

MRO Products & OEM Adhesives


































Devcon[®]

Permatex[®]

TW

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Products to Extend the Life of Your Processing Equipment

More than 59 years ago, Devcon introduced Plastic Steel®, a tough, steel-filled epoxy putty, as an alternative to welding and brazing. Today, with the addition of several well-known Permatex® product lines, ITW Performance Polymers boasts one of the world's most comprehensive offerings of maintenance and repair products. All these products can be easily applied by plant maintenance personnel with minimal training.

Devcon® and Permatex® MRO products include:

- ▼ Metal repair epoxies designed to extend the life of critical process equipment
- ▼ Flexane® urethanes for rubber repair
- ▼ Protective coatings that reduce damage from wear and abrasion
- ▼ Floor Savers™ repair systems for repairing, protecting and skid-proofing facility floors
- ▼ Compounds for sealing and removing gaskets
- ▼ Emergency repair products for repairing and returning equipment to service in minutes
- ▼ Anti-seize and specialty lubricants
- ▼ Fast Orange® waterless lotion and pumice hand cleaners



Note: Permatex brand products are not for sale in Canada

MRO Product Selector Guide

MRO Applications	Plastic Steel® Putty (A)	Aluminum Putty (F)	Plastic Steel® (B)/ Aluminum Liquid (F-2)	Titanium Putty	Stainless Steel Putty (ST)	Ceramic Repair Putty/ Compound	Brushable Ceramic	Wear Guard™ High-Temp/ High Impact	DFense Blok™ / DFense Blok™ Fast Cure (FC)	DFense Blok™ Quick Patch	Magic Bond™ Epoxy Putty	Underwater Repair Putty (UW)
Acid Resistant Coating				▼		▼	▼					
Casting Repair	▼	▼		▼	▼							▼
Chemical Resistant Products / Coatings				▼		▼	▼					
Chocking, Leveling Compound			▼									
Coating (Impact, Abrasion)				▼		▼	▼	▼	▼	▼		
Collection Bins									▼			
Condenser Tube Sheet Coating						▼	▼		▼			
Corrosion Resistant Coating						▼	▼	▼	▼			
Cyclones								▼	▼			
Epoxy (Fast-Cure Repairs)											▼	
Fans / Exhauster Fan Blades						▼		▼	▼			
Flotation Cells							▼		▼			
Holding Fixtures (Making Molds)			▼									
Hoppers (Rebuild & Coat)							▼	▼	▼			
Leaks (Drums, Pipes, Tanks)	▼			▼						▼	▼	▼
Lining Coal Chutes								▼	▼	▼		
Machinable Repair Material	▼	▼	▼	▼	▼							
Meat and Poultry Plants	▼			▼	▼		▼					
Pipe Elbow Coatings / Linings								▼	▼			
Pulverizers / Mills								▼	▼			
Pump Repairs - Slurry				▼		▼			▼			
Pump Repairs - Water				▼		▼	▼					▼
Rebuild Worn Threads / Keyways / Metal	▼		▼	▼								
Repairing Engine Blocks	▼			▼								
Screw Conveyors									▼			
Shaft Repairs				▼								
Tank Linings						▼	▼					▼
Tank Repairs (Holes)	▼			▼							▼	▼
Valve Rebuild / Repairs	▼	▼		▼		▼	▼					
Wet / Damp Surface Bonding											▼	▼

The Key to Successful Repairs

Proper surface preparation and thorough cleaning are essential for the successful application of Devcon repair products and protective coatings.



General Surface Preparation

In general, the following steps will help you properly prepare a surface prior to applying Devcon® products:

- 1) Make sure the surface is completely dry. Moisture will adversely affect the strength of the bond to the surface.
- 2) Remove all surface contamination (paint, rust and grime) by abrasive blasting, sanding or other mechanical means.
- 3) Degrease with Devcon® Cleaner Blend 300.
- 4) Abrade the surface to roughen it and create a surface profile.
- 5) Use the appropriate Devcon® primer.

For detailed surface preparation procedures, refer to the appropriate substrate category.



Metal

To properly prepare a metal surface:

- 1) If the surface is oily or greasy, degrease it with Devcon® Cleaner Blend 300.
- 2) Abrasive-blast the surface with 25-40 grit (or coarser) to produce a good surface profile. If you cannot abrasive-blast the surface, use a 60 grit or coarser sandpaper to achieve a similar result.
- 3) Immediately coat the metal surface with Flexane® FL-10 Primer to prevent it from rusting.
- 4) Make repairs as soon as possible after blasting the substrate to avoid oxidation or flash rusting.

Aluminum Surfaces

Oxidation on aluminum surfaces reduces epoxy adhesion. This oxidation film must be removed before repairing aluminum with Devcon® Metal Repair Epoxies.

To properly prepare an aluminum surface:

- 1) Remove oxidation by mechanical means such as grit-blasting or by chemical means such as acid etching.
- 2) Follow the General Surface Preparation guidelines.



Rubber

To properly prepare a rubber surface:

- 1) Abrade the surface using a rubber rasp or a grinder with a wire wheel to produce a good surface profile. (Oils and contaminants imbedded in the rubber surface are typically released in this process.)
- 2) Remove all oil and grease from the rubber surface with Devcon® Cleaner Blend 300 and an abrasive pad.
- 3) Wipe the surface with a clean, lint-free cloth continuously until black residue is no longer picked up by the white cloth.
- 4) Prime the surface as follows:

Rubber to metal: Coat all metal surfaces (including stainless steel and aluminum) with two coats of Flexane® FL-10 Primer. The primer will significantly improve adhesion of Devcon products to metal.

Rubber to metal (for immersion service): Coat any metal that will be immersed in an aqueous solution with Flexane® FL-10 Primer and Flexane® FL-20 Primer. First apply the FL-10 Primer and let dry for 60 minutes. Next, coat with the FL-20 Primer. Let dry for 30 minutes before applying the Devcon product.

Rubber to rubber: Coat all gum rubbers, neoprene or cured urethanes with a thin coat of Flexane® FL-20 Primer. For ultimate peel strength, use FL-40 Primer (on rubber only).

Rubber to concrete: Coat concrete with Flexane® FL-20 Primer. Multiple coats may be necessary because concrete is very porous. Let the primer dry for 30 minutes between coats.

Rubber to wood or fiberglass: Coat these surfaces with Flexane® FL-20 Primer. Soft woods will require a second coat due to their absorption characteristics.

When bonding rubber to other surfaces, contact ITW Performance Polymers Technical Service for a recommendation on primers and surface preparation procedures.





Concrete

To properly prepare a concrete surface:

- 1) Degrease the surface with Devcon® Cleaner Blend 300 or any water-based emulsifying cleaner and rinse thoroughly. Multiple cleanings may be necessary. Power washers or steam cleaners are very effective and can reduce the number of passes needed to clean the surface. Let the surface dry thoroughly before proceeding.
- 2) Remove any cap-curing agents that were applied to the concrete when it was poured. These agents form a dense, impenetrable finish, making it almost impossible for coatings to adhere to them.
- 3) Shot blast (Blastrac®) the concrete to create a porous surface profile. This will improve surface “wetting” and coating or repair product adhesion.



Wet Surfaces

In general, Devcon® repair products and protective coatings will not adhere to wet surfaces.

To properly repair a wet surface:

- 1) Review the General Surface Preparation guidelines.
- 2) Thoroughly dry the surface. (If you are using Devcon® Underwater Repair Putty (UW), refer to Underwater Surfaces section.)
- 3) Stop all leaks or seepage as follows:
 - ▼ Shut off the flow or pressure;
 - ▼ Fit a wooden peg or a sheet metal screw into the hole; or
 - ▼ Stuff wax, cork, plumber’s caulk, Mortite or a cloth into the opening.

If the leak is caused by corrosion, the sidewall might be weak. Open the orifice until sound metal is exposed and the wall is thick enough to be plugged.

- 4) Remove surface condensation (sweating) or dampness with a heat gun or similar device.



Underwater Surfaces

To properly prepare an underwater surface:

- 1) Remove all dirt, barnacles, flaking paint or algae/seaweed from the surface.
- 2) Wipe the surface with a clean cloth to remove any film. Although you cannot degrease underwater, wiping and turning a clean cloth will often remove any film from the surface.
- 3) Abrade the surface if possible. (Use a file or other mechanical means.)
- 4) Remove oxidation by mechanical means such as high-pressure water or grit-blasting, or by chemical means such as acid etching.

ITW Performance Polymers Technical Service:

If you have questions, please contact
Technical Service:

1-855-489-7262

Blastrac® is a registered trademark of Blastrac, NA.



Devcon® Metal Repair Putties

Metal-filled epoxy putties allow fast, economical, permanent repairs to plant and equipment; cure quickly; and resist corrosion and harsh chemicals.



Devcon® Plastic Steel® Putty (A)

The original metal-filled epoxy putty, it is ideal for repairing areas where welding or brazing would be impractical. Can be drilled, tapped and machined. Conforms to the requirements of MIL-PRF-24176C, Type I.



Item #	Container Size
10110	1 lb
10120	4 lb
10130	25 lb

Devcon® Plastic Steel® 5 Minute® Putty (SF)

Fast-curing, steel-filled epoxy for emergency repairs at temperatures as low as 40°F. Repaired parts can be returned to service within one hour.



Item #	Container Size
10240	1 lb

Devcon® Aluminum Putty (F)

Aluminum-filled epoxy putty for dependable nonrusting repairs to aluminum castings, machinery and equipment. Widely used in HVAC applications, it conforms to requirements of MIL-PRF-24176C, Type II.



Item #	Container Size
10610	1 lb
10620	3 lb

Devcon® Titanium Putty

High-performance, nonrusting titanium-reinforced epoxy putty for making repairs that can be precision machined. Withstands heavy loads in harsh chemical environments. Conforms to the requirements of MIL-PRF-24176C, Type I.



Item #	Container Size
10760	1 lb
10770	2 lb

Devcon® Stainless Steel Putty (ST)

Stainless steel-filled epoxy putty for patching, repairing and rebuilding stainless steel surfaces as well as food processing equipment.



Item #	Container Size
10270	1 lb

Devcon® Bronze Putty (BR)

Bronze-filled epoxy putty for repairing bronze and brass bushings, castings and parts.



Item #	Container Size
10260	1 lb

Devcon® Ceramic Repair Putty

Trowelable, alumina-filled epoxy compound for rebuilding, smoothing and protecting processing equipment exposed to corrosion, erosion, cavitation, chemicals and acids. Conforms to the requirements of MIL-PRF-24176C, Type I.



Item #	Container Size
11700	3 lb

Devcon® Ceramic Repair Compound

Trowelable, alumina-filled epoxy compound with a 45-minute pot life and larger kit size for bigger jobs of rebuilding, smoothing and protecting processing equipment.

Item #	Container Size
11730	32 lb

Devcon® Wear Resistant Putty (WR-2)

Smooth, nonrusting, all-purpose epoxy compound for repairs requiring smooth, high-slip finishes (such as lathe beds).

Item #	Container Size
11410	1 lb
11420	3 lb

Devcon® HVAC Repair (Special F)

Aluminum-filled epoxy for repairing worn or fatigued metals. Ideal for repairing copper compressor coils.

Item #	Container Size
19770	6.5 oz

Devcon® FasMetal™

High-performance, alumina-filled epoxy for making quick, permanent emergency repairs to pipes, chutes, tanks and bearing housings.



Item #	Container Size
10780	.75 lb

Approved by
American Bureau of Shipping



Physical Properties	Plastic Steel® Putty (A)	Plastic Steel® 5 Minute® Putty (SF)	Aluminum Putty (F)	Stainless Steel Putty (ST)	Bronze Putty (BR)	Titanium Putty	Ceramic Repair Putty	Ceramic Repair Compound	Wear Resistant Putty (WR-2)	HVAC Repair (Special F)	FasMetal™
Color	Dark Grey	Dark Grey	Aluminum	Grey	Bronze	Grey	Dark Blue	Dark Blue	Dark Grey	Grey	Grey
Mix ratio by weight / volume resin:hardener	9:1 / 2.5:1	1.7:1 / 1:1	9:1 / 4:1	11:1 / 3.75:1	9:1 / 3:1	4.3:1 / 3:1	7:1 / 4.3:1	4.7:1 / 3.3:1	9:1 / 4:1	0.9:1 / 1:1	1.07:1 / 1:1
Mixed viscosity cP	Putty	Putty	Putty	Putty	Putty	Putty	Putty	Putty	Putty	40,000	Putty
Functional cure hours	16	1	16	16	16	16	16	16	16	16	1
Pot life minutes @ 75 °F	45	5	60	58	35	21	25	45	45	60	4
Specific volume inches³/pound	11.9	12.2	17.5	12.4	12.4	11.7	16.4	17.9	13.9	16.1	17.2
Coverage per pound inches² @ 1/4" thickness	48	49	70	50	50	47	66	72	56	64	69
Cured hardness (ASTM D2240) Shore D	85	85	85	85	85	87	90	86	85	85	90
Cured shrinkage (ASTM D2566) inch/inch	0.0006	0.0006	0.0008	0.0010	0.0010	0.0010	0.0022	0.0024	0.0005	0.0008	0.0093
Adhesive tensile shear (ASTM D1002) psi	2,800	2,026	2,600	2,385	2,680	2,000	2,000	2,231	2,200	2,500	2,000
Compressive strength (ASTM D695) psi	8,260	10,400	8,420	8,400	8,540	15,200	12,700	10,240	9,800	8,420	12,700
Flexural strength (ASTM D790) psi	5,600	7,680	6,760	5,280	6,180	7,700	6,475	5,870	6,500	6,260	7,700
Modulus of elasticity (ASTM D638) psi x 10⁵	8.5	7.5	8.0	8.0	8.0	9.5	9.0	8.1	7.5	7.8	8.5
Coefficient of thermal expansion (ASTM D696) [(in)/(in x °F)] x 10⁻⁵	48	34	29	34	33	22	17	20	32	29	32
Thermal conductivity (ASTM C177) [(cal x cm)/(sec x cm² x °C)] x 10⁻³	1.37	2.65	1.73	1.23	1.57	1.95	1.88	1.72	1.67	1.73	2.04
Dielectric constant (ASTM D150) 1 kHz	67.5	35.0	21.4	75.0	75.0	44.8	41.0	38.0	6.3	21.4	18.6
Dielectric strength (ASTM D149) volts/mil	30	30	100	30	25	56	370	350	400	100	370
Maximum continuous dry service temperature °F	250	200	250	250	250	350	350	350	250	250	250

Key: ● Excellent ○ Very Good ○ Fair ○ Poor

Chemical Resistance	Plastic Steel® Putty (A)	Plastic Steel® 5 Minute® Putty (SF)	Aluminum Putty (F)	Stainless Steel Putty (ST)	Bronze Putty (BR)	Titanium Putty	Ceramic Repair Putty	Ceramic Repair Compound	Wear Resistant Putty (WR-2)	HVAC Repair (Special F)	FasMetal™
ACIDS											
Acetic 10%	○	○	○	○	○	○	○	○	○	○	○
Hydrochloric 10%	●	○	●	●	●	●	●	●	●	○	○
Sulfuric 10%	●	○	●	●	●	●	●	●	●	○	○
ALCOHOLS											
Methanol	○	○	○	○	○	●	●	●	○	○	○
Isopropanol	○	○	○	○	○	●	●	●	○	○	○
KETONES											
Acetone	○	○	○	○	○	○	○	○	○	○	○
Methyl ethyl ketone	○	○	○	○	○	○	○	○	○	○	○
ALKALIS											
Ammonium hydroxide 20%	●	○	○	●	●	●	●	●	●	○	○
Sodium hydroxide 10%	●	○	○	●	●	●	●	●	●	○	○
HYDROCARBONS											
Gasoline (unleaded)	●	●	●	●	●	●	●	●	●	●	●
Mineral spirits	●	●	●	●	●	●	●	●	●	●	●
CHLORINATED HYDROCARBONS											
1-1-1 Trichloroethane	●	○	●	●	●	●	●	●	●	○	○
SALTS											
Sodium chloride	●	○	●	●	●	●	●	●	●	●	○
Trisodium phosphate	●	○	●	●	●	●	●	●	●	●	○

Liquids and Metal Casting Compounds

Pourable epoxy compounds provide accurate detail reproduction and are ideal for making molds, patterns, holding fixtures and forming dies.

