

Since our founding more than 100 years ago, ITW has become one of the world's leading diversified manufacturers of specialize industrial equipment, consumables, and related service businesses.

ITW businesses serve local customers and markets around the globe, with a significant presence in developed as well as emerging markets. The company has operations in 57 countries that employ more than 50,000 women and men who adhere to the highest ethical standards. These talented individuals, many of whom have specialized engineering or scientific expertise, contribute to our global leadership in innovation. We are proud of our broad portfolio of more than 17,000 granted and pending patents.



ITW Polymers And Fluids Asia Pacific

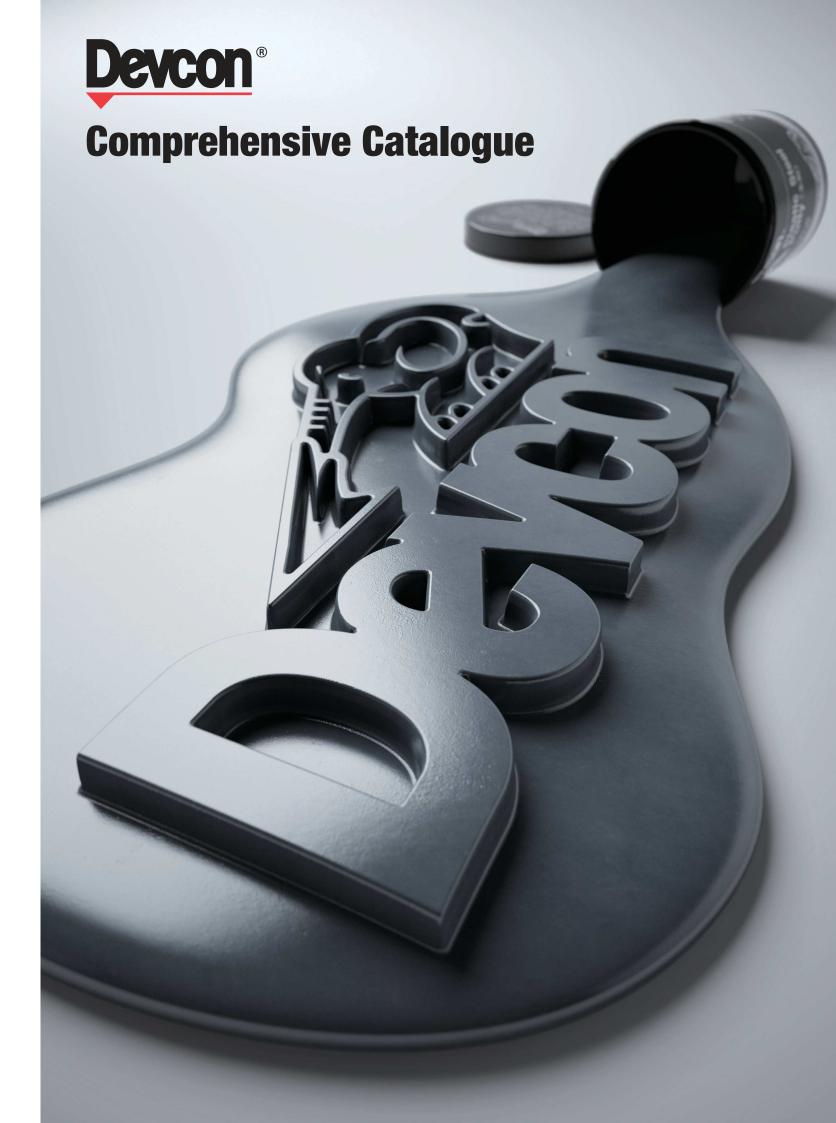
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Products to Extend the Life of Your Processing Equipment

More than 60 years ago, Devcon introduced Plastic Steel®, a tough,steel-filled epoxy putty, as an alternative to welding and brazing. Today,ITW Polymers Adhesives North America 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.

