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Technical Data Sheet

Permatex® Ultra Copper® RTV Silicone Gasket

INDUSTRIAL

PRODUCT DESCRIPTION **S.I.N.: 834-300**

Permatex® Ultra Copper® is a single component, room temperature vulcanizing gasketing compound designed to provide reliable "formed-in-place" gaskets for mechanical assemblies. This material cures on exposure to moisture in the air to form a tough, flexible, silicone rubber gasket. The product resists aging, weathering and thermal cycling without hardening, shrinking or cracking. Permatex® Ultra Copper® is the most advanced high performance, high temperature (up to 700°F intermittent) RTV gasket available.

PRODUCT BENEFITS

- High temperature resistance
- Sensor safe, non-corrosive
- Superior adhesion and flexibility
- Replaces most cut gaskets
- Improved oil resistance
- Can be used as a gasket maker or dressing
- Non-flammable, Non-toxic
- Low odor

TYPICAL APPLICATIONS

- Pumps
- Compressors
- Exhaust manifolds/headers
- Valve covers
- Oil pans
- Thermostat housings
- Gearboxes

DIRECTIONS FOR USE

For assembly as form-in-place gasket

1. Remove all previous material from mating surfaces. Permatex® Silicone Stripper or Gasket Remover is recommended for most materials.
2. For best results, clean and dry all surfaces with a residue-free solvent, such as Permatex® Brake and Parts Cleaner.
3. Cut nozzle to desired bead size, 1/16 " to 1/4 " in diameter. An 1/8" bead is usually sufficient for most applications.
4. Remove cap, puncture tube or cartridge seal and attach extension nozzle.
5. Apply a continuous and even bead of silicone to one surface, first tracing the internal areas of the gasket configuration, then all surrounding bolt holes as shown below:
6. Assemble parts immediately while silicone is still wet. Secure or tighten to recommended torque specs.
7. Re-torque will not be necessary after the product has cured.

For assembly as a gasket dressing

1. Repeat steps 1 through 4 as in previous section.
2. Apply a thin film of silicone to one surface to be sealed.
3. Place the pre-cut gasket onto silicone film.
4. Apply a second thin film to pre-cut gasket surface.
5. Remove any excess and assemble parts immediately. *Note: Product is not recommended for use as a cylinder head gasket or head gasket sealant.*

Instructions for PowerBead™

1. Clean and dry all flange surfaces to be sealed.
2. Remove black cap from top of extension nozzle.
3. Turn nozzle extension one complete turn (360°) counterclockwise.
4. Depress finger trigger and apply a continuous 1/16 inch to 1/8 inch PowerBead™ to one surface.
5. Assemble parts immediately while silicone is still wet.
6. Finger tighten flange only until material begins to seep out the sides of the flange.
7. Allow to set for at least two hours and re-torque at least one quarter to one half turn.
8. For best results, allow to cure overnight.
9. To close, turn extension nozzle clockwise until tight (about one full turn). Wipe off excess material from nozzle and replace black cap.

Storage of Unused Product

1. Create a "Silicone Plug" by allowing excess material to extend beyond the extension nozzle or aerosol tip to cure, sealing and protecting the remaining product from moisture. For reuse, simply remove the cured product from the tip.
2. For PowerBead™ dispensers, you may store remaining product using either the above "silicone plug" method or using the included plastic cap.

For Cleanup

1. Remove uncured product from parts and hand-tools with Permatex® Envirosafe® ODC Free Cleaner/Degreaser. If skinned over, break film with a dry cloth to remove as much as possible. Remove the remaining material with Permatex® Gasket Remover.
2. Clean hands with a dry cloth or Permatex® Fast Orange® Hand Cleaner.

PROPERTIES OF UNCURED MATERIAL

	Typical Value
Chemical Type	Oxime silicone rubber
Appearance	copper non-sag paste
Odor	Low odor
Specific Gravity	1.05
Extrusion rate @ 25°C, (grams/min)	>300
Flash Point °C (°F)	>93 (>200)

NOT FOR PRODUCT SPECIFICATIONS.
THE TECHNICAL DATA CONTAINED HEREIN ARE INTENDED AS REFERENCE ONLY.
PLEASE CONTACT PERMATEX, INC., TECHNICAL SERVICE DEPARTMENT FOR ASSISTANCE AND RECOMMENDATIONS FOR YOUR SPECIFIC APPLICATION.
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TYPICAL CURING PERFORMANCE

Permatex® Ultra Copper® Hi-Temp RTV Silicone Gasket cures on exposure to moisture in the air. The product dries tack free in one hour and fully cures in 24 hours. Cure times will vary with temperature, humidity and gap.

PERFORMANCE OF CURED MATERIAL

After 7 days at 25°C (77°F), 50% Relative Humidity

	Typical Values	
Hardness (Shore A)	>26	
Elongation, %*	>350	
Tensile Strength, N/mm^2 (psi) **	>1.4	(>203)

*Material will stretch 3.5 times its original length before breaking.

**Amount of force required to break material.

TYPICAL ENVIRONMENTAL RESISTANCE

Temperature Resistance	Typical Values	
Continuous, °C (°F)	-54 to 316	(-65 to 600)
Intermittent, °C (°F)	-54 to 371	(-65 to 700)

Chemical / Solvent Resistance

The product retains effective properties in contact with most shop fluids, automotive fluids, such as motor oil, transmission fluids, alcohol and antifreeze solutions. Note: Not recommended for parts in contact with gasoline.

GENERAL INFORMATION

This product is not recommended for use in pure oxygen and/or oxygen rich systems and should not be selected as a sealant for chlorine or other strong oxidizing materials.

For safe handling information on this product, consult the Material Safety Data Sheet, (MSDS).

ORDERING INFORMATION

Part Number	Container Size
81878 (101BR)	3 oz. tube, carded
85088	8.75 oz. PowerBead

STORAGE

Products shall be ideally stored in a cool, dry location in unopened containers at a temperature between 8° to 28°C (46° to 82°F) unless otherwise labeled. Optimal storage is at the lower half of this temperature range. To prevent contamination of unused product, do not return any material to its original container.

NOTE

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