Devcon® Plastic Steel® Liquid (B)

A pourable steel-filled epoxy that provides accurate detail reproduction in making holding fixtures, light gauge forming dies and molds. Can be drilled, tapped and machined. Qualifies under Federal Specification MMM-A-1754, Adhesive/Sealing.



Item #	Container Size
10210	1 lb
10220	4 lb
10230	25 lb

Devcon® Aluminum Liquid (F-2)

Aluminum-filled pourable epoxy for making molds, patterns and holding fixtures. It can be drilled, tapped and machined and qualifies under Federal Specification MMM-A-1754, Adhesive/Sealing.



Item #	Container Size
10710	1 lb
10720	3 lb

Devcon® Liquid Release Agent

Silicone release agent prevents Devcon's epoxy and urethane compounds from sticking to patterns or mold surfaces.



Item #	Container Size
19600	1 pt

Devcon® Cleaner Blend 300

Safe, multi-purpose, nontrichloroethane based degreaser for removing heavy grease and oil from metal surfaces.

Item #	Container Size
19510	1 pt



Devcon® Brushable Ceramic



When applied in a 15-20 mil coating, this low-viscosity, alumina-filled, brushable epoxy compound produces a smooth, protective barrier against wear, abrasion, corrosion, erosion and chemical attack. Devcon® Brushable Ceramic White is NSF 61 Certified.

Item #	Container Size
11760	2 lb (red)
11762	12 lb (red)
11765	2 lb (blue)
11767	12 lb (blue)
11768	55 lb (blue)
11770	2 lb (white)

Approved by
American Bureau of Shipping



For Technical Information or information on where to buy Devcon® and Permatex® products, call 1-855-489-7262 or visit www.itwadhesives.com



Physical Properties	Plastic Steel® Liquid (B)	Aluminum Liquid (F-2)	Brushable Ceramic	
Color	Dark Grey	Aluminum	Red, Blue	White
Mix ratio by weight / volume resin:hardener	9:1 / 3:1	9:1 / 5:1	5.6:1 / 3.4:1	8.5:1 / 5.6:1
Mixed viscosity cP	15 / 25,000	15 / 25,000	32,000	40,000
Functional cure hours	16	16	16	16
Pot life minutes @ 75 °F	45	75	40	21
Specific volume inches ³ /pound	13.1	17.5	17.5	16.5
Coverage per pound inches ² @ 1/4" thickness	52	70	7.6 ¹	7.6 ¹
Cured hardness (ASTM D2240) Shore D	85	85	90	87
Cured shrinkage (ASTM D2566) inch/inch	0.0006	0.0009	0.0020	0.0020
Adhesive tensile shear (ASTM D1002) psi	2,800	2,700	2,000	2,000
Tensile strength (ASTM D638) psi	4,900	5,000	3,800	3,800
Compressive strength (ASTM D695) psi	10,200	9,820	15,200	15,200
Flexural strength (ASTM D790) psi	7,480	7,180	8,000	8,000
Modulus of elasticity (ASTM D638) psi x 10 ⁵	8.5	7.5	9.0	9.0
Coefficient of thermal expansion (ASTM D696) [(in)/(in x °F)] x 10 ⁻⁶	38	50	19	19
Thermal conductivity (ASTM C177) [(cal x cm)/(sec x cm ² x °C)] x 10 ⁻³	1.39	1.58	1.92	1.92
Dielectric constant (ASTM D150) 1 kHz	67.5	8.6	38.7	38.7
Dielectric strength (ASTM D149) volts/mil	30	100	382	382
Maximum continuous dry service temperature °F	250	250	350	350

NOTES: ¹ Coverage (feet² @ 15 mils)

Key: ● Excellent ● Very Good ○ Fair ⊙ Poor

Chemical Resistance	Plastic Steel® Liquid (B)	Aluminum Liquid (F-2)	Brushable Ceramic	Brushable Ceramic
ACIDS				
Acetic 10%	⊙	⊙	⊙	⊙
Hydrochloric 10%	●	●	●	●
Sulfuric 10%	●	●	●	●
ALCOHOLS				
Methanol	⊙	⊙	●	●
Isopropanol	⊙	⊙	●	●
KETONES				
Acetone	⊙	⊙	⊙	⊙
Methyl ethyl ketone	⊙	⊙	⊙	⊙
ALKALIS				
Ammonium hydroxide 20%	●	○	●	●
Sodium hydroxide 10%	●	○	●	●
HYDROCARBONS				
Gasoline (unleaded)	●	●	●	●
Mineral spirits	●	●	●	●
CHLORINATED HYDROCARBONS				
1-1-1 Trichloroethane	●	●	●	●
SALTS				
Sodium chloride	●	●	●	●
Trisodium phosphate	●	●	●	●

DFense Blok™

DFense Blok™ is a new, innovative line of specially formulated wear and abrasion products designed to outperform and outlast traditional wear and abrasion epoxies, while also providing superior performance in the most severe conditions.

Devcon® DFense Blok™

Surface Wetting Agent
A thixotropic epoxy gel system that improves the ease of application and cured adhesion properties of DFense Blok™

Item #	Container Size
11330	30 lb

Devcon® DFense Blok™

Fast Cure (FC)
Alumina ceramic bead-filled epoxy system with outstanding wear and abrasion resistance for severe service conditions. Fast cure allows repaired processing equipment to be returned to service in as little as 2 hours.

Devcon® DFense Blok™

Quick Patch
Alumina ceramic bead-filled epoxy system with a very fast cure speed for emergency patching of processing equipment. Provides wear and abrasion resistance for extended service life.

Item #	Container Size
11350	9 lb

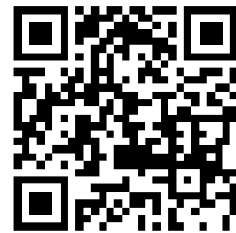
Devcon® DFense Blok™

Surface Wetting Agent
A thixotropic epoxy gel system that improves the ease of application and cured adhesion properties of DFense Blok™

Item #	Container Size
11320	1 lb

NEW!

**DFENSE
BLOK™**



**Watch our
Impact Test!**



Physical Properties	DFense Blok™ with Surface Wetting Agent (SWA)	DFense Blok™ Fast Cure (FC)	DFense Blok™ Quick Patch
Pot life <i>minutes @ 75 °F</i>	25	15	4
Functional Cure	4-5 hours	2-3 hours	30 minutes
Coverage per pound <i>inches² @ 1/4" thickness</i>	47	53	60
Adhesive tensile shear (ASTM D1002) <i>psi</i>	2,616	2,764	2,495
Lap Shear Adhesion <i>psi</i>	882	886	656
T-Peel Adhesion <i>psi</i>	44	30	22
Side Impact Adhesion <i>psi</i>	>113	80	29
Grit Blast Volume Loss <i>cc</i>	0.25	0.36	0.51
Sliding Abrasion Volume Loss <i>cc</i>	0.8	0.8	2.0
Drop Impact Strength <i>in</i>	81	60	24

Key: ● Excellent ● Very Good ○ Fair ○ Poor

Chemical Resistance			
ACIDS			
Acetic 10%	○	○	○
Hydrochloric 10%	●	●	●
Sulfuric 10%	●	●	●
ALCOHOLS			
Methanol	○	○	○
Isopropanol	○	○	○
KETONES			
Acetone	○	○	○
Methyl ethyl ketone	○	○	○
ALKALIS			
Ammonium hydroxide 20%	●	●	●
Sodium hydroxide 10%	●	●	●
HYDROCARBONS			
Gasoline (unleaded)	○	●	●
Mineral spirits	●	●	●
CHLORINATED HYDROCARBONS			
1-1-1 Trichloroethane	●	●	●
SALTS			
Sodium chloride	●	●	●
Trisodium phosphate	●	●	●

Trowelable and Brushable Wearing Compounds

Nonsagging, alumina bead-filled coatings that protect dry materials handling and storage equipment from abrasion, corrosion and wear.

Devcon® Wear Guard™ High Load

Alumina ceramic bead-filled epoxy system with outstanding abrasion resistance for severe service conditions with particulate greater than 1/8".

Item #	Container Size
11490	30 lb

Devcon® Wear Guard™ Fine Load

High-density, micro-alumina ceramic bead-filled epoxy system for protecting equipment that handles particulate smaller than 1/8".

Item #	Container Size
11470	30 lb

Devcon® Brushable Ceramic

When applied in a 15-20 mil coating, this low-viscosity, alumina-filled, brushable epoxy compound produces a smooth, protective barrier against wear, abrasion, corrosion, erosion and chemical attack. Devcon® Brushable Ceramic White is NSF 61 Certified. (See page 11 for Brushable Ceramic physical properties.)



Item #	Container Size
11760	2 lb (red)
11762	12 lb (red)
11765	2 lb (blue)
11767	12 lb (blue)
11768	55 lb (blue)
11770	2 lb (white)

Devcon® Wear Guard™ High Temp

High-density, ceramic bead-filled epoxy system for maximum wear and abrasion resistance in high-temperature applications.

Item #	Container Size
11480	30 lb

Devcon® Wear Guard™ Ultra

Alumina ceramic bead-filled epoxy system with outstanding abrasion resistance for severe conditions. Ideal for environments experiencing extreme wear.

Item #	Container Size
11475	30 lb

Devcon® Wear Guard™ High Impact

High-density, micro-alumina ceramic bead-filled epoxy system with flexible polymers for superior adhesion and protection against extreme impact and flexing.

Item #	Container Size
11460	30 lb

Devcon® Combo Wear FC (Fast Cure)

High-tech, three-component compound for quickly repairing processing equipment and returning it to service in as little as 1 1/2 hours.

Item #	Container Size
11450	9 lb

Devcon® Carbide Putty

Silicone carbide-filled epoxy putty for economical protection against sliding wear and abrasion. Ideal for mining applications.

Item #	Container Size
10050	3 lb
10080	20 lb

Devcon® High-Performance Backing Compound

High-strength epoxy liquid for use in rod, ball, pebble and autogenous mills, as well as in cone and gyratory crushers.

Item #	Container Size
11170	20 lb

Devcon® Tile Adhesive

High-strength, trowelable adhesive that cures at room temperature.

Item #	Container Size
11495	20 lb



Physical Properties ¹	DFense Blok™	Wear Guard™ High Load	Wear Guard™ High Temp	Wear Guard™ High Impact	Wear Guard™ Fine Load	Wear Guard™ Ultra	Combo Wear FC (Fast Cure)	High Performance Backing Compound	Tile Adhesive	Carbide Putty
Color	Grey	Grey	Grey	Dark Grey	Grey	Grey	Grey	Red	Light Grey	Grey
Mix ratio by weight/ volume resin:hardener	2:1 / 100:45	2:1 / 2:1	13.7:1 / 6:1	2.5:1 / 2.5:1	2:1 / 2:1	2.15:1:5.65 ²	2:1 / 2:1	100:5.94 / 9.9:1	1.1:1 / 1:1	8:1 / 4:1
Mixed viscosity cP	Putty	Putty	Putty	Putty	Putty	Putty	Putty	10,320	Putty	Putty
Functional cure hours	4-5	6-8	Heat Cured	6-8	6-8	16	2-3	8	12	16
Pot life minutes @ 75 °F	25	30	120	30	30	20	7	56	240	50
Specific volume inches ³ /pound	12.6	12.9	14.3	12.4	12.4	11.4	12.4	17.2	19.2	15.9
Coverage per pound inches ² @ 1/4" thickness	50	52	57	50	50	46	50	349 ³	76.8	64
Cured hardness (ASTM D2240) Shore D	77	87	87	85	87	87	87	85	81	85
Cured shrinkage (ASTM D2566) inch/ inch	0.0005	0.0006	0.0010	0.0006	0.0006	0.0004	0.0008	0.0006	0.0010	0.0009
Adhesive tensile shear (ASTM D1002) psi	2,616	1,474	2,300	2,567	1,375	1,425	1,450	5,300	2,890	1,350
Compressive strength (ASTM D695) psi	7,145	11,000	13,200	7,250	11,000	13,910	11,000	18,850	9,620	8,160
Flexural strength (ASTM D790) psi	7,876	7,140	8,220	6,144	7,190	7,220	7,140	11,500	5,480	5,480
Coefficient of thermal expansion (ASTM D696) [(in)/(in x °F)] x 10 ⁻⁶	29	32	27	34	34	26	34	22	14	14
Dielectric constant (ASTM D150) 1 kHz	49.0	41.0	38.0	46.0	46.0	40.0	41.0	N / A	46.0	25.0
Maximum continuous dry service temperature °F	300	300	450	300	300	300	300	250	200	250

NOTES: ¹ See page 11 for Brushable Ceramic physical properties ² Three-part system, beads separate ³ Coverage in inches² / 20.4 pound unit

Key: ● Excellent ○ Very Good ○ Fair ○ Poor

Chemical Resistance	DFense Blok™	Wear Guard™ High Load	Wear Guard™ High Temp	Wear Guard™ High Impact	Wear Guard™ Fine Load	Wear Guard™ Ultra	Combo Wear FC (Fast Cure)	High Performance Backing Compound	Tile Adhesive	Carbide Putty
ACIDS										
Acetic 10%	○	○	○	○	○	○	○	○	○	○
Hydrochloric 10%	●	●	●	●	●	●	○	●	●	○
Sulfuric 10%	●	●	●	●	●	●	●	○	●	○
ALCOHOLS										
Methanol	○	○	○	○	○	○	○	○	○	○
Isopropanol	○	○	○	○	○	○	○	○	○	○
KETONES										
Acetone	○	○	○	○	○	○	○	○	○	○
Methyl ethyl ketone	○	○	○	○	○	○	●	○	●	○
ALKALIS										
Ammonium hydroxide 20%	○	●	●	●	●	●	●	○	●	●
Sodium hydroxide 10%	○	●	●	●	●	●	●	○	●	●
HYDROCARBONS										
Gasoline (unleaded)	○	●	●	●	●	●	○	○	○	○
Mineral spirits	○	●	●	●	●	●	○	○	○	○
CHLORINATED HYDROCARBONS										
1-1-1 Trichloroethane	○	○	○	○	○	○	○	○	○	○
SALTS										
Sodium chloride	○	○	○	○	○	○	○	○	○	○
Trisodium phosphate	○	○	○	○	○	○	○	○	○	○

Urethane Casting Compounds

Castable, nonshrinking liquid urethanes for producing flexible molds, holding fixtures and linings as well as low-volume or discontinued parts.