- ▼ Metal repair epoxies designed to extend the life of critical process equipment
- **▼** Flexane® urethanes for rubber repair
- ▼ Floor Savers™repair systems for repairing, protecting and skid-proofing facility floors
- ▼ Emergency repair products for repairing and returning equipment to service in minutes





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The key to a successful repair is proper preparation and thorough cleaning prior to applying repair products or 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
- 3) Degrease with Devcon® Cleaner Blend
- 4) Abrade the surface to roughen it and create a surface profile.
- 5) Use the appropriate Devcon® primer. For detailed sur face preparation procedures, refer to the appropriate substrate category and tech data sheet.

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.

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 sur face 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.

Rubber

To properly prepare a rubber surface:

- 1) Abrade the surface using a rubber rasp or a grinder with a wire wheel to 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

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 Surface Conditioner (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 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 produce a good surface profile. (Oils cleaner and rinse thoroughly. Multiple and contaminants imbedded in the cleanings may be necessary. Power washers rubber surface are typically released in 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 the concrete to create a porous surface profile. This will improve surface "wetting" and coating or repair product adhesion, 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
- 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

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.

MRO Application	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	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								▼	•		
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											▼
	•	•	•	•	•			•			



Before



After

Metal Repair

METAL REPAIR EPOXIES

Metal-filled epoxy technology that allow for fast economical permanent repairs to power plant and mining equipment. They can be machined, tappedand drilled, and corrosion resistant to harsh chemicals. These products are available in pourable versions that can be used to provide accurate detail reproductions for short run prototype mold patterns, holding fixtures and forming dies.



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

ltem#	Size	Items Per Case	374 DO
DV10110	1 lb	24	ABS
DV10120	4 lb	6	

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#	Size	Items Per Case	To a mo
DV10210	1 lb	6	ABS
DV10220	4 lb	6	
DV10230	25 lb	1	

Devcon® Plastic Steel® 5 Minute Putty (SF)

Fast-curing, steel-filled epoxy for emergency repairs at temperatures as low as $4\,^{\circ}\text{C}$.

- Repaired parts can be returned to service within one hour
- Mixes, applies, and cures at temperatures as low as 4°C.

em#	Size	Items Per Case	MARC
V10240	1 lh	6	ADJ

Devcon® Stainless Steel Putty (ST)

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

- · Bonds to ferrous and non-ferrous metals
- NSF 61 Certified

1101	OT OCITING			
tem#	Size	Items Per Case	MCE	304.00
DV10270	1 lb	6	REGISTERED	ABS



Devcon® Aluminum Putty (F)

Aluminum-filled epoxy putty for dependable nonrusting repairs to aluminum castings, machinery and equipment.

- Can be machined drilled or tapped using conventional metal working tools
- Widely used in HVAC applications, it conforms to requirements of MIL-PRF-24176C, Type II

Item#	Size	Items Per Case	PARC
DV10610	1 lb	6	THE PARTY OF
DV10620	3 lh	6	

Devcon® Aluminum Liquid (F-2)

Aluminum-filled pourable epoxy for making molds, patterns and holding fixtures.

- It can be drilled, tapped and machined
- Hardens in just over 1 hour; cures in 16 hours
- Qualifies under Federal Specification MMM-A-1754, Adhesive/ Sealing

Item #	Size	Items Per Case	PARC
DV10710	1 lb	6	MES
DV10720	3 lh	6	

Devcon® Underwater Reapir Putty (UW)

High-performance technology for repairing, patching, and rebuilding equipment in habitually wet environments, including under water.

- Non-rusting; easy-to-mix and apply
- Eliminates the need for substrate to be thoroughly dry before repair.

