UPS-PJPC 19060 SG THISTLEBOND STICK GRADE METAL RAPAID-CURING EPOXY PUTTY FOR EMERGENCY METAL REPAIRS

UNIQUE POLYMER SYSTEMS
INNOVATE | REBUILD | ENHANCE

Parker James

In Partnership with Parker James, Unique Polymer Systems delivers mission-ready, defence-grade repair & protection systems.

UPS-PJPC 19060 SG THISTLEBOND STICK GRADE METAL is a high-performance, fast-setting, solvent-free epoxy putty stick engineered for emergency repairs and maintenance of metallic surfaces. Supplied in a convenient, pre-measured stick form, the material is activated simply by hand-kneading and can be applied without specialist tools—ideal for fast response scenarios where downtime must be minimised.

The two-component formulation develops rapid mechanical strength and offers exceptional adhesion to ferrous and non-ferrous metals. It cures to form a durable, machinable compound that can be tapped, drilled, sanded, or painted once fully cured. This makes UPS-PJPC 19060 SG the perfect solution for sealing leaks, patching cracks, and rebuilding worn or damaged components—especially in hard-to-access areas or where conventional application methods are not practical.

PRODUCT FEATURES

- **Simple Hand Application:** No tools required—just cut, knead, and apply directly to the repair area.
- **Rapid Cure Time**: Cures hard in just 30 minutes at 20°C (68°F), reducing operational downtime.
- **Versatile Bonding**: Excellent adhesion to steel, stainless steel, aluminium, copper, and other metal substrates.
- **Solvent-Free & Clean**: Safe for use in confined spaces or sensitive environments with no VOCs.
- **Durable & Machinable**: Once cured, the repair can be drilled, tapped, filed, or painted as needed.

TYPICAL APPLICATIONS

- Sealing live leaks in metal pipes and tanks
- Repairing cracked or damaged pump and valve casings
- Rebuilding scored or pitted hydraulic rams
- Resurfacing worn shaft housings or bearing seats
- Filling damaged flange faces and worn keyways
- Sealing engine block cracks and coolant channel breaches
- Emergency patching of process lines or mechanical components

APPLICATION GUIDE

Phase 1: Surface Preparation

For Metallic Substrates – Manual Surface Prep (ST2 / SSPC SP2):

1. Remove all oil, grease, or surface contaminants using a suitable degreasing agent such as MEK (Methyl Ethyl Ketone).
2. Mechanically abrade the surface using a wire brush, metal file, or coarse sandpaper to achieve a minimum preparation standard of ISO 8501-1 ST2 (SSPC SP2).
3. Re-clean the abraded surface with MEK to ensure complete removal of dust and grease prior to application.

For Metallic Substrates – Mechanical Surface Prep (ST3 / SSPC SP3):

4. Remove any oil or grease contamination using MEK or equivalent.
5. Mechanically abrade the surface using handheld rotary or belt grinders to achieve ISO 8501-1 ST3 (SSPC SP3) standard with a visibly clean, rough surface.
6. Once prepared, thoroughly degrease the surface again using MEK.
7. The product should be applied immediately after preparation to avoid oxidation or “gingering” of the substrate.

Phase 2: Mixing & Application

Pre-Application Checks:

- Ensure both ambient and surface temperatures are above 5°C (41°F).
- The product is supplied in a pre-measured epoxy putty stick, combining base and activator in a single, easy-to-use format.

Mixing Instructions:

1. Break off the required amount of putty from the stick.
2. Wearing nitrile or latex gloves, knead the material by hand until the black and grey components blend into a uniform mid-grey colour.
3. Ensure the mix is streak-free and consistent throughout.

Working Time:

- Once fully mixed, the material has a usable life of 3–5 minutes at 20°C (68°F).
- Warmer conditions will reduce working time, cooler conditions will extend it.

Application:

1. Immediately after mixing, press the material firmly onto the prepared substrate.
2. Work the putty into the surface to ensure good mechanical adhesion and eliminate trapped air.
3. Shape and smooth as required before the material begins to cure.

Phase 3: Overcoating Guidelines

- **Minimum Time**: The repair can be overcoated once the surface is touch dry.

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- **Maximum Time**: Overcoating must occur within 1 hour of application.
    - If this window is exceeded, allow the product to fully cure, then abrade or flash blast the surface to remove contaminants and restore the mechanical key before overcoating.

APPLICATION AT A GLANCE

Step 1 – Preparation
Remove the epoxy putty stick from its packaging.

Step 2 – Portioning
Using a sharp knife or by hand, cut or break off the required amount of material.

Step 3 – Mixing
Wearing protective gloves, knead the material thoroughly by hand until the two components (black and grey) blend into a uniform mid-grey colour with no visible streaks.

Step 4 – Application
Immediately apply the mixed material to the prepared surface, pressing firmly to ensure full contact and optimal adhesion. Shape and smooth as needed before the product begins to cure (3–5 minutes working time at 20°C / 68°F).

TECHNICAL DATA & PERFORMANCE

Characteristics

Appearance

Base	Dark Grey Putty
Activator	Black Putty
Mixed	Mid Grey Putty

Solids Content

100%

Volume Capacity

55.5cc per 125gm stick

Slump Resistance

Nill at 25mm

Mixing Ratio

Product supplied in stick form

Shelf Life

5 years if unopened and stored in normal dry conditions (15-30°C / 60-86°F)

Cure Times

Useable Life

10°C (50°F)	10 minutes
20°C (68°F)	5 minutes
30°C (86°F)	2.5 minutes
40°C (104°F)	1.25 minutes

Minimum Machining Times

10°C (50°F)	1 hour
20°C (68°F)	30 minutes
30°C (86°F)	15 minutes
40°C (104°F)	7.5 minutes

Maximum Overcoating Times

10°C (50°F)	N/A
20°C (68°F)	N/A
30°C (86°F)	N/A
40°C (104°F)	N/A

Full Cure

10°C (50°F)	2 hours
20°C (68°F)	1 hour
30°C (86°F)	30 minutes
40°C (104°F)	15 minutes

Chemical Resistance

The product is resistant to a wide range of inorganic acids, alkalis, salts, and organic media. For more detailed information, please refer to the Unique Polymer Systems Technical Centre for advice.

Pack Sizes

This product is available in the following pack sizes:

125GM Stick

Mechanical Properties

Compressive Strength ASTM D695	**1843kg/cm² (12,000 psi)**
Flexural Strength ASTM D790	455kg/cm² (6,470 psi)
Tensile Shear Adhesion ASTM D1002 (Abrasive Blasted Mild Steel with 75-micron profile)	185kg/cm² (2,630 psi)
Pull Off Adhesion ASTM D4541 (Mechanically prepared mild steel to ST2 surface cleanliness)	125/cm² (1,780 psi)
Hardness Shore A ASTM D2240	79
Heat Resistance	Suitable for use in immersed conditions at temperature up to 20°C (122°F) Resistant to dry heat up to 150°C (302°F) dependent on load

Approvals

Approved by **BUREAU VERITAS** for Surface Protection and Cold Repair Products applied to Marine Vessels. Certificate No. 58535 / A0 BV.

Food Contact USDA compliant for incidental food contact. *Title 21, Food and Drugs, Chapter I, U.S. Code of Federal Regulations. FDA, Subchapter B – Food for Human Consumption, Section 175.300 (Resinous and Polymeric Coatings).*

IMPA Registration Code 81 22 11

WRAS Approved for Potable Water Applications

NSF-61 Approved for Potable Water Applications

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Global Availability

UPS-PJPC 19060 SG THISTLEBOND STICK GRADE METAL is available from a network of Global Distributors for prompt delivery. For further details and the location of your local distributor, please contact Unique Polymer Systems on:
+44(0) 1531 636300 I sales@uniquepolymersystems.com

Technical Service

Complete technical assistance is available. Please contact Unique Polymer Systems with your requirements:
+44(0) 1531 636300 I sales@uniquepolymersystems.com

The products that we supply are for professional use only, it is your responsibility to read the technical data sheets before you place an order and prior to application of the product

Quality

All Unique Polymer Systems products are manufactured and supplied in accordance with an ISO 9001 registered Quality Management System.

Warranty

Unique Polymer Systems warrants that the performance of the supplied product will conform to the typical descriptions provided in this specification, provided the material is stored correctly and used in accordance with the procedures outlined in the Technical Data Sheet.

Health & Safety

Please ensure good practices are followed at all times during the mixing and application of this product. Protective gloves and other recommended personal protective equipment must be worn. Before mixing and applying the material, please ensure you have read and fully understood all relevant information.

Legal Notice

The data provided in this Product Technical Data Sheet is for informational purposes only and is believed to be accurate at the time of issuance. However, we cannot assume responsibility for results obtained by others whose methods are beyond our control. It is the customer's responsibility to assess the suitability of the product for their intended use. Unique Polymer Systems accepts no liability arising from the use of this information or the product described herein.

About Use

Unique Polymer Systems is a global leader in advanced polymer composites and protective coatings, offering solutions for erosion, corrosion, and wear. With over 30 years of experience, we serve industries including Oil & Gas, Petrochemical, Marine, Paper & Pulp, Water, Power Generation, and Chemicals. Our focus is on providing reliable products and technical support through a global network of distributors.

About the UPS-PJPC Partnership

The UPS-PJPC product range represents a trusted collaboration between Unique Polymer Systems and Parker James Protective Coatings LTD. These high-performance repair and protection solutions are developed and manufactured by Unique Polymer Systems, with technical support and distribution through Parker James to deliver enhanced value and service to end-users.