Devcon® Flexane® 80 Liquid

Medium-viscosity (10,000 cP) urethane fills voids completely and faithfully reproduces mold detail. Cures to semi-rigid rubber (Shore A 87).

Item #	Container Size
15800	1 lb
15810	10 lb

Devcon® Edge & Seal (T-35)

Liquid urethane for edging fabric felt belting used in the papermaking industry as well as potting and encapsulating.

Item #	Container Size	Dispenser	Nozzle
DF039	400 ml cartridge	15043 (manual)	15047

Devcon® Flex-Add™

Used with Flexane® 80 Liquid to produce a more flexible urethane.

Item #	Container Size
15940	8 oz

Devcon® Flexane® 94 Liquid

Low-viscosity (6,000 cP) urethane fills voids completely and faithfully reproduces mold detail. Similar to Flexane® 80 Liquid, but cures to a rigid rubber (Shore A 97).

Item #	Container Size
15250	1 lb
15260	10 lb

Devcon® Flexane® Accelerator

Shortens the cure time of Flexane® products even in temperatures as low as 32°F (0°C).

Item #	Container Size
15990	12 oz

Devcon® Liquid Release Agent

Silicone release agent produces high-gloss finish, prevents sticking of and damage to Flexane® parts during demolding.

Item #	Container Size
19600	1 pt



Physical Properties	Flexane® 80 Liquid	Flexane® 94 Liquid	Edge & Seal (T-35)
Color	Black	Black	Black
Mix ratio by weight resin: hardener	77:23	69:31	80:20
Mixed viscosity cP	10,000	6,000	5,000
Pot life minutes @ 75 °F	30	10	3
Specific volume inches ³ /pound	26.5	26.5	26.5
Coverage per pound inches ² @ 1/4" thickness	106	106	106
Functional cure hours	16	16	1.5
Demolding time hours	10	5	N / A
Cured hardness (ASTM D2240) Shore A	87	97	94
Cured shrinkage (ASTM D2566) inch/inch	0.0018	0.0014	0.0014
Tensile strength (ASTM D412) psi	2,100	2,800	3,300
Tear resistance (ASTM D624) pli	350	415	430
Abrasion resistance weight loss ¹	285	330	250
Maximum elongation (ASTM D412) %	650	500	450
Dielectric strength (ASTM D149) volts/mil	350	350	350
Maximum continuous service temperature °F wet	120	120	120
Maximum continuous service temperature °F dry	180	180	180

NOTES: ¹ Taber H-18 wheel (mg / 1,000 revolutions @ 1,000 gram load)

Key: ● Excellent ● Very Good ○ Fair ⊙ Poor

Chemical Resistance	Flexane® 80 Liquid	Flexane® 94 Liquid	Edge & Seal (T-35)
ACIDS			
Acetic 10%	⊙	⊙	○
Hydrochloric 10%	●	●	○
Sulfuric 10%	●	●	○
Sulfuric 50%	●	●	●
Phosphoric 10%	●	●	○
ALCOHOLS			
Methanol	⊙	⊙	⊙
Isopropanol	⊙	⊙	⊙
KETONES			
Acetone	⊙	⊙	⊙
Methyl ethyl ketone	⊙	⊙	⊙
ALKALIS			
Ammonium hydroxide 20%	●	●	●
Sodium hydroxide 10%	●	●	●
HYDROCARBONS			
Gasoline (unleaded)	⊙	⊙	⊙
Mineral spirits	⊙	⊙	⊙
SALTS			
Sodium chloride	●	●	●
Trisodium phosphate	●	●	●
Aluminum sulfate 10%	●	●	●
Sodium carbonate 10%	●	●	●

Urethane Repair Compounds

Flexible urethane compounds for repairing worn or damaged belting and rubber surfaces subject to wear, impact, abrasion, vibration or expansion.

Devcon® Flexane® 80 Putty

Trowelable urethane for repairing and lining process equipment exposed to wear, abrasion, vibration or expansion/contraction.

Item #	Container Size
15820	1 lb
15850	4 lb

Devcon® Flexane® High Performance Putty

Trowelable lining for maximum protection against abrasion, gouging and impact. Ideal for belt repairs.

Item #	Container Size
15330	1 lb

Devcon® Flexane® Fast Cure Putty

Black Flexane® Fast Cure thickens to a putty in seconds providing superior flexibility, elongation and adhesion to rubber.

Item #	Container Size	Dispenser	Nozzle
15049	400 ml cartridge	15043 (manual)	15047

Devcon® Flexane® Fast Cure Liquid

Grey Flexane® Fast Cure Liquid is a convenient, time-saving method of filling expansion joints and repairing rubber.

Item #	Container Size	Dispenser	Nozzle
15050	400 ml cartridge	15043 (manual)	15047

Devcon® Flexane® Brushable

High-performance brushable urethane for protection against abrasion and impact. Excellent for repairing/ coating rubber-lined pumps, tanks and valves.

Item #	Container Size
15350	1 lb

Devcon® Flexane® Belt Repair Kit

An ideal solution for making fast, permanent emergency repairs to damaged conveyor belts, rubber rollers or other rubber parts.

Item #	Container Size
15165	Kit

Devcon® Cable Cast FR

Flame-retardant urethane for encapsulating/insulating cable jackets; provides superior environmental protection. MSHA approved for the mining industry.

Item #	Container Size	Dispenser	Nozzle
15051	400 ml cartridge	14410 (manual)	14293

Devcon® Flexane® Primers

Required for maximum adhesion of Flexane® products.

FL-10 Primer for all metals.

FL-20 Primer for rubber, wood, fiberglass and concrete.

FL-40 Primer for rubber. Ensures ultimate peel strength (greater than 80 psi).

Item #	Primer	Container Size
15980	FL-10	4 oz
15985	FL-20	4 oz
15984	FL-40	4 oz



Physical Properties	Flexane® 80 Putty	Flexane® High Performance Putty	Flexane® Fast Cure Putty	Flexane® Fast Cure Liquid	Flexane® Brushable	Cable Cast FR	Flexane® Belt Repair Kit
Color	Black	Black	Black	Grey	Black	Black	Black
Mix ratio by weight resin:hardener	72:28	94:6	80:20	80:20	80:20	63:37	72:28
Mixed viscosity cP	Putty	Putty	Putty	5,800	40,000	10,000	Putty
Pot life minutes @ 75 °F	20	10	8	8	45	10	20
Specific volume inches ³ /pound	23.5	23.5	23.5	26.5	26.0	22.6	23.5
Coverage per pound inches ² @ 1/4" thickness	94	94	94	106	104	90	94
Functional cure hours	12	16	3	2	18	12	12
Demolding time hours	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Cured hardness (ASTM D2240) Shore A	87	78	88	94	86	83	87
Cured shrinkage (ASTM D2566) inch/inch	0.0014	0.12 ²	0.0014	0.0018	0.23 ²	0.0014	0.0014
Tensile strength (ASTM D412) psi	1,700	4,500	2,400	3,300	3,500	2,600	1,700
Tear resistance (ASTM D624) pli	300	400	275	430	400	325	300
Abrasion resistance weight loss ¹	280	140	220	330	90	N/A	280
Maximum elongation (ASTM D412) %	300	600	500	450	600	800	300
Dielectric strength (ASTM D149) volts/mil	350	350	350	350	340	300	350
Maximum continuous wet service temperature °F	120	120	120	120	120	120	120
Maximum continuous dry service temperature °F	180	180	180	180	180	180	180

NOTES: ¹ Taber H-18 wheel (mg / 1,000 revolutions @ 1,000 gram load) ² Due to solvent loss

Key: ● Excellent ● Very Good ○ Fair ○ Poor

Chemical Resistance	Flexane® 80 Putty	Flexane® High Performance Putty	Flexane® Fast Cure Putty	Flexane® Fast Cure Liquid	Flexane® Brushable	Cable Cast FR	Flexane® Belt Repair Kit
ACIDS							
Acetic 10%	○	○	○	○	○	●	○
Hydrochloric 10%	●	○	●	●	○	●	●
Sulfuric 10%	●	○	●	●	○	●	●
Sulfuric 50%	●	○	●	●	○	○	●
Phosphoric 10%	●	○	●	●	○	○	●
ALCOHOLS							
Methanol	○	○	○	○	○	○	○
Isopropanol	○	○	○	○	○	○	○
KETONES							
Acetone	○	○	○	○	○	○	○
Methyl ethyl ketone	○	○	○	○	○	○	○
ALKALIS							
Ammonium hydroxide 20%	●	●	●	●	●	●	●
Sodium hydroxide 10%	●	●	●	●	●	●	●
HYDROCARBONS							
Gasoline (unleaded)	○	○	○	○	○	○	○
Mineral spirits	○	○	○	○	○	○	○
SALTS							
Sodium chloride	●	●	●	●	●	●	●
Trisodium phosphate	●	●	●	●	●	●	●
Aluminum sulfate 10%	●	●	●	●	●	●	●
Sodium carbonate 10%	●	●	●	●	●	●	●



Floor Repair and Resurfacing Product Selector Guide

Flooring Applications	Floor Patch™	Floor Patch™ FC	Ultra Quartz™	Floor Patch™ Resurfacer	Deep Pour Grout™	Epoxy Concrete Sealer	Epoxy Coat™ 7000 Non VOC	Epoxy Coat™ 7000 AR	Floor Grip™
Acid-Resistant Coating			▼			▼		▼	
Anchoring Bolts in Concrete	▼	▼			▼				
Anti-Skid Floors/Ramps/Docks									▼
Chemical Containment Coatings			▼			▼		▼	
Chocking Equipment					▼				
Coatings (Impact, Abrasion)						▼	▼	▼	
Crack Filling									
Expansion Joints	▼								
Floor Coating						▼	▼	▼	
Floor Hole-Filling & Patching	▼	▼							
Floor Resurfacing (Up to 1")			▼	▼					
Leveling Equipment					▼				
Leveling Floors	▼			▼	▼				
Metal Coatings								▼	▼
Wet/Damp Surface Coatings	▼	▼	▼			▼			▼

Floor Repair/Patching Compounds

100% solids epoxy-based polymers for patching, rebuilding and resurfacing concrete, brick, stucco and block.



Devcon® Floor Patch™

All-purpose, easy-to-mix and apply concrete patching compound. With a compressive strength of 8,000 psi, Floor Patch™, provides three times the typical strength of concrete.

Item #	Container Size
13100	10 lb
13120	40 lb

Devcon® Floor Patch™ Resurfer

A three-part filled epoxy system for concrete floors where aggregate is exposed. This self-leveling product mixes easily, is ideal for repairing damaged concrete and rebuilding to depths of 1/4" to 1".

Item #	Container Size
13130	41 lb



Devcon® Ultra Quartz™

Heavy-duty, trowelable premium floor patching system with excellent chemical resistance. System includes a primer for superior adhesion to cured concrete or other surfaces.

Item #	Container Size
13550	35 lb



Devcon® Floor Patch™ FC (Fast-Cure)

With this fast-curing version of Floor Patch™, repaired areas can be back in service in 3 hours.

Item #	Container Size
13110	10 lb

Devcon® Deep Pour Grout™

Filled epoxy grout for pouring machinery mounting pads to 6" deep and rebuilding worn concrete. Easy to mix and self-leveling.

Item #	Container Size
13800	50 lb

Anti-Skid Protection

Granular additives used with Devcon® floor coatings to produce anti-slip surfaces for worker safety.

Devcon® Floor Grip™

Heavy-duty epoxy compound with silicone carbide granules produces an exceptional non-skid surface on walkways, ramps, loading docks and stairs. Excellent adhesion to concrete, brick, steel, aluminum and wet surfaces. Can be applied at temperatures as low as 40°F.

Item #	Container Size
13090	2 gal

Floor Coatings

Epoxy floor coatings for protecting plant floors, platforms, walkways and ramps against acids, alkalis and solvents.

Devcon® Epoxy Coat™ 7000 Non VOC

100% solids self-leveling coating for smooth or mildly spalled concrete. Produces an attractive, durable, chemical-resistant finish. Silica aggregate can be added to rebuild floors by 1/16" or more.

Item #	Container Size
12710	2 gal



Devcon® Epoxy Coat™ 7000 AR (Acid Resistant)

Novolac non-VOC epoxy coating provides superior resistance to concentrated acids (including 98% sulfuric) and chemicals. Excellent adhesion to concrete surfaces. Ideal for use around chemical storage tanks, dike walls and containment areas.

Item #	Container Size
12750	2 gal



Devcon® Epoxy Concrete Sealer

Self-leveling, non-VOC clear epoxy sealer can be used as a primer on damp surfaces. Easily applied by brush, roller or squeegee at temperatures as low as 40°F. Outstanding resistance to chemicals, acids, alkalis and hydrocarbons.