Item #	Size	Items Per Case
DV11800	1 lb	6



Physical Properties	Devcon® Plastic Steel® Putty (A)	Devcon® Plastic Steel® Liquid (B)	Devcon® Plastic Steel® 5 Minute® Putty (SF)	Devcon® Stainless Steel Putty (ST)	Devcon® Aluminium Putty (F)	Devcon® Aluminium Liquid (F-2)	Devcon® Underwater Repair Putty (UW)
Color	Dark Grey	Dark Grey	Dark Grey	Grey	Aluminum	Aluminum	Grey
Mix ratio by weight/volume (resin:hardner)	9:1 / 2.5:1	9:1 / 3:1	1.7:1 / 1:1	11:1 / 3.75:1	9:1 / 4:1	9:1 / 5:1	1.4:1 / 1:1
Mixed viscosity (cP)	Putty	15 / 25,000	Putty	Putty	Putty	15 / 25,000	Putty
Functional cure (hours)	16	16	1	16	16	16	24
Pot life (minutes @ 23 °C)	45	45	5	58	60	75	45
Specific Gravity (gm/cc)	2.33	2.1	2.2	2.5	1.58	1.58	1.4
Coverage per kg (m²@ 6mm)	0.069	0.074	0.070	0.072	0.100	0.100	0.097
Cured hardness (ASTM D2240) (Shore D)	85	85	85	85	85	85	82
Cured shrinkage (ASTM D2566) (inch/inch)	0.0006	0.0006	0.0006	0.0010	0.0008	0.0009	0.0020
Adhesive tensile shear (ASTM D1002) (psi)	2,800	2,800	2,026	2,385	2,600	2,700	2,685
Compressive strength (ASTM D695) (psi)	8,260	10,200	10,400	8,400	8,420	9,820	5,625
Flexural strength (ASTM D790) (psi)	5,600	7,480	7,680	5,280	6,760	7,180	4,990
Modulus of elasticity (ASTM D638) (psi x 10 ⁵)	8.5	8.5	7.5	8.0	8.0	7.5	7.5
Coefficient of thermal expansion (ASTM D696) [(cm)/(cm x °C)] x 10-6	86	68	61	61	52	90	18
Thermal conductivity (ASTM C177) [(cal x cm)/(sec x cm² x °C)] x 10-3	1.37	1.39	2.65	1.23	1.73	1.58	1.41
Dielectric constant (ASTM D150) (1 kHz)	67.5	67.5	35.0	75.0	21.4	8.6	8.6
Dielectric strength (ASTM D149) (volts/mil)	30	30	30	30	100	100	150
Maximum continuous dry service temperature (°C)	121	121	93	121	121	121	121
Maximum continuous wet service temperature (*C)	48	48	N/A	48	48	48	48

Chemica	al Resistance	Devcon® Plastic Steel® Putty (A)	Devcon® Plastic Steel® Liquid (B)	Devcon® Plastic Steel® 5 Minute® Putty (SF)	Devcon® Stainless Steel Putty (ST)	Devcon® Aluminium Putty (F)	Devcon® Aluminium Liquid (F-2)	Devcon® Underwater Repair Putty (UW)
	Acetic 10%	0	0	0	0	\Diamond	0	0
ACID	Hydrochloric 10%	•	•	0	•	•	•	0
	Sulfuric 10%	•	•	0	•	•	•	0
	Methanol	0	0	0	0	0	0	0
ALCOHOLS	Isopropanol	0	0	0	0	0	0	0
	Acetone	0	0	0	0	0	0	0
KETONES	Methyl ethyl ketone	0	0	0	0	0	0	0
ALIVALIC	Ammonium hydroxide 20%	•	•	0	•	0	0	•
ALKALIS	Sodium hydroxide 10%	•	•	0	•	0	0	•
LIVERGOARRONIO	Gasoline (unleaded)	•	•	•	•	•	•	•
HYDROCARBONS	Mineral spirits	•	•	•	•	•	•	•
CHLORINATED HYDROCARBONS	1-1-1 Trichloroethane	•	•	0	•	•	•	•
0.11.70	Sodium chloride	•	•	0	•	•	•	•
SALTS	Trisodium phosphate	•	•	0	•	•	•	•

Key: ● Excellent ● Very Good ○ Fair ○ Poor

Metal Repair

METAL REPAIR

Metal-filled epoxy technology that allow for fast economical permanent repairs to power plant and mining equipment. They can be machined, tappedand drilled, and corrosion resistant to harsh chemicals. These products are available in pourable versions that can be used to provide accurate detail reproductions for short run prototype mold patterns, holding fixtures and forming dies.

Devcon® Carbide Putty

Silicon carbide-filled epoxy putty for economical protection against wear and abrasion,

Item #	Size	Items Per Case
DV10050	3 lb	6

Devcon® Bronze Putty

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

- Repairs and rebuilds areas where brazing would be undesirable or impossible
- Bonds securely to bronze

Item#	Size	Items Per Case	MARC'
DV10260	3 lb	6	ADO

Devcon® Wear Resistant Putty (WR-2)

Smooth, