appearance</b>	Concentric copper stick of putty consistency.	
<b>Drying &amp; Cure times at 20°C/68°F</b>	Usable Life	6 minutes
	Initial Set	15 minutes
	Machining	30 minutes
	Full Mechanical	2 hours
<b>Volume Solids</b>	100%	
<b>V.O.C.</b>	Nil	
<b>Shelf Life</b>	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**

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

**PHYSICAL PROPERTIES**

<b>Flexural Strength</b>	230 kg/cm <sup>2</sup> (3250 psi)
ASTM D790	
<b>Compressive Strength</b>	350kg/cm <sup>2</sup> (5000 psi)
ASTM D695	
<b>Tensile Shear Adhesion</b>	45kg/cm <sup>2</sup> (650 psi)
ASTM D1002	(Grit Blasted)
<b>Heat Distortion</b>	40°C (96°F)
ASTM D648	
<b>Hardness (Shore D)</b>	85
ASTM D2246	
<b>Corrosion Resistance</b>	5,000 hrs
ASTM B117	

FOR FURTHER INFORMATION PLEASE CONTACT

**HEALTH AND SAFETY**

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

Keep skin contact to a minimum. Use barrier cream or disposable gloves. Wash off areas of contact with soap and water.

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

**PACKAGING**

Supplied in 0.125 kg units.

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.


**ThistleBond**
[www.thistlebond.com](http://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  
 E Mail: [info@thistlebond.com](mailto:info@thistlebond.com)



www.thistlebond.com

TRK19601/0106

# TECHNICAL DATA SHEET

## ThistleWrap Pipe Repair Tape

**ThistleBond 'ThistleWrap Pipe Repair Tape'** is a high performance rapid curing moisture activated repair bandage, specifically developed for the repair of leaking pipes.

**ThistleBond 'ThistleWrap Pipe Repair Tape'** is a specially selected woven polyester fabric impregnated with a polyurethane resin, which is activated by immersion in water.

**ThistleBond 'ThistleWrap Pipe Repair Tape'** is ideal for pipe repairs to low pressure systems. As a general guide, a repair built up to a thickness of approximately 12mm (½") will withstand a maximum service pressure of 10 bar (150 psi). Higher pressures, up to 50 bar, can be achieved by first applying a 'plug' of **ThistleBond 'PlasSteel'** twiststick grade metal-filled epoxy putty over the leak.

Pipes up to a nominal diameter of 65mm may be repaired using **ThistleBond 'ThistleWrap Pipe Repair Tape'** with holes approximately 3mm to 6mm diameter, although slightly larger pipes and holes can be effectively repaired using a plug of putty as described herein, always at users discretion.

**ThistleBond 'Thistlewrap Pipe Repair Tape'** is simple, safe and easy to use, and when activated by immersion in water is ideal for the repair of pipes on all types of surfaces.

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

### SURFACE PREPARATION

All pressure within the pipe should be released. For leaks where pressure cannot be removed, holes should be stopped using a pipe repair clamp.

Remove all oil, grease, loose rust scale, sealant tape and paint from the repair area. Rough score a 10 cm (4 inch) patch around the pipe centering on the leak site.

If the pipe surface is pitted by rust, surfaces must be wire brushed to remove the loose scale. If the surface is smooth, as with copper or stainless steel, surfaces should be roughened with a coarse file, rasp or saw blade.

For plastic pipe, the external mould release must be removed. Abrade surfaces with a coarse grit sandpaper. A saw blade may also be used to create a cross hatch pattern. This is particularly useful on polypropylene and PVDF piping.

### APPLICATION

During mixing and during application, lightweight disposable gloves should be worn to protect the hands.

**ThistleBond 'ThistleWrap Pipe Repair Tape'** is a single component material which should be immersed in water and squeezed two or three times for about 5 seconds prior to use.

Remove roll from water and wrap quickly and tightly as follows.

Centre tape over leak site, wrap from bottom of roll, pulling firmly throughout application. After 5-7 plies, resin foam will come through the tape, which is desirable and aided by pulling tightly. Continue until entire roll is applied, building to a minimum thickness of ½ inch (12 mm), use a second roll if necessary. Firmly press and smooth end of roll into wrap in the direction of application. Wet gloves in water, smooth and firmly press the wet resin back into the wrap.

When used in conjunction with a plug of **ThistleBond 'PlasSteel' Putty** repeat the above instructions but having first plugged the hole. Knead a small bead of putty in gloved hand and flatten into a disc centrally over the hole pressing gently and feathering out the edges. Leave to semi-harden (full cure 30 minutes) before applying tape, although tape may be applied immediately if necessary.

**KEEP HANDS MOVING QUICKLY AND WET GLOVES FREQUENTLY TO AVOID STICKING.**

Continue rapid hand movement pressing and polishing resin in motions around and parallel to the pipe. Continue process until resins are no longer tacky. The repair should now have a smooth, hard surface and an enamel-like appearance with no fabric protruding through the surface.

After application dispose of gloves.

**NOTE:** If a thicker application is needed, spend a little less time finishing the first roll and immediately begin the application of the next. Finish the final roll as if a single roll application.

## PHYSICAL CONSTANTS

**Mixing Ratio** Supplied ready for use.

**Appearance** Resin impregnated bandage.

### Drying & Cure

<b>Times at</b>	Usable Life	2-3 minutes
<b>20°C (68°F)</b>	Initial Set	5 minutes
	Full Mechanical Strength	30 minutes

**Volume Solids** 100%

**V.O.C.** Nil

**Shelf Life** Use within 12 months of purchase. Store in original sealed containers at temperatures between 5°C (40°F) and 30°C (86°F).

**Potable Water** Water Regulations Advisory Scheme - Approved product.

## PHYSICAL PROPERTIES

**Flexural Strength** 32 N/mm<sup>2</sup> (4640 psi)

ASTMD790

**Tensile Strength** 19 N/mm<sup>2</sup> (2755 psi)

ASTMD6382

**Hardness (Shore D)** 82

ASTMD2240

**Adhesion (Bond Strength)** 14 N/mm<sup>2</sup> (2000 psi)

**Maximum Heat Resistance** 270°C (302°F)

**Maximum Service Pressure**

(½ inch/12 mm thick repair) 10 bar (150 psi)

(1 inch/25 mm thick repair) 27.5 bar (400 psi)

## HEALTH AND SAFETY

As long as normal good practice is observed **ThistleBond 'ThistleWrap Pipe Repair Tape'** can be safely used.

Keep skin contact to a minimum. Use disposable gloves. Wash off areas of contact with soap and water.

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

## PACKAGING

Supplied as a rolled bandage in an air tight sachet in the following 4 sizes:

TRK19601 -	50mm x 1.5 metres
TRK19603 -	50mm x 3.6 metres
TRK19604 -	75mm x 3.6 metres
TRK19605 -	100mm x 3.6 metres

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.



**ThistleBond**

[www.thistlebond.com](http://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**  
**E Mail: info@ thistlebond.com**

FOR FURTHER INFORMATION PLEASE CONTACT