Item #	Container Size
12560	2 gal



Physical Properties	Floor Patch™	Floor Patch™ FC	Ultra Quartz™	Floor Patch™ Resurfacer	Deep Pour Grout™	Epoxy Concrete Sealer	Epoxy Coat™ 7000 Non VOC	Epoxy Coat™ 7000 AR
Coverage per unit feet ² @ thickness	18 @ 0.25" / 40 lb unit	4.5 @ 0.25" / 10 lb unit	13 @ 0.25" / 35 lb unit	568 inches ³ / 41 lb unit	640 inches ³ / 50 lb unit	400 @ 8 mils	400 @ 8 mils	200 @ 16 mils
Mixed viscosity cP	Putty	Putty	Putty	5,000	13,000	2,000	2,000	3,600
Minimum application temperature °F	60 ~ 90	60 ~ 90	60 ~ 90	50 ~ 90	50 ~ 90	40 ~ 90	55 ~ 90	60 ~ 90
Pot life minutes @ 75°F	45	15	60	40	40	60	55	36
Functional cure hours	16	3	16	24	16	24	24	24
Cured hardness (ASTM D2240) Shore D	85	85	95	85	83	85	85	85
Maximum continuous service temperature °F	250	250	250	180	180	180	180	200
% Solids	100	100	100	100	100	100	100	100

Key: ● Excellent ● Very Good ○ Fair ⊖ Poor

Chemical Resistance	Floor Patch™	Floor Patch™ FC	Ultra Quartz™	Floor Patch™ Resurfacer	Deep Pour Grout™	Epoxy Concrete Sealer	Epoxy Coat™ 7000 Non VOC	Epoxy Coat™ 7000 AR
ACIDS								
Acetic 10%	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖
Hydrochloric 10%	●	●	●	⊖	●	●	●	●
Sulfuric 10%	●	●	●	⊖	●	●	●	●
ALCOHOLS								
Methanol	○	○	●	○	○	○	○	○
Isopropanol	○	○	○	○	○	○	○	○
KETONES								
Acetone	○	○	○	○	○	○	○	○
Methyl ethyl ketone	○	○	○	○	○	○	○	○
ALKALIS								
Ammonium hydroxide 20%	●	●	●	●	●	●	●	●
Sodium hydroxide 10%	●	●	●	●	●	●	●	●
HYDROCARBONS								
Gasoline (unleaded)	●	●	●	○	●	●	●	●
Mineral spirits	●	●	●	●	●	●	●	●
CHLORINATED HYDROCARBONS								
1-1-1 Trichloroethane	○	○	●	○	○	●	○	○
SALTS								
Sodium chloride	●	●	●	●	●	●	●	●
Trisodium phosphate	●	●	●	●	●	●	●	●

Emergency Repair Products

These epoxy compounds cure rapidly – even under water – to form strong, permanent repairs, minimizing spills due to leaks or accidental punctures as well as remediation costs.

Devcon® Magic Bond™ Epoxy Putty

Seals leaks and repairs gouges in steel, aluminum, wood, fiberglass, concrete and ceramics. Two-color stick ensures thorough mixing. Cures rock-hard in 30 minutes. Can be painted, sanded, machined, tapped or drilled.

Item # Container Size
11600 4 oz stick

Devcon® Zip Patch™

Easy-to-use adhesive patch kit for permanent water-proof repairs to pipes, tanks and drums. Hardens in minutes at room temperature.

Item # Container Size
11500 4" x 9" patch

Devcon® Underwater Repair Putty (UW)

Water-resistant putty for repairing, patching and rebuilding equipment in underwater or habitually wet environments.

Item # Container Size
11800 1 lb



Physical Properties	Magic Bond™ Epoxy Putty	Zip Patch™	Underwater Repair Putty (UW)
Color	Light Grey	Brown	Grey
Mix ratio by weight / volume resin:hardener	1:1	N / A	1.4:1 / 1:1
Mixed viscosity cP	Putty	17,000	Putty
Functional cure hours	1	1	24
Pot life minutes @ 75 °F	10	5	45
Specific volume inches ³ /pound	15.3	N / A	17.0
Coverage per pound inches ² @ 1/4" thickness	61	N / A	68
Cured hardness (ASTM D2240) Shore D	76	70	82
Cured shrinkage (ASTM D2566) inch/inch	0.0030	0.0010	0.0020
Adhesive tensile shear (ASTM D1002) psi	920	2,400	2,685
Compressive strength (ASTM D695) psi	12,000	N / A	5,625
Flexural strength (ASTM D790) psi	4,280	19,000	4,990
Modulus of elasticity (ASTM D638) psi x 10 ⁵	7.0	2.9	7.5
Coefficient of thermal expansion (ASTM D696) [(in)/(in x °F)] x 10 ⁻⁶	21	64	18
Thermal conductivity (ASTM C177) [(cal x cm)/(sec x cm ² x °C)] x 10 ⁻³	1.24	1.71	1.41
Dielectric constant (ASTM D150) 1 kHz	28.1	43.5	8.6
Dielectric strength (ASTM D149) volts/mil	300	250	150
Maximum continuous dry service temperature °F	250	200	250

Key: ● Excellent ● Very Good ○ Fair ⊙ Poor

Chemical Resistance			
ACIDS			
Acetic 10%	⊙	⊙	⊙
Hydrochloric 10%	○	●	○
Sulfuric 10%	○	●	○
ALCOHOLS			
Methanol	⊙	⊙	⊙
Isopropanol	⊙	⊙	⊙
KETONES			
Acetone	⊙	○	⊙
Methyl ethyl ketone	⊙	○	⊙
ALKALIS			
Ammonium hydroxide 20%	●	⊙	●
Sodium hydroxide 10%	●	⊙	●
HYDROCARBONS			
Gasoline (unleaded)	●	●	●
Mineral spirits	●	⊙	●
CHLORINATED HYDROCARBONS			
Perchloroethylene	○	⊙	●
1-1-1 Trichloroethane	○	⊙	●
SALTS			
Sodium chloride	○	○	●
Trisodium phosphate	○	○	●



Permatex® Anti-Seize & Lubricants

Permatex® Anti-Seize Compounds protect mated metal parts against in-service rusting, corrosion, friction and galling. Made to serve the demanding needs of even the most severe industrial environments. They reduce wrench torque and ease assembly and disassembly of threaded, slip-fit and press-fit connections. Depend on Permatex® Anti-Seizes to reduce friction and wear, even at temperatures up to 2,400°F (1,316°C).

Permatex® Lubricants and Penetrants are formulated to protect and lubricate a wide array of parts and components.

Permatex® Anti-Seize Lubricant

A heavy-duty blend of aluminum, copper and graphite lubricants in a petroleum base. Use during assembly to prevent galling, corrosion and seizing and to assure easier disassembly. An inert formulation, it will not evaporate or harden in extreme temperatures. Salt-, corrosion- and moisture-resistant. Temperature range -60°F to 1,600°F (-51°C to 871°C). Non-aerosol version meets MIL-SPEC A-907. ▲ NFPA Fire Code 30B: Level 3 (aerosol).

Item #	Container Size	P/N
80071	4 oz brush-top bottle	
80078	8 oz brush-top bottle	133K
80208	16 oz brush-top bottle	767

Permatex® Copper Anti-Seize Lubricant

A premium quality copper anti-seize and thread lubricant that may be used to prevent seizing, corrosion and galling where high temperature conditions exist. Temperature range -30°F to 1,800°F (-34°C to 982°C). Provides good electrical conductivity. Meets MIL-SPEC A-907.

Item #	Container Size
09128	8 oz brush-top bottle
31163	16 oz brush-top bottle

Permatex® Nickel Anti-Seize Lubricant

Copper-free anti-seize lubricant that protects metal parts from seizing and galling at temperatures up to 2,400°F (1,316°C). Ideal for use under conditions of extreme pressure and temperature and with stainless steel, titanium and nickel alloys.

Item #	Container Size	P/N
77124	8 oz brush-top bottle	771
77164	16 oz brush-top bottle	771



Note: Permatex brand products are not for sale in Canada

Gasket Sealants



Permatex® Form-A-Gasket® No. 1 Sealant

Reliable paste-like gasket sealant/dressing/coating. Form-A-Gasket® No. 1 sets quickly. Recommended for rigid, permanent assemblies. Use to 400°F (204°C). Resistant to gasoline and other solvents. Conforms to MIL-S-45180 D, Type I.

Item #	Container Size	P/N
80003	11 oz tube, boxed	1C

Permatex® Form-A-Gasket® No. 2 Sealant

Reliable paste-like gasket sealant/dressing/coating. Form-A-Gasket® No. 2 sets more slowly to a pliable film best suited for non-rigid, vibrating assemblies. Use to 400°F (204°C). Resistant to gasoline and other solvents. Conforms to MIL-S-45180 D, Type II.

Item #	Container Size	P/N
80015	1.5 oz tube, carded	2AR
80016	3 oz tube, carded	2BR
80011	11 oz tube, boxed	2C

Permatex® Aviation Form-A-Gasket® No. 3 Sealant

Non-hardening liquid gasket sealant/dressing/coating is a thin, brushable dressing or sealer for close-fitting parts. Suitable for continuous temperatures to 400°F (204°C). Resistant to antifreeze, aviation fuels, high-detergent oils and lubricants. Conforms to MIL-S-45180 D, Type III.

Item #	Container Size	P/N
80017	16 fl oz bottle	3D

Hand Cleaners

You need a waterless hand cleaner that really cleans – without turning your hands into sandpaper. You need the strength to remove grease, grime, paint, adhesives and all other soils your working hands get into – plus conditioners to prevent your hands from cracking and drying out. Permatex® hand cleaners are the choice of working hands. For over 50 years, Permatex® has offered high-quality hand cleaners and has maintained a leadership position through innovation and a concern for users' needs. Wherever hands are getting dirty, there's a place for Permatex® hand cleaners. To meet your growing needs, Permatex® offers a broad selection of product formulations and sizes.

Permatex® Fast Orange® Pumice and Smooth Lotion Hand Cleaners

Industrial grade, biodegradable*, waterless, petroleum solvent-free hand cleaner. It contains no harsh chemicals, mineral oils or ammonia that can sting cuts and abrasions. Pure, fresh-smelling natural citrus power does the cleaning while aloe, lanolin, glycerin and jojoba condition and protect skin. Fast Orange® gently deep cleans the toughest dirt and grease.

Pumice Lotion

Item #	Container Size
25219	1 gallon bottle w/pump

Smooth Lotion

Item #	Container Size
23218	1 gallon bottle w/pump



* Biodegradable according to 40 CFR 796.3240

Specialty Adhesives

High-performance adhesives for specialized applications.



Permatex® Clear RTV Silicone Adhesive Sealant

General-purpose, clear RTV sealant. Seals, bonds, repairs, mends and secures glass, metal, plastics, fabric, vinyl, weather stripping and vinyl tops. May be applied to horizontal or vertical surfaces. Waterproof and flexible. Temperature range -75°F to 400°F (-59°C to 204°C); resists oil, water, weather, vibration, grease and more. Nonpaintable. MIL-A-46106B, Type I.

Item #	Container Size	P/N
80050	3 oz tube, carded	66BR
81913	7.25 oz Automatic Tube®	
85913	7.25 oz PowerBead™ can	
80855	11 oz cartridge	66C

Permatex® Black Silicone Adhesive Sealant

General-purpose, black RTV sealant. Seals, bonds, repairs, mends and secures glass, metal, plastics, fabric, vinyl, weather stripping and vinyl tops. May be applied to horizontal or vertical surfaces. Waterproof and flexible. Temperature range -75°F to 450°F (-59°C to 232°C); resists oil, water, weather, vibration, grease and more. Nonpaintable. MIL-A-46106B, Type I.

Item #	Container Size	P/N
81158	3 oz tube, carded	16BR
81173	12.9 oz cartridge	16C

Devcon® Duco® Cement

Clear all-purpose waterproof household glue. Ideal for china, glass, plastic, wood and metal and is fast-drying.

Item #	Container Size
6245	1 fl oz

Devcon® Silite® Silicone RTV-Clear

Single-component sealant for gasketing, sealing, bonding, and weatherproofing applications. Cures at room temperature to a clear, flexible silicone rubber. Can be used to seal window plates, ceramic tile, and bond gaskets. Excellent resistance to a wide range of weather and temperatures ranging from -60° to 450°F (-50° to 232°C). Acceptable for use in meat and poultry plants. Listed under NSN Stock#8040-01-193-3312, qualifies under MIL-A-46106A, Galv. Repair.

Item #	Container Size
17100	3 oz tube, boxed
17150	10.3 oz cartridge



Devcon® Silite® Silicone RTV-White

Single-component sealant for gasketing, sealing, bonding, and weatherproofing applications. Cures at room temperature to a white, flexible silicone rubber. Can be used to seal panels, bond and seal appliance ports, attach brackets, nameplates, and bond gaskets. Excellent resistance to a wide range of weather and temperatures ranging from -60° to 450°F (-50° to 232°C). Acceptable for use in meat and poultry plants. Qualifies under MIL-A-46106A, Galv. Repair.

Item #	Container Size
17140	10.3 oz cartridge



Devcon® Silite® Silicone RTV-Red (High Temp.)

High-temperature silicone rubber with a temperature resistance of up to 600°F for bonding and sealing. Used for assembly or repair of high-temperature ducting, bonding ceramic tile in pulverizers, and making form-in-place gaskets. Cures at room temperature. Acceptable for use in meat and poultry plants. Qualifies under MIL-A-46106A, Galv. Repair.

Item #	Container Size
17130	10.3 oz cartridge



Note: Permatex brand products are not for sale in Canada

Products for Both Maintenance/Repair and OEM Assembly

Certain products are hard to keep in stock because everyone in the plant – from production to maintenance – uses them routinely. Today, with its highly respected Permatex® brands, ITW Performance Polymers offers field-proven products to improve reliability in both assembly and repair applications.

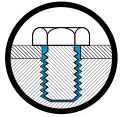


Permatex® products for both Assembly and Repair include:

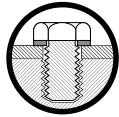
- ▼ Permatex® liquid and gel threadlockers to prevent fastener loosening caused by shock or vibration, and to protect against rust and corrosion
- ▼ Permatex® retaining compounds to secure and protect non-threaded assemblies
- ▼ Permatex® thread sealants to lubricate and protect threads and prevent leakage in both high-pressure and low-pressure systems
- ▼ Permatex® anaerobic and RTV silicone form-in-place gasket makers, dressings and general-purpose sealants

**Permatex® Liquid Threadlockers...
Providing Threaded Fastener Reliability**

Permatex® Threadlockers are superior to conventional lock washers, nylon inserts and other mechanical devices because they secure the entire fastener assembly against loosening from shock or vibration and maintain fastener clamping forces. Threadlockers also seal the threads against leakage and prevent rust and corrosion. Available in a variety of strengths and temperature ranges, threadlockers remain the most reliable way to lock and seal threaded fasteners of all shapes and sizes, either before or after assembly.



VS.



**PERMATEX®
THREADLOCKER**

Entire threaded area filled with threadlocker.
ONE DROP FITS ALL!
Threads sealed—moisture can't get inside.

LOCK WASHER

Contact only under bolt—bolt can vibrate loose.
Must use right size.
Threads open—moisture can get in causing corrosion.

