PRODUCT DESCRIPTION

PERMATEX® The Right Stuff® 90 Minute is a single component, room temperature curing, elastomeric gasketing compound designed to provide reliable “formed-in-place” gaskets for mechanical assemblies. This “The Right Stuff® spin-off” formula has been created for easy application from a squeeze tube, while still maintaining blow-out resistance after 90 minutes. It has been formulated specifically as a replacement for conventional cut gaskets where instant sealability is advantageous. The product resists aging, weathering and thermal cycling without hardening, shrinking or cracking. Designed for superior bonding properties to oil contaminated metals as compared to other formed-in-place gaskets, and maintains outstanding oil resistance.

90 Minute Seal

Parts assembled with PERMATEX® The Right Stuff® 90 Minute can be returned to service 90 minutes after application.

PRODUCT BENEFITS

- Low viscosity allows for easy squeeze tube application
- Blow-out resistant after 90 minutes
- Replaces most cut gaskets
- Low odor and volatility
- Non-corrosive
- Resistant to ATF/oil/coolant
- Consistent sealing
- Sensor safe

TYPICAL APPLICATIONS

- Timing gear covers
- Transmission pans
- Valve covers
- Oil pans
- Water pumps
- Gearboxes
- Intake manifold end seals
- Stamped sheet metal covers
- Compressors
- Gearboxes

DIRECTIONS FOR USE

For assembly as form-in-place gasket

1. Remove all previous material from mating surfaces. Permatex® Silicone Stripper 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 seal and attach extension nozzle.
5. Apply a continuous and even bead of The Right Stuff® 90 Minute to one surface, first tracing the internal areas of the gasket configuration, then all surrounding bolt holes as shown below:

6. Assemble parts within 5 minutes while The Right Stuff® 90 Minute 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: Not for use as a head gasket or on parts in contact with gasoline.

PROPERTIES OF UNCURED MATERIAL

<table>
<thead>
<tr>
<th>Property</th>
<th>Typical Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical Type</td>
<td>Oxime silicone</td>
</tr>
<tr>
<td>Appearance</td>
<td>Metallic Black</td>
</tr>
<tr>
<td>Odor</td>
<td>Low Odor</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.44</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Thixotropic paste</td>
</tr>
<tr>
<td>Extrusion rate @ 25°C, (grams/min)</td>
<td>&gt;150</td>
</tr>
<tr>
<td>Flash Point °C (°F)</td>
<td>&gt;93 (&gt;200)</td>
</tr>
</tbody>
</table>

TYPICAL CURING PERFORMANCE

Cure Time

The surface of this adhesive becomes dry to touch on exposure to atmospheric moisture within 15 minutes at 23±2°C, 50 ± 5% RH. The product cures on exposure to moisture in the air and dries tack free in two hours, with full cure in 24 hours. Cure times will vary with temperature, humidity and gap.
TYPICAL PROPERTIES OF CURED MATERIAL

Typical Value
Hardness, Shore A, ASTM D2240  30 ± 5
Elongation at break, %, ASTM D412  360
Tensile strength, N/mm², ASTM D412  1.7 min

TYPICAL ENVIRONMENTAL RESISTANCE

Temperature Resistance

<table>
<thead>
<tr>
<th></th>
<th>Continuous, °C (°F)</th>
<th>Intermittent, °C (°F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Typical Values</td>
<td>-54 to 204</td>
<td>-54 to 260</td>
</tr>
<tr>
<td></td>
<td>(-65 to 400)</td>
<td>(-65 to 500)</td>
</tr>
</tbody>
</table>

Chemical / Solvent Resistance

The product retains effective properties in contact with 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

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Container Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>25228</td>
<td>3 oz. auto. tube, carded</td>
</tr>
</tbody>
</table>

STORAGE

Product shall be ideally stored in a cool, dry location in unopened containers at a temperature between 8°C and 28°C (46°F and 82°F) unless otherwise labeled. Optimal storage is at the lower half of this temperature range.

DATA RANGES

The data contained herein may be reported as a typical value and/or range. Values are based on actual test data and are verified on a periodic basis.

NOTE

The data contained herein are furnished for information only and are believed to be reliable. We cannot assume responsibility for the results obtained by others over whose methods we have no control. Permatex, Inc. specifically disclaims all warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose, arising from sale or use of Permatex, Inc. products and disclaims any liability for consequential or incidental damages of any kind, including lost profits. This product may be covered by one or more United States or foreign patents or patent applications.