Toll Free: 87 PERMATEX
(877-376-2839)

10 Columbus Blvd., Hartford, Connecticut 06106

6875 Parkland Boulevard, Solon Ohio 44139

Technical Data Sheet

Permatex® Hi-Temp Metal Repair Compound

AAM Revised 07/02

PRODUCT DESCRIPTION **SIN.: 834-300**

Permatex® Hi-Temp Metal Repair Compound is a single part, ceramic/stainless steel-filled putty which bonds well to cast iron, steel and other metal substrates. It is ideal for bonding, sealing and patching cracked manifolds, headers, exhaust vents/systems and casings. The product sets at room temperature and becomes fully cured on exposure to heat. It is machineable and resists degradation when in contact with fuels, oils and other corrosives.

PRODUCT BENEFITS

- Easy to use single component system, no mixing
- Stronger than muffler putties
- Withstands up to 2000°F
- Excellent thermal shock resistance

TYPICAL APPLICATIONS

- Exhaust manifolds
- Pump housings
- Headers
- Engine Blocks

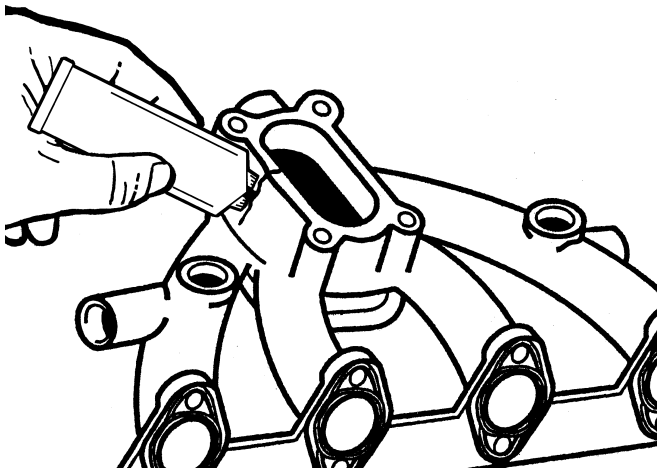
DIRECTIONS FOR USE

Surface Preparation

Permatex® Hi-Temp Metal Repair Compound bonds ideally to surfaces that have been sandblasted or roughened, then thoroughly cleaned. All surfaces must be free of oil, grease, dirt or other contaminants before application. Porous metal castings should be baked at high temperatures to burn off embedded oils. For best results, smooth metal surfaces should be abrasive-blasted with a course media to Sp-10 near white blast (0.001" minimum profile). When performing crack-filling repair, holes should be drilled at each end of the crack to alleviate stresses and prevent additional cracking.

Application

Permatex® Hi-Temp Metal Repair Compound should be mixed thoroughly to a uniform consistency by kneading the product pouch. Apply the material to the repair area and work it in using a spatula or putty knife. Cross-sections thicker than 1/4 inch should be coated in multiple layers to avoid bubbles and cracks. Total cross-sections should not exceed 3/8 inch in depth. Allow the product to air dry 5 to 7 hours (longer for thicker cross-sections) before returning the application to service. A heat cure is not required if the operating temperature exceeds 400ºF. Otherwise, heat cure at 200ºF for 3 hours. Cleanup uncured material with warm water and soap. After cure, the product can be sanded, drilled or tapped as required without the use of coolant or lubricant. Clean hands with Permatex® Fast Orange® Hand Cleaner.



PROPERTIES OF UNCURED MATERIAL

	Typical Value	Range
Chemical Type	Ceramic/stainless steel-filled water-based paste	
Appearance	Gray putty	
Odor	None	
Specific Gravity	1.56	1.2 to 1.8
Viscosity	Paste	
Flash Point	Does not apply	

TYPICAL PROPERTIES OF CURED MATERIAL

Physical Properties

	Typical Value
Coefficient of Thermal Expansion, ASTM E-831-93, ºC^{-1}	8 x 10^{-6}

PERFORMANCE OF CURED MATERIAL

	Typical Value	Range
Shear Strength, ASTM D 1002, 6 hr @ Room Temperature Cure (70ºF)		
Mild steel, grit blasted (psi)	90	50 to 130
Cast iron, grit blasted (psi)	80	20 to 140
Aluminum, grit blasted (psi)	60	30 to 80
Shear Strength, ASTM D 1002, 24 hr @ Room Temperature Cure (70ºF)		
Mild steel, grit blasted (psi)	280	200 to 360
Cast iron, grit blasted (psi)	260	190 to 340
Aluminum, grit blasted (psi)	210	170 to 260

Shear Strength, ASTM D 1002, 6 hr @ Room Temperature Cure (70ºF) plus 1 hr @ 400ºF		
Mild steel, grit blasted (psi)	390	340 to 450
Cast iron, grit blasted (psi)	520	280 to 760
Aluminum, grit blasted (psi)	290	230 to 350
Shear Strength, ASTM D 1002, 24 hr @ Room Temperature Cure (70ºF) plus 3 hrs @ 200ºF		
Mild steel, grit blasted (psi)	450	380 to 515
Cast iron, grit blasted (psi)	650	440 to 860
Aluminum, grit blasted (psi)	260	170 to 350

TYPICAL ENVIRONMENTAL RESISTANCE
Environmental Aging - Effect on Bulk Properties

Test Procedure: Solid specimens 0.075" thick were immersed in various solvents or conditions for 1 week @ room temperature (70ºF) unless stated otherwise. The weight change of the specimens was calculated
Cure procedure: 24 hrs @ room temperature + 3 hrs @ 200ºF

Solvent/Condition	Typical Values, %	Range, %
Water	-63	-50 to -76
Unleaded gasoline	-34	-31 to -36
Motor oil	40	35 to 47
Transmission fluid	36	30 to 41
Water/glycol (50% to 50%)	26	10 to 42
Condensing salt fog (95ºF)	Not Recommended	-
100% relative humidity (100ºF)	Not Recommended	-

GENERAL INFORMATION
This product is not recommended for use in pure oxygen and/or oxygen rich systems and should not be selected for use with 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
26346	20g pouch

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
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.