Permatex® Liquid Threadlockers

Product	Item Number	Container Size	Typical Use	Color	Viscosity cP	Break/Prevail Torque <i>in-lbs</i> ¹	Temperature Range	Fixture Time ² / Full Cure	Fixture with Primer	Specific Gravity
Permatex® Medium Strength Threadlocker BLUE	24210 24250 24225	10 ml bottle 50 ml bottle 250 ml bottle	1/4" to 3/4" (6-20 mm)	Blue	1,200/6,000 Thixotropic	115/53	-65° to 300°F (-54° to 149°C)	20 min/24 hrs	5 min	1.00
Permatex® Surface Insensitive Threadlocker BLUE	24350 24325	50 ml bottle 250 ml bottle	1/4" to 3/4" (6-20 mm)	Blue	2,250/12,000 Thixotropic	180/62	-65° to 300°F (-54° to 149°C)	20 min/24 hrs	5 min	1.08
Permatex® Permanent Strength Threadlocker RED	26210 26250 26225	10 ml bottle 50 ml bottle 250 ml bottle	3/8" to 1" (10-25 mm)	Red	1,800/5,000 Thixotropic	189/275	-65° to 300°F (-54° to 149°C)	20 min/24 hrs	5 min	1.10
Permatex® High Strength Threadlocker RED	27110 27150	10 ml bottle 50 ml bottle	3/8" to 1" (10-25 mm)	Red	500	230/225	-65° to 300°F (-54° to 149°C)	20 min/24 hrs	5 min	1.10
Permatex® High Temperature Threadlocker RED	27250	50 ml bottle	3/8" to 1 1/2" (10-38 mm)	Red	10,000	180/270	-65° to 450°F (-54° to 232°C)	30 min/24 hrs	5 min	1.11
Permatex® Large Diameter Threadlocker RED	27725	250 ml bottle	1" and over (25 mm+)	Red	7,000	250/200	-65° to 300°F (-54° to 149°C)	60 min/24 hrs	5 min	1.12
Permatex® Penetrating Grade Threadlocker GREEN	29050	50 ml bottle	#2 to 1/2" (2.2-12 mm)	Green	12	90/310	-65° to 300°F (-54° to 149°C)	20 min/24 hrs	3 min	1.08
Permatex® Medium Strength Threadlocker BLUE Gel	24010	10 g GEL TWIST™ Applicator	1/4" to 1" (6-25 mm)	Blue	75,000/900,000 Thixotropic	115/53	-65° to 300°F (-54° to 149°C)	15 min/24 hrs	N/A	1.15
Permatex® High Strength Threadlocker RED Gel	27010	10 g GEL TWIST™ Applicator	3/8" to 1" (10-25 mm) and greater	Red	75,000/900,000 Thixotropic	175/230	-65° to 300°F (-54° to 149°C)	15 min/24 hrs	N/A	1.13

NOTES: ¹ .375" x 16 phosphate steel ² Fixture strength is equivalent to 20% of full cure strength

**Permatex® Threadlockers...
Exceptional Performance, Reliability and Value**

Permatex® Medium Strength Threadlocker BLUE

All-purpose, medium strength threadlocker. Ideal for all nut and bolt applications 1/4" to 3/4" (6 mm to 20 mm). Eliminates need for stocking expensive lock nuts and lock washers. Locks and seals while preventing parts from loosening due to vibration. Protects threads from corrosion. Removable with hand tools for easy disassembly. MIL-SPEC (S-46163A), Type II, Grade N.

Item #	Container Size
24210	10 ml bottle, carded
24250	50 ml bottle
24225	250 ml bottle

Permatex® Surface Insensitive Threadlocker BLUE

Medium/High strength threadlocker for general-purpose applications. Especially well-suited for 1/4" to 3/4" (6 mm to 20 mm) fasteners that have a slight oil film. Prevents vibration loosening.

Item #	Container Size
24350	50 ml bottle
24325	250 ml bottle

Permatex® Large Diameter Threadlocker RED

A high strength adhesive for locking and sealing large bolts and studs 1" (25 mm+) or larger in diameter. Heat may be required to weaken bond before parts can be disassembled. MIL-SPEC (S-46163A), Type I, Grade L.

Item #	Container Size
27725	250 ml bottle

Permatex® High Temperature Threadlocker RED

Hi-temp/hi-strength threadlocker for heavy-duty applications. Prevents bolts 3/8" to 1 1/2" (10 mm to 38 mm) from loosening due to shock, severe vibration and heat stress. Suited for temperatures up to 450°F (232°C). Removable with heat and hand tools.

Item #	Container Size
27250	50 ml bottle

Permatex® High Strength Threadlocker RED

High strength threadlocker for heavy-duty applications 3/8" to 1" (10 mm to 25 mm). Especially well suited for permanently locking studs. Locks against vibration loosening. Removable with heat and hand tools. MIL-SPEC (S-46163A), Type I, Grade K.

Item #	Container Size
27110	10 ml bottle, carded
27150	50 ml bottle
27125	250 ml bottle

Permatex® Permanent Strength Threadlocker RED



A permanent, high strength threadlocker that is applied to fasteners 3/8" to 1" (10 mm to 25 mm) in size before assembly. Designed for securing parts that must withstand heavy shock, vibration or extreme chemical or environmental conditions. Localized heat and hand tools are required to separate parts. MIL-SPEC (S-46163A), Type II, Grade O.

Item #	Container Size
26210	10 ml bottle, carded
26250	50 ml bottle
26225	250 ml bottle

Permatex® Penetrating Grade Threadlocker GREEN



A low viscosity threadlocking liquid that wicks along the threads of preassembled fasteners to secure them in place. Since it is applied after assembly, preventive maintenance procedures are simplified. Ideal for fasteners ranging from #2 to 1/2" (2.2 to 12 mm) in size. Localized heating and hand tools are needed for disassembly. MIL-SPEC (S-46163A), Type III, Grade R.

Item #	Container Size
29050	50 ml bottle
29025	250 ml bottle

**Permatex® GEL TWIST Threadlockers...
TRUE Threadlocking Innovation!**

Permatex® Threadlocker Gels are the true innovation in threadlocking! Available in Medium Strength BLUE Gel and High Strength RED Gel, the unique Permatex® GEL TWIST™ applicators leave the threadlocker where you want it...on the part! No more liquid drips or solid stick globs to deal with. No more mess to clean or costly waste to worry about. Permatex® Threadlocker Gels eliminate these hassles while still providing "liquid quality" application reliability.

Permatex® Medium Strength Threadlocker BLUE Gel



An all-purpose, medium strength blue threadlocker gel that reliably secures all nut and bolt applications 1/4" to 1" (6 mm to 25 mm). Locks and seals while preventing parts from loosening due to vibration. Protects threads from corrosion. Removable with hand tools for easy disassembly.

Item #	Container Size
24010	10 g GEL TWIST™ applicator, carded

Permatex® High Strength Threadlocker RED Gel

A high strength threadlocker red gel for heavy-duty applications. Ideal for reliably securing all permanent nut and bolt applications 3/8" to 1" (10 mm to 25 mm) and greater. Locks and seals while preventing parts from loosening due to vibration. Protects threads from corrosion. Requires heat or special tools for removal.

Item #	Container Size
27010	10 g GEL TWIST™ applicator, carded



Note: Permatex brand products are not for sale in Canada



Permatex® Retaining Compounds

Permatex® Retaining Compounds are designed to bond non-threaded, cylindrical, metal assemblies by filling the voids between close-fitting metal parts. Retaining Compounds harden to create a solid, one-piece assembly. Retaining Compounds can be used to lock keyways, secure splines, augment press fits and strengthen interference fits. Use them to prevent wear on new components, or restore the fit to worn or out-of-tolerance parts. Retaining Compounds seal joints against leakage and prevent fretting and corrosion. Formulated in a variety of viscosities, strength characteristics, gap-filling abilities and temperature ranges, Permatex® Retaining Compounds can solve even the most difficult retaining applications.

Permatex® Bearing Mount for Close Fits

A low viscosity, rapid-curing anaerobic adhesive that augments the strength of press fit assemblies. Prevents fretting and corrosion. Up to 3,000 psi holding power. MIL-SPEC (R-46082B), Type I.

Item # Container Size
60950 50 ml bottle

Permatex® Bearing Mount for Relaxed Fits



High strength, medium viscosity anaerobic adhesive for slip fit assemblies. Provides 3,500 psi shear strength on steel. Prevents fretting and corrosion. Fixture time is 10 minutes at room temperature.

Item # Container Size
68050 50 ml bottle

Permatex® Retaining Compounds

Product	Item Number	Container Size	Color	Maximum Diametral Gap Fill	Viscosity cP	Shear Strength psi	Temperature Range	Fixture Time/ Full Cure (on Steel)	Specific Gravity
Permatex® Bearing Mount For Close Fits	60950	50 ml bottle	Green	.005"	125	3,000	-65° to 300°F (-54° to 149°C)	10 min/ 24 hrs	1.10
Permatex® Bearing Mount For Relaxed Fits	68050	.50 ml bottle	Green	.015"	1,250	3,800	-65° to 300°F (-54° to 149°C)	10 min/ 24 hrs	1.10



Note: Permatex brand products are not for sale in Canada

Permatex® Thread Sealants

Permatex® Thread Sealants seal and secure metal pipes and fittings. By filling the space between threaded metal parts, Thread Sealants prevent leakage caused by vibration loosening, tape shredding, solvent evaporation, damaged threads and temperature cycling. Designed for low- and high-pressure applications, Thread Sealants seal instantly for online low-pressure testing. When fully cured, they seal to the burst strength of most piping systems. The high lubricating properties of Permatex® Thread Sealants ease assembly and prevent galling of the threads. For system repairs, parts may be disassembled with basic hand tools.



Permatex® High Performance Thread Sealant



Formulated specifically for metal, tapered pipe thread fittings. High Performance Thread Sealant replaces tapes and pipe dopes. Cures rapidly to withstand 10,000 psi. Prevents galling and protects mated threaded areas from rust and corrosion. Contains PTFE.

Item #	Container Size
56521	50 ml tube, carded
56525	250 ml tube

Permatex® High Temperature Thread Sealant

Locks and seals threaded fittings. Resists leakage, vibration loosening, moisture, hydraulic fluids and diesel fuels. Lubricates threads for easy assembly and disassembly. Won't shred or tear like tape. Parts may be repositioned up to 4 hours after application. Contains PTFE. Temperature range from -65°F to 400°F (-54°C to 204°C).

Item #	Container Size
59235	50 ml tube, carded
59225	250 ml tube

Permatex® Maximum Temperature Thread Sealant

A high performance, solvent resistant sealant that locks and seals metal tapered pipe threads and fittings. Specifically formulated for aluminum, stainless steel, galvanized metal and other inert metals. Temperature range -65°F to 400°F (-54°C to 204°C). Contains PTFE.

Item #	Container Size
56750	50 ml tube, carded
56725	250 ml tube

Permatex® Thread Sealant with PTFE

Economical general-purpose fitting sealant. Outperforms tapes and pipe dopes. Seals and resists pressure in air, oil, diesel fuel and hydraulic systems. Remains pliable at high and low temperatures. Temperature range -65°F to 300°F (-54°C to 149°C); resists common shop fluids.

Item #	Container Size	P/N
80632	4 oz can	14H
80633	16 oz can	14D

Permatex® Pneumatic/Hydraulic Sealant

Designed for locking and sealing high pressure hydraulic and pneumatic systems. Contains no fillers or particles which could contaminate system fluids, foul valves or clog fine filters and screens. Reliably cures on "as received" fasteners and controlled locking strength affords easy disassembly.

Item #	Container Size
54550	50 ml bottle

Permatex® Pipe Joint Compound

Universal sealant. Lubricates and seals threaded joints on water, oil and fuel lines. Temperature range -65°F to 400°F (-54°C to 204°C); resists common shop fluids.

Item #	Container Size	P/N
80045	16 oz bottle	51D

Permatex® Thread Sealants

Product	Item Number	Container Size	Color	Viscosity cP	Seal to Operating Pressure	Temperature Range	Specific Gravity
Permatex® High Performance Thread Sealant	56521	50 ml tube	White	300,000	4 hrs	-65° to 300°F (-54° to 149°C)	1.10
	56525	250 ml tube					
Permatex® High Temperature Thread Sealant	59235	50 ml tube	White	350,000	4 hrs	-65° to 400°F (-54° to 204°C)	1.21
	59225	250 ml tube					
Permatex® Maximum Temperature Thread Sealant	56750	50 ml tube	White	300,000	4 hrs	-65° to 400°F (-54° to 204°C)	1.10
	56725	250 ml tube					
Permatex® Thread Sealant w/ PTFE	80632	4 oz can	White	55,000	Instant/ Non-Curing	-65° to 300°F (-54° to 149°C)	1.12
	80633	16 oz can					
Permatex® Pneumatic/Hydraulic Sealant	54550	50 ml bottle	Purple	14,000	4 hrs	-65° to 300°F (-54° to 149°C)	1.02
Permatex® Pipe Joint Compound	80045	16 oz bottle	Black	40,000	Instant/ Non-Curing	-65° to 400°F (-54° to 204°C)	1.28

Activators

Permatex® Surface Prep™ Activator for Anaerobics

Speeds cure of Permatex® Threadlockers, Thread Sealants, Retaining Compounds and Anaerobic Gasket Makers. Recommended for use during cold weather. General purpose solvent for preparing parts and surfaces.

▲ NFPA Fire Code 30B: Level 1.

Item #	Container Size
24163	6 oz aerosol can, 4.5 oz net wt



Permatex® Gasket Makers

Permatex®, the leader in form-in-place gasket makers, gasket dressings and general-purpose sealants for over a century, has an extensive selection of anaerobics, RTV silicones and solvent-based products to meet all your gasketing and sealing needs.

Anaerobic Gasket Makers

- Rigid assemblies
- Designed to eliminate movement
- Gaps up to 0.050" primed
- High chemical resistance
- Maximum temperature of 400°F

RTV Silicone Gasket Makers

- Instant seal with the Right Stuff®
- Flexible joints
- Use with dissimilar materials
- Gaps up to 0.250"
- Temperatures to 600°F



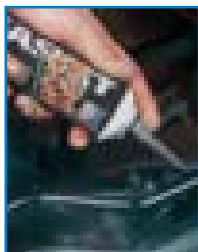
Permatex® PowerBead™... the ultimate dispensing system

- Makes application quick and easy
- Provides smooth flow and bead
- Extended, rigid nozzle gives pinpoint control
- Patented vertically-actuated valve design eliminates clogging
- Product flow is easily regulated without finger fatigue
- Permatex® branded cushion-grip shows you have chosen the best



Permatex® Gasket Makers

Product	Item Number	Color	Maximum Gap Fill	Typical Use	Temperature Range	Flange Type	Cure Type	Specific Gravity
Permatex® the Right Stuff® Gasket Maker	25224, 29208, 85224, 33694	Black	0.25"	High adhesion, instant seal	-75° to 450°F (-59° to 232°C), 500°F (260°C) intermittent	Rigid or Flexible	Elastomeric Rubber	1.31
Permatex® Ultra Black® Maximum Oil Resistance Gasket Maker	82180, 82080, 85080, 24105	Metallic Black	0.25"	Increased oil resistance, noncorrosive	-65° to 400°F (-54° to 204°C), 500°F (260°C) intermittent	Rigid or Flexible	Silicone (Oxime)	1.26
Permatex® Ultra Copper® Maximum Temperature RTV Silicone Gasket Maker	81878 82751	Metallic Copper	0.25"	High temperature, noncorrosive	-65° to 600°F (-54° to 316°C), 700°F (371°C) intermittent	Rigid or Flexible	Silicone (Oxime)	1.05
Permatex® Ultra Blue® RTV Silicone Gasket Maker	81724 85519 81725	Metallic Blue	0.25"	Increased oil resistance, noncorrosive	-65° to 400°F (-54° to 204°C), 500°F (260°C) intermittent	Rigid or Flexible	Silicone (Oxime)	1.30
Permatex® Ultra Grey® Gasket Maker	82194 82195	Metallic Grey	0.25"	High durometer for more rigid flanges	-65° to 450°F (-54° to 232°C), 500°F (260°C) intermittent	Rigid or Flexible	Silicone (Oxime)	1.50
Permatex® Sensor-Safe Blue RTV Silicone Gasket Maker	80022, 81860, 80628	Blue	0.25"	General-purpose sealing	-65° to 400°F (-54° to 204°C), 500°F (260°C) intermittent	Rigid or Flexible	Silicone (Oxime)	1.30
Permatex® High-Temp Red RTV Silicone Gasket Maker	81160, 81915, 85915, 81409	Red	0.25"	High temperature general-purpose sealing	-65° to 600°F (-54° to 316°C), 650°F (343°C) intermittent	Rigid or Flexible	Silicone (Acetox)	1.05
Permatex® Anaerobic Flange Sealant	51531 51580	Dark Purple	0.010" (0.050" primed)	For flexible applications	-65° to 300°F (-54° to 149°C)	Rigid	Anaerobic	1.10
Permatex® Anaerobic Gasket Maker	51813 51845	Red	0.010" (0.050" primed)	For all metals including aluminum flanges	-65° to 300°F (-54° to 149°C)	Rigid	Anaerobic	1.13



The Right Stuff® Application Instructions

1. Clean and dry parts.
2. Apply a continuous bead of the Right Stuff® to one surface, surrounding all bolt holes.
3. Assemble parts within 5 minutes, tightening bolts to recommended torque levels. Material will fill any surface imperfection. Equipment can be returned to service immediately. No waiting.



Note: Permatex brand products are not for sale in Canada

Ultra Series



Permatex® the Right Stuff® Gasket Maker



Heavy-bodied, black, elastomeric rubber provides instant seal. Superior flexibility and adhesion accommodates joint movement. Excellent oil resistance. Noncorrosive. Low odor. Low volatility. Temperature range of -75°F to 450°F (-59°C to 232°C) continuous, 500°F (260°C) intermittent. Not recommended for use on parts that will be in contact with gasoline.

Item #	Container Size
25224	7 oz Automatic Tube®
85224	7.5 oz PowerBead™ can
33694	10.1 fl oz cartridge



Permatex® Ultra Black® Gasket Maker

Fast-curing formula. Sensor-safe, low odor, noncorrosive. Fills gaps of up to 0.25" when fully cured. Meets performance specs of OE silicone gaskets. Retains high flexibility, oil resistant properties through use of a patented adhesion system. Temperature range -65°F to 400°F (-54°C to 204°C) continuous, 500°F (250°C) intermittent. Resists common fluids and excessive vibration.

Item #	Container Size
82180	3.35 oz tube, carded
82080	8.75 oz Automatic Tube®
85080	9.5 oz PowerBead™ can
24105	13 oz cartridge

Permatex® Ultra Grey® Gasket Maker

Designed for high torque applications requiring a unique RTV gasket. Fills gaps of up to 0.25" when fully cured. Low odor, noncorrosive. Outstanding oil and coolant resistance. Temperature range -65°F to 450°F (-54°C to 232°C) continuous, 500°F (250°C) intermittent. Resists common fluids and excessive vibration.

Item #	Container Size
82194	3.5 oz tube, carded
82195	13 oz cartridge

Permatex® Ultra Copper® RTV Silicone Gasket Maker

Premium silicone designed to provide reliable, tough, flexible formed-in-place gaskets for mechanical assemblies. Temperature range -65°F to 600°F (-54°C to 316°C) continuous, 700°F (371°C) intermittent.

Item #	Container Size	P/N
81878	3 oz tube, carded	101BR
82751	300 ml cartridge	101C

Permatex® Ultra Blue® RTV Silicone Gasket Maker



Fills gaps up to 0.25" when fully cured. Sensor-safe, low odor, noncorrosive. Outstanding oil resistance and joint movement values. Eight times more flexible than cork/composite gaskets; three times more oil resistant than conventional silicones. Temperature range -65°F to 400°F (-54°C to 204°C) continuous, 500°F (250°C) intermittent. Resists common fluids and excessive vibration.

Item #	Container Size	P/N
81724	3.35 oz tube, carded	77BR
85519	9.5 oz PowerBead™ can	
81725	13 oz cartridge	77C

Permatex® Sensor-Safe Blue RTV Silicone Gasket Maker

The original Permatex® blue makes reliable “formed-in-place” gaskets that resist shrinking, cracking and migrating. Product cures to a strong, flexible rubber that seals flanges against leakage and resists oil and other shop fluids. Coat pre-cut gaskets to increase reliability. Temperature range -65°F to 400°F (-54°C to 204°C) continuous, 500°F (250°C) intermittent. Low volatility. Fills gaps to 0.25” when fully cured.

Item #	Container Size	P/N
80022	3 oz tube, carded	6BR
81860	7.25 oz Automatic Tube®	6MA
80628	12.9 oz cartridge	6C

Permatex® High-Temp Red RTV Silicone Gasket Maker



Formulated for high-temp applications. It replaces almost any cut gasket by making reliable “formed-in-place” gaskets that resist cracking, shrinking and migrating caused by thermal cycling. Coat pre-cut gaskets to increase reliability. Temperature range -65°F to 600°F (-54°C to 316°C) continuous, 650°F (343°C) intermittent. Fills gaps to 0.25” when fully cured. MIL-A-46106 B, Type 1.

Item #	Container Size	P/N
81160	3 oz tube, carded	26BR
81915	7.25 oz Automatic Tube®	
85915	7.25 oz PowerBead™ can	
81409	11 oz cartridge	26C



For Technical Information or information on where to buy Devcon® and Permatex® products, call 1-855-489-7262 or visit www.itwadhesives.com

Permatex® Anaerobic Gasket Maker

Ideal for on-the-spot and emergency repairs, or when a conventional gasket is out of stock. This single component, thixotropic gasket maker cures rapidly for a medium strength, solvent resistant seal that resists temperatures up to 300°F (149°C) and fills gaps to 0.050” (primed). Can be used on a variety of metal surfaces including aluminum. Parts disassemble easily even after extended service.

Item #	Container Size
51813	50 ml tube, carded
51845	300 ml cartridge

Anaerobic Gasket Makers

Permatex® Anaerobic Flange Sealant

Flexible gasketing material ideal for use on rigid, machined flanges. Withstands temperatures to 300°F (149°C). Fills gap of 0.050” (primed) and eliminates the need for preformed gaskets. Ideal for flanges that move in service.

Item #	Container Size
51531	50 ml tube
51580	300 ml cartridge



Note: Permatex brand products are not for sale in Canada

Total Adhesive Solutions Carefully Matched or Custom Formulated to Your Application

Because ITW Performance Polymers offers a full range of high-performance adhesives, we will never force your application to fit our technology. Through our national network of distributors, we will work with you to assess your adhesive requirements. Our experienced application specialists will then recommend a total adhesives solution including the best adhesive for your needs, along with the right dispensing system. If desired, we will also supply bonded samples and test results, as well as training and support.



Devcon and Permatex® OEM Adhesives include:

- ▼ High-strength, fast-curing epoxies
- ▼ Advanced methacrylates for bonding plastics, composites, metals and dissimilar substrates
- ▼ Instant-curing cyanoacrylates that eliminate the need for fixturing
- ▼ Chemical-resistant, MIL-SPEC threadlockers, retaining compounds and pipe sealants
- ▼ Specialty adhesives custom engineered for specialized applications

All these adhesives are available in a variety of package sizes including convenient, no-waste, mix-as-dispensed dual cartridges.

Note: Permatex brand products are not for sale in Canada

OEM Adhesive Selector Guide

KEY: ● Excellent Choice ◐ Good Choice ○ Requires Metal Prep 90™ Blank - Not Recommended

OEM Material	One Minute™ Epoxy Gel	5 Minute™ Epoxy / Epoxy Gel	Dev-Thane™ 5	10 Minute™ Epoxy	2 Ton® Epoxy	Epoxy Plus™ 25	HP 250	Plastic Welder™	Plastic Welder™ II	Metal Welder™ Adhesives	ZipGrip® Adhesives	
METAL	Aluminum ¹	●	●	●	●	●	●	○	○	●	◐	
	Brass	●	●	●	●	●	●			●	◐	
	Cast Iron	●	●	●	●	●	●	○	●	●	◐	
	Copper	◐	●	●	●	●	●			●	◐	
	Ferrite	◐	◐	●	◐	◐	●	●	●	●	◐	
	Painted metals	◐	◐	●	◐	◐	◐	◐	◐	●	◐	
	Plated metals			●	◐		◐	◐	◐	◐	◐	
	Sheet metal			●	◐		●	●	◐	●	●	
	Stainless steel ¹	●	●	●	●	●	●	○	○	●	◐	
	Cold rolled steel	●	●	●	●	●	●	●	●	●	●	●
	Galvanized			●			◐	◐				
	PLASTIC	ABS			◐	◐		◐	●	●	●	◐
Acrylics (PMMA)				◐	◐		●	●	●	●	◐	
Fiberglass				◐	◐	◐	●	●	●	●	◐	
Gel coats				●			●	●	◐	◐	●	
Epoxy		◐	◐		●	◐	●	●	●	●	◐	
Polyamides (Nylon) (6,6/6)						◐	◐		◐	○	◐	
Polyesters (PET/PBA blends)						●	◐	●	●	●	●	
Polycarbonate		●					◐	◐	●	●	●	◐
PPO and PPO blends									●	●	◐	
Vinyls (PVC)		◐	◐		◐	◐	◐	◐	●	●	●	●
RIM urethanes									●	●	●	
SMCs							◐	◐		●		
Styrene resins							◐	◐	◐	◐	●	
Polyacrylate							◐	◐		●	●	
Polyurea									●	●	◐	
Cellulosics (CAL, CAB, CAP)									●	◐	◐	
Polysulfone									◐	●	◐	
Phenolics							◐	●	●	●	●	◐
Laminates						◐	●	●	●	●	●	
WOOD	Wood (hard and soft)	●	●	●	●	●	●	◐	◐	◐	◐	
	Plywood	●	●	●	●	●	●	◐	◐	◐	◐	
	Particle board	●	●	●	●	●	●	◐	◐	◐	◐	
OTHER	Brick	●	●	●	●	●	●	●	●	●		
	Concrete	●	●	●	●	●	●	●	●	●		
	Rubber			●						●	●	
	Honeycomb	◐	◐	●	◐	◐	●	●	●	●		
	Ceramics	◐	◐	●	◐	◐	●	●	●	●	◐	
Glass			●									

NOTES: ¹ Use of Metal Prep 90™ primer/cleaner is recommended on these metals prior to bonding with Plastic Welder™ and Plastic Welder™ II.

2-Part Structural Epoxy Adhesives

Devcon® advanced epoxy adhesives are used for structural bonding, potting and encapsulating, and come in a variety of cure times and package sizes.

Devcon® 5 Minute® Epoxy

Rapid-curing, general-purpose adhesive/encapsulant.

Item #	Container Size	Dispenser	Nozzle
14250	25 ml Dev-Tube™	—	—
14270	50 ml cartridge	14280 (manual)	14285
14210	2.5 oz	—	—
DA051	400 ml cartridge	14410 (manual)	14292
14200	15 oz	—	—
14630	9 lb	—	—

Devcon® 5 Minute® Epoxy Gel

Thixotropic, nonmigrating gel adhesive with excellent gap filling properties.

Item #	Container Size	Dispenser	Nozzle
14240	25 ml Dev-Tube™	—	—
14265	50 ml cartridge	14280 (manual)	14285
DA052	400 ml cartridge	14410 (manual)	14292

Devcon® One Minute™ Epoxy Gel

Lightning fast curing gel adhesive for filling gaps, cracks and holes.

Item #	Container Size	Dispenser	Nozzle
14277	50 ml cartridge	14280 (manual)	14285



Devcon® 10 Minute™ Epoxy

Flexible epoxy provides excellent adhesion to metals and superior peel, impact and chemical resistance.

Item #	Container Size	Dispenser	Nozzle
14251	50 ml cartridge (clear)	14280 (manual)	14285
14255	50 ml cartridge (black)	—	—

Devcon® 2 Ton® Epoxy

Extremely strong, medium-cure, water-resistant adhesive.

Item #	Container Size	Dispenser	Nozzle
14310	25 ml Dev-Tube™	—	—
14260	50 ml cartridge	14280 (manual)	14285
14355	400 ml cartridge	14410 (manual)	14292
14360	9 lb	—	—

Devcon® Epoxy Plus™ 25

Rubber-toughened structural adhesive with superior peel, impact and fatigue resistance.

Item #	Container Size	Dispenser	Nozzle
14278	50 ml cartridge	14280 (manual)	14285
14350	400 ml cartridge	14410 (manual)	14292

Devcon® HP 250

High-performance, toughened structural adhesive with outstanding environmental, impact and chemical resistance.

Item #	Container Size	Dispenser	Nozzle
14315	50 ml cartridge	—	—
14415	400 ml cartridge	14410 (manual)	14292



Physical Properties	5 Minute [®] Epoxy	5 Minute [®] Epoxy Gel	One Minute [™] Epoxy Gel	10 Minute [™] Epoxy		2 Ton [®] Epoxy	Epoxy Plus [™] 25	HP 250
Color	Clear	Opaque	Clear	Black	Clear	Clear	Grey	Straw
Mix ratio resin:hardener	1:1	1:1	1:1	1:1	1:1	1:1	1:1	2:1
Mixed viscosity cP	10,000	Gel	70,000	90,000	80,000	8,000	70,000	105,000
Working time ¹ minutes	3 ~ 6	4 ~ 7	45 sec	10	10	8 ~ 12	25	65
Fixture time ² minutes	10 ~ 15	10 ~ 15	1	20	20	30 ~ 35	3.5 hours	5 hours
Functional cure hours	1.5	0.75 ~ 1	0.5 ~ 0.75	1.5	1.5	2	24	24
Adhesive tensile lap shear (ASTM D1002) ³ psi	1,900 ⁴	2,500	1,600 ⁴	2,400	2,400	2,250	2,750	3,200
Tensile elongation %	5	1	1	5	5	1	20	25
Peel strength pli	2 ~ 3	2 ~ 3	2 ~ 3	20 ~ 25	20 ~ 25	2 ~ 3	20 ~ 25	35 ~ 40
Impact resistance ft-lb / in ²	5.5	6.5	4.5	10	10	6.5	10	12
Maximum dry service temperature °F	-40 ~ 200	-40 ~ 200	-40 ~ 200	-67~200	-67~200	-40 ~ 200	-40 ~ 200	-67 ~ 250

NOTES: ¹ The maximum allowable time to mate and position parts after mixing and application of the adhesive. After this interval, parts must not be disturbed. ² The time required for the adhesive to generate sufficient bond strength to allow parts to be handled without deformation of the bond line. ³ All tensile strength data per ASTM D1002 on grit-blasted steel, bond line thickness of 0.010". ⁴ Bond line thickness of 0.005".

Key: ● Excellent ◐ Very Good ○ Fair ⊖ Poor

Chemical Resistance	5 Minute [®] Epoxy	5 Minute [®] Epoxy Gel	One Minute [™] Epoxy Gel	10 Minute [™] Epoxy		2 Ton [®] Epoxy	Epoxy Plus [™] 25	HP 250
ACIDS								
Acetic 10%	⊖	⊖	⊖	⊖	⊖	⊖	⊖	◐
Hydrochloric 10%	⊖	⊖	⊖	⊖	⊖	⊖	◐	●
Sulfuric 10%	⊖	⊖	⊖	⊖	⊖	⊖	◐	◐
ALCOHOLS								
Glycol	○	○	○	◐	●	●	●	●
Isopropanol	⊖	⊖	⊖	⊖	⊖	⊖	○	◐
Methanol	⊖	⊖	⊖	⊖	⊖	⊖	⊖	◐
KETONES								
Acetone	⊖	⊖	⊖	⊖	⊖	⊖	⊖	◐
Methyl ethyl ketone	⊖	⊖	⊖	⊖	⊖	⊖	⊖	◐
ALKALIS								
Ammonium hydroxide 20%	⊖	⊖	⊖	⊖	⊖	◐	◐	●
Sodium hydroxide 10%	⊖	⊖	⊖	⊖	⊖	◐	◐	◐
HYDROCARBONS								
Gasoline (unleaded)	●	●	●	○	●	●	⊖	⊖
Mineral spirits	●	●	●	●	●	●	●	●
Motor oil	●	●	●	●	●	●	●	●
SALTS								
Sodium chloride	⊖	⊖	◐	◐	◐	◐	◐	◐
Trisodium phosphate	⊖	○	◐	◐	◐	◐	◐	◐

Devcon® Food Grade Pot & Seal

An epoxy potting compound acceptable for meat and poultry plants. It is ideal for bonding filter screens to frames.

Item #	Container Size	Dispenser	Nozzle
DA999	400 ml cartridge	15043 (manual)	15047

Devcon® 5-Minute® I-FR

Flame retardant, non-brominated, antimony free, 5-Minute® 2-component epoxy paste. Ideal for applications requiring a self-extinguishing structural epoxy system. Meets UL94V-0 and FAR 25.853 [a], and is RoHS compliant.

Item #	Container Size	Dispenser	Nozzle
14272	50 ml cartridge	14280 (manual)	14285

Devcon® 10-Minute™ I-FR

Flame retardant, non-brominated, antimony free, 10-Minute™ epoxy with impact resistance. 2-component epoxy paste. Non-sag, structural epoxy for potting inserts and edge sealing. Meets UL94V-0 and FAR 25.853 [a], and is RoHS compliant.

Item #	Container Size	Dispenser	Nozzle
14258	50 ml cartridge	14280 (manual)	14285

Physical Properties	Food Grade Pot & Seal	Flame Retardant	
		5-Minute® I-FR	10-Minute™ I-FR
Color	White	White	White
Mix ratio resin:hardener	4:1	1:1	1:1
Mixed viscosity cP	100,000	55,000	150,000
Working time ¹ minutes	42 @ 75°F	4 - 6	10
Fixture time ² minutes	10 @ 200°F	10 ~ 15	20 ~ 25
Functional cure hours	25 @ 200°F	1	3
Adhesive tensile lap shear (ASTM D1002) ³ psi	1,980	1,430 ⁴	2,700
Tensile elongation %	1	1	5
Peel strength pli	2 ~ 3	2	15
Impact resistance ft-lb/in ²	5.2	5	8
Maximum dry service temperature °F	-40 - 275	-40 - 200	-67 - 200

NOTES: ¹ The maximum allowable time to mate and position parts after mixing and application of the adhesive. After this interval, parts must not be disturbed.

² The time required for the adhesive to generate sufficient bond strength to allow parts to be handled without deformation of the bond line.

³ Per ASTM D1002 on grit-blasted steel, bond line thickness of 0.010".

⁴ Bond line thickness of 0.005".

Key: ● Excellent ● Very Good ○ Fair ○ Poor

Chemical Resistance	Food Grade Pot & Seal	5-Minute® I-FR	10-Minute™ I-FR
ACIDS			
Acetic 10%	●	○	○
Hydrochloric 10%	●	○	○
Sulfuric 10%	●	○	○
ALCOHOLS			
Glycol	●	○	●
Isopropanol	●	○	○
Methanol	●	○	○
KETONES			
Acetone	○	○	○
Methyl ethyl ketone	○	○	○
ALKALIS			
Ammonium hydroxide 20%	●	○	○
Sodium hydroxide 10%	●	○	●
HYDROCARBONS			
Gasoline (unleaded)	●	●	○
Mineral spirits	●	●	●
Motor oil	●	●	●
SALTS			
Sodium chloride	●	○	○
Trisodium phosphate	●	○	○

2-Part Structural Acrylic Adhesives

Advanced methacrylate adhesives produce tough, flexible bonds on today's hard-to-bond plastics, composites, exotic metals and dissimilar substrates.

Physical Properties	Plastic Welder™		Plastic Welder™ II	Metal Welder™
	Straw,Black	White	Straw	Grey / Beads
Color	Straw,Black	White	Straw	Grey / Beads
Mix ratio <i>resin:hardener</i>	1:1	1:1	1:1	10:1
Mixed viscosity <i>cP</i>	50,000 ⁴	50,000 ⁴	56,000 ⁴	90,000 ⁴
Working time ¹ <i>minutes</i>	4 ~ 6	2 ~ 3	15 ~ 20	4 ~ 6
Fixture time ² <i>minutes</i>	10 ~ 15	8 ~ 10	30 ~ 35	20 ~ 25
Functional cure <i>hours</i>	0.75 ~ 1	0.75 ~ 1	2 ~ 4	1 ~ 2
Adhesive tensile lap shear ³ (ASTM D1002) <i>psi</i>	3,500	3,500	3,000	2,450
Tensile elongation %	15 ~ 25	15 ~ 25	5 ~ 15	30 ~ 60
Peel strength <i>pli</i>	35 ~ 40	35 ~ 40	15 ~ 20	30 ~ 40
Impact resistance <i>ft-lb / in²</i>	22	22	17	>20
Maximum dry service temperature <i>°F</i>	-67 ~ 250	-67 ~ 250	-67 ~ 250	-67 ~ 200

NOTES: ¹ The maximum allowable time to mate and position parts after mixing and application of the adhesive. After this interval, parts must not be disturbed.
² The time required for the adhesive to generate sufficient bond strength to allow parts to be handled without deformation of the bond line.
³ All tensile strength data per ASTM D1002 on grit-blasted steel, bond line thickness of 0.010".
⁴ Thixotropic gel.

Key: ● Excellent ◐ Very Good ○ Fair ⊙ Poor

Chemical Resistance	Plastic Welder™	Plastic Welder™ II	Metal Welder™
ACIDS			
Acetic 10%	◐	◐	◐
Hydrochloric 10%	○	◐	◐
Sulfuric 10%	●	◐	◐
ALCOHOLS			
Glycol	○	○	○
Isopropanol	●	●	●
Methanol	○	○	○
KETONES			
Acetone	○	○	○
Methyl ethyl ketone	○	○	○
ALKALIS			
Ammonium hydroxide 20%	◐	○	○
Sodium hydroxide 10%	◐	●	◐
HYDROCARBONS			
Gasoline (unleaded)	◐	◐	⊙
Mineral spirits	◐	◐	○
Motor oil	◐	◐	◐
SALTS			
Sodium chloride	◐	◐	◐
Trisodium phosphate	◐	◐	◐

Devcon® Plastic Welder™

Toughened adhesive for high strength load-bearing bonds to engineered plastics, metals, composites, ceramics and dissimilar substrates. Approved under UL 746C Polymeric Adhesive Systems, Electrical Equipment - Component. SAMS listed.

Item #	Container Size	Dispenser	Nozzle
14300	25 ml Dev-Tube™(straw)	—	—
14320	47 ml cartridge (straw)	14280 (manual)	14285
DA291	47 ml cartridge (white)		
DA290	47 ml cartridge (black)		
14385	400 ml cartridge (straw)	14410 (manual)	14292
DA160	400 ml cartridge (white)		
DA295	400 ml cartridge (black)		
14330	2 liter kit (straw)	—	—
DA033/034	10 gal kit (straw)	—	—
14388/14389	10 gal kit (black)	—	—
DA309/307	100 gal kit (straw)	—	—

Devcon® Plastic Welder™ II

Formulated for difficult-to-bond engineered plastics such as nylon-based alloys, epoxy composites and modified polyesters.

Item #	Container Size	Dispenser	Nozzle
14340	47 ml cartridge (straw)	14280 (manual)	14285
14390	400 ml cartridge (straw)	14410 (manual)	14292

Devcon® Metal Welder™

High-performance structural adhesive formulated to bond a wide range of metals including: aluminum, stainless steel, cold-rolled steel and dissimilar substrates without primers. Approved under UL 746C Polymeric Adhesive Systems, Electrical Equipment - Component. SAMS listed.

Item #	Container Size	Dispenser	Nozzle
14366	35 ml cartridge	14280 (manual)	14285
14367	380 ml coax cartridge	14409 (manual)	14293

Devcon® Metal Prep 90™

Primer/conditioner improves bond durability on aluminum or stainless steel surfaces.

Item #	Container Size	Dispenser	Nozzle
19650	1 pt	—	—

All Devcon® Methacrylate Adhesives Are GREENGUARD® Certified



Permatex® ZipGrip® Instant Adhesives

From a world leader in cyanoacrylate technology, Permatex® ZipGrip® Instant Adhesives are designed to handle the full range of OEM applications. This comprehensive line includes formulations for even the most specialized needs.

Permatex® ZipGrip® General Purpose Instant Adhesives

General Purpose formulations for bonding metals, plastics and rubber in all combinations. Gels are ideal for vertical or inverted surfaces.

Item #	Container Size	P/N
70144	14 g bottle	GPE 3
70145	2 g tube	GPE 3
70213	1/3 oz bottle	GPE 15
70350	1 oz bottle	GPE 30
70450	1 oz bottle	GPE 100

Permatex® ZipGrip® General Purpose Instant Adhesives

Product	Item Number	Container Size	Viscosity	Color	Type	Gap Filling	Adhesive Tensile Shear	Service Temperature	Cure Speed Steel-Plastic-Rubber
GPE 3 ¹	70144 70145	14 g bottle 2 g tube	3 cP	Clear	Ethyl	0.003"	3,200 psi	-65 to 200°F	5-10 / 3-5 / <2 sec
GPE 15 ¹	70213	1/3 oz bottle	15 cP	Clear	Ethyl	0.005"	3,200 psi	-65 to 200°F	5-10 / 4-10 / <3 sec
GPE 30 ¹	70350	1 oz bottle	30 cP	Clear	Neomer Ethyl	0.004"	3,200 psi	-65 to 200°F	5-12 / 5-13 / <6 sec
GPE 100 ²	70450	1 oz bottle	100 cP	Clear	Ethyl	0.004"	3,200 psi	-65 to 200°F	10-20 / 10-20 / <5 sec

Permatex® ZipGrip® Toughened Instant Adhesives

Toughened ethyl versions are modified with elastomeric compounds to improve impact, peel and general toughness of cyanoacrylates. They also exhibit higher temperature and moisture resistance than standard formulas.

Item #	Container Size	P/N
72161	1 lb bottle	TE 1000
72250	1 oz bottle	TE 2400
72261	1 lb bottle	TE 2400

Permatex® ZipGrip® Toughened Instant Adhesives

Product	Item Number	Container Size	Viscosity	Color	Type	Gap Filling	Adhesive Tensile Shear	Service Temperature	Cure Speed Steel-Plastic-Rubber
TE 1000 ³	72161	1 lb bottle	1,000 cP	Clear	Ethyl	0.008"	3,700 psi	-65 to 280°F	25-40 / 25-50 / 20-50 sec
TE 2400 ³	72250 72261	1 oz bottle 1 lb bottle	2,400 cP	Clear	Ethyl	0.009"	3,700 psi	-65 to 280°F	40-70 / 25-50 / 25-50 sec

NOTES: ¹ Commercial Item Standard A-A-3097, Type II, Class 1
² Commercial Item Standard A-A-3097, Type II, Class 2
³ Commercial Item Standard A-A-3097, Type II, Class 3

URETHANE ADHESIVES

URETHANE ADHESIVES

Urethane Adhesives

Devcon® urethane formulations are primerless adhesives that bond metals, plastic, galvanized metal and other hard-to-bond substrates. They offer rapid curing and exceptional flexibility.

Devcon® Dev-Thane™ 5

Primerless, fast-setting, two-part urethane adhesive for high-performance bonding of a variety of substrates such as aluminum, steel, ABS, urethane and composites.

Item #	Container Size	Dispenser	Nozzle
14503	50 ml cartridge	14280 (manual)	14285
14500	400 ml cartridge	14410 (manual)	14293

Physical Properties	Dev-Thane™ 5
Color	Grey
Mix ratio resin:hardener	1:1
Mixed viscosity cP	45,000
Fixture time minutes	45
Working time minutes	5
Peel strength pli	60 ~ 75
Functional cure ¹ hours	4
Tensile Elongation %	200
Cured hardness (ASTM D2240) Shore D	63
Adhesion Tensile Lap Shear (ASTM D1002) psi	2,750

NOTES: ¹ Faster cure times can be achieved by heating.

Chemical Resistance	
ACIDS	
Acetic 10%	○
Hydrochloric 10%	●
Sulfuric 10%	●
ALCOHOLS	
Glycol	○
Isopropanol	●
Methanol	●
KETONES	
Acetone	○
Methyl ethyl ketone	○
ALKALIS	
Ammonium hydroxide 20%	○
Sodium hydroxide 10%	●
HYDROCARBONS	
Gasoline (unleaded)	●
Mineral spirits	●
Motor oil	●
SALTS	
Sodium chloride	○
Trisodium phosphate	○

Key: ● Excellent ○ Very Good ○ Fair ○ Poor

Note: Permatex brand products are not for sale in Canada

Manual Applicator Guns and Nozzles

Manual applicator guns with static nozzles mix as they dispense, eliminating premixing and ensuring precise bead control.

Devcon® 50 ml Mark 5™ Dispensing System

Manual dispensing guns and custom-designed static mixing nozzles for 1:1, 2:1 and 10:1 50 ml systems.

Item #	Dispensing Guns
14280	Manual (1:1, 2:1 and 10:1 ratio)
Mixing Nozzles	
14285	Ø .25" (1:1, 2:1 and 10:1 ratio)

Devcon® 380 ml Coaxial Dispensing System

Manual dispensing guns and custom designed static mixing nozzles for 10:1 380 ml coaxial systems.

Item #	Dispensing Guns
14409	Manual (10:1 ratio)
Mixing Nozzles	
14293	Ø .315" (10:1 ratio)

Devcon® 400 ml Dispensing System

Manual dispensing guns and custom-designed static mixing nozzles for 1:1 400 ml systems and 4:1 400 ml systems.

Item #	Dispensing Guns
14410	Manual (1:1 and 2:1 ratio)
15043	Manual (4:1 ratio)
Mixing Nozzles	
14291	Ø .250" (1:1 ratio)
14293	Ø .315" (1:1 ratio)
14292	Ø .394" (1:1 and 10:1 ratio)
15047	Ø .394" (4:1 ratio)



Devcon® 490 ml Dispensing System

Manual dispensing gun and custom-designed static mixing nozzles for 10:1 490 ml systems.

Item #	Dispensing Guns
Contact Devcon Tech Service	
Mixing Nozzles	
14287	Ø .374" (10:1 ratio)

Mix Nozzle Selector Guide

Item Number	Element	Product Compatibility
14285 (for Mark 5™ 1:1, 2:1 and 10:1 50 ml gun)	20 element 6.35 mm or Ø.250"	One Minute®, 5 Minute®, 2 Ton®, Epoxy Plus™ 25, HP 250, 5 Minute® Gel, Plastic Welder®, Plastic Welder™ II, Metal Welder™
14287 (for 490 ml cartridge with 10:1 manual or pneumatic gun)	24 element 10 mm or Ø.374"	
14291 (for 400 ml pneumatic gun only)	18 element 6 mm or Ø .250"	Smaller diameter for less waste for methacrylates / Plastic Welder®, Plastic Welder™ II
14292 (for 400 ml 1:1 manual or pneumatic gun)	18 element 10 mm or Ø .394"	One Minute®, 5 Minute®, 2 Ton®, Epoxy Plus™ 25, HP 250, 5 Minute® Gel, Plastic Welder®, Plastic Welder™ II,
14293 (for 400 ml 1:1 manual or pneumatic gun) (for 380 ml 10:1 Coaxial manual or pneumatic gun)	32 element 8 mm or Ø .315"	Cable Cast, Metal Welder™, Dev-Thane™ 5
15047 (for 400 ml 4:1 manual or pneumatic gun)	24 element 10 mm or Ø .394"	Flexane® FC Rubber Repair Liquid, Flexane® FC Rubber Repair, Edge & Seal (T-35), Food Grade Pot & Seal



Devcon® / Permatex® Mil-Spec, UL and Other Government Specifications

Product Category	Specification	Product	Part #	Size			
Devcon® Epoxy Adhesives	FAR 25.853 [a]	5-Minute® I-FR	14272	50 ml cartridge			
		10-Minute® I-FR	14258	50 ml cartridge			
	RoHS	5-Minute® I-FR	14272	50 ml cartridge			
		10-Minute® I-FR	14258	50 ml cartridge			
Devcon® Methacrylate Adhesives	UL 746C Polymeric Adhesive Systems, Electrical Equipment Component	Plastic Welder™	14300	25 ml Dev-Tube®			
			14320	47 ml cartridge			
			14385	400 ml cartridge			
			14330	2 liter kit			
			DA033/34	10 gal kit			
			DA309/307	100 gal kit			
		Metal Welder™	14366	35 ml cartridge			
			14367	380ml coax cartridge			
			Permatex® ZIP GRIP® Instant Adhesives	A-A-3097, Type II, Class 1	GPE 3 Wicking	70144	14 g bottle
						70145	2 g tube
GPE 15 Rubber Bonder	70213	1/3 oz bottle					
	GPE 30 All Purpose	70350			1 oz bottle		
A-A-3097, Type II, Class 2	GPE 100 All Purpose-Medium Viscosity	70450	1 oz bottle				
		A-A-3097, Type II, Class 3	TE 1000 Gap Filling	72161	1 lb bottle		
TE 2400 Gap Filling-Hi Temp	72250			1 oz bottle			
	72261	1 lb bottle					
Permatex® Threadlockers Liquids	S-46163A, Type II, Grade N	Medium Strength Threadlocker BLUE	24210	10 ml bottle			
			24250	50 ml bottle			
			24225	250 ml bottle			
	S-46163A, Type II, Grade O	Permanent Strength Threadlocker RED	26210	10 ml bottle			
			26250	50 ml bottle			
			26225	250 ml bottle			
	S-46163A, Type I, Grade K	High Strength Threadlocker RED	27110	10 ml bottle			
			27150	50 ml bottle			
			27125	250 ml bottle			
	S-46163A, Type I, Grade L	Large Diameter Threadlocker RED	27725	250 ml bottle			
			S-46163A, Type III, Grade R	Penetrating Grade Threadlocker GREEN	29050	50 ml bottle	
	29025	250 ml bottle					
Permatex® Retaining Compounds	R-46082B, Type I	Bearing Mount for Close Fits	60950	50 ml bottle			
Devcon® Silicone Adhesive Sealants	A-46106A	Silite® Silicone RTV-Clear	17100	3 oz cartridge			
			17150	10.3 oz cartridge			
			17140	10.3 oz cartridge			
			17130	10.3 oz cartridge			
Permatex® Silicone Adhesive Sealants	A-46106B, Type I	Clear RTV Silicone Adhesive Sealant	80050	3 oz tube			
			81913	7.25 oz Automatic Tube®			
			85913	7.25 oz PowerBead™ can			
			80855	11 oz cartridge			
			81160	3 oz tube			
			81915	7.25 oz Automatic Tube®			
		High Temp Red RTV Silicone Gasket	85915	7.25 oz PowerBead™ can			
			81409	11 oz cartridge			
			81158	3 oz tube			
			Black Silicone Adhesive Sealant	81173	12.9 oz cartridge		

Product Category	Specification	Product	Part #	Size	
Devcon® Metal Repair Compounds	MIL-PRF-24176C, Type I	Plastic Steel® Putty (A)	10110	1 lb	
			10120	4 lb	
			10130	25 lb	
		Titanium Putty	10760	1 lb	
			10770	2 lb	
	MIL-PRF-24176C, Type II	Ceramic Repair Putty	11700	3 lb	
			Aluminum Putty (F)	10610	1 lb
		10620		3 lb	
		MMM-A-1754		Plastic Steel® Liquid (B)	10210
			10220		4 lb
Aluminum Liquid (F-2)	10230		25 lb		
10710	1 lb				
10720	3 lb				
Permatex® Anti-Seize Lubricants	A-907	Anti-Seize Lubricant	80071	4 oz brush-top bottle	
			80078	8 oz brush-top bottle	
			80208	16 oz bottle	
		Copper Anti-Seize	09128	8 oz brush-top bottle	
	31163		16 oz brush-top bottle		
	Δ NFPA Fire Code 30B: Level 3	Anti-Seize Lubricant	80071	4 oz brush-top bottle	
			80078	8 oz brush-top bottle	
			80208	16 oz bottle	
Permatex® Gasket Sealants			S-45180D, Type I	Form-A-Gasket® No. 1 Sealant	80003
	80015	1.5 oz tube			
	S-45180D, Type II	Form-A-Gasket® No. 2 Sealant	80016	3 oz tube	
			80011	11 oz tube	
	S-45180D, Type III	Form-A-Gasket® No. 3 Sealant	80017	16 oz bottle	

Devcon® / Permatex® ABS Type Approved Products

Product Category	ABS	Product	Part #	Size
Devcon® Urethane Repair Compounds	ABS	Flexane Brushable	15350	1 lb
Devcon® Metal Repair Putties	ABS	Plastic Steel® Putty (A)	10110	1 lb
			10120	4 lb
			10130	25 lb
		Plastic Steel® 5 Minute® Putty (SF)	10240	1 lb
			Aluminum Putty (F)	10610
		10620		3 lb
		Titanium Putty	10760	1 lb
			10770	2 lb
		Stainless Steel Putty (ST)	10270	1 lb
			Bronze Putty (BR)	10260
Ceramic Repair Putty	11700	3 lb		
Devcon® Metal Repair Liquids/Wearing Compounds	ABS	Plastic Steel® Liquid (B)	10210	1 lb
			10220	4 lb
			10230	25 lb
		Aluminum Liquid (F2)	10710	1 lb
			10720	3 lb
		Brushable Ceramic Red	11760	2 lb
			11762	12 lb
		Brushable Ceramic Blue	11765	2 lb
			11767	12 lb
		Brushable Ceramic White	11770	2 lb

Devcon® / Permatex® NSF Registered Products

Product Category	NSF Approval	Product	Part #	Size
Permatex® Liquid Threadlockers	P1	Medium Strength Threadlocker BLUE	24210	10 ml bottle
			24250	50 ml bottle
			24225	250 ml bottle
		Permanent Strength Threadlocker RED	26210	10 ml bottle
			26250	50 ml bottle
			26225	250 ml bottle
Penetrating Grade Threadlocker GREEN	29050	50 ml bottle		
	29025	250 ml bottle		
Permatex® Gel Threadlockers	P1	Medium Strength Threadlocker BLUE	24010	10 g Gel Twist™ carded
		High Strength Threadlocker RED	27010	10 g Gel Twist™ carded
Permatex® Thread Sealants	P1	High Performance Thread Sealant	56521	50 ml tube, carded
			56525	250 ml tube
Permatex® Retaining Compounds	P1	Bearing Mount for Relaxed Fits	68050	50 ml bottle
Permatex® Activators	Δ NFPA Fire Code 30B: Level 1	Surface Prep™ Activator for Anaerobic	24163	6 oz aerosol can, 4.5 oz net wt
Permatex® Gasket Makers	P1	ULTRA BLUE® RTV Silicone Gasket Maker	81724	3.35 oz tube, carded
			85519	9.5 oz PowerBead™ can
			81725	13 oz cartridge
		The Right Stuff® Gasket Maker	25224	7 oz Automatic Tube
			29208	5 oz cartridge
			85224	9.5 oz PowerBead™ can
			33694	10.1 fl oz cartridge
		Anaerobic Gasket Maker	51813	50 ml tube, carded
			51845	300 ml cartridge
		Devcon® Silicone Adhesive Sealants	NSF / ANSI 51	Silite® Silicone RTV-Clear
17150	10.3 oz tube			
Silite® Silicone RTV-White	17140			10.3 oz tube
	17130			10.3 oz tube
Devcon® Metal Repair Compounds	NSF / ANSI 61	Stainless Steel Putty	10270	1 lb
		Brushable Ceramic (White)	11770	2 lb
Devcon® Flooring Repair	R2	Floor Patch™	13100	10 lb.
			13120	40 lb
		Floor Patch™ FC	13110	10 lb
		Epoxy Coat™ 7000 Non VOC	12710	2 gal

Viscosity (cP)

Viscosity is a measure of a fluid's resistance to flow as compared to water. Viscosity is measured in Centipoise (cP).

Material	Centipoise (cP) @ 70° F ¹
Water	1-3
Blood	10
Ethylene Glycol	15
Motor Oil (SAE 10)	50
Corn Oil	65
Maple Syrup	150
Motor Oil (SAE 40)	250
Motor Oil (SAE 60)	1,000
Honey	2,000
Molasses	5,000
Chocolate Syrup	10,000
Ketchup	50,000
Peanut Butter	150,000
Lard	1,000,000

NOTES:

¹ Viscosities shown are measured at room temperature (70° F) and are approximate. Values will increase at lower temperatures and decrease at warmer temperatures.

Bead Length² (inches)

Bead Diameter	50 ml	300 ml	380 ml	400 ml	1 lb	1 gal ³
1/4"	124	740	945	992	1,073	9,450
3/8"	56	335	420	448	477	4,200
1/2"	30	180	230	240	265	2,360
5/8"	20	120	151	160	172	1,510

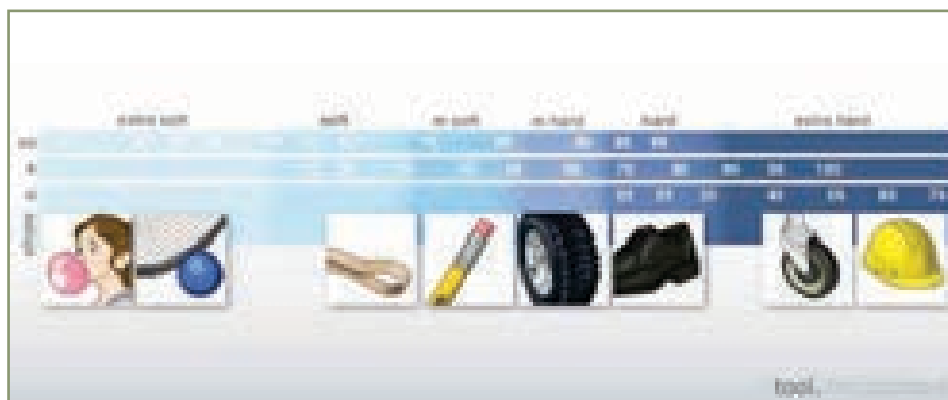
NOTES:

² For methacrylates, epoxies, and silicones.

³ 1 gallon = 3,791.76 ml (128.1 oz.)

Shore Hardness

Sample Material	Shore Hardness	Scale
Bicycle Gel Seat	15-30	00
Chewing Gum	20	00
Rubber Band	20-25	A
Pencil Eraser	40	A
Door Seal	55	A
Car Tire Tread	60-70	A
Running Shoe Sole	70	A
Soft Skateboard Wheel	78	A
Leather Belt	80	A
Hydraulic O-Ring	70-90	A
Hard Skateboard Wheel	98	A
Shopping Cart Wheel	100	A
Ebonite Rubber	100	A
Solid Truck Tires	50	D
Hard Hat	75	D



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MSDS / TDS

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Edition 10

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CAT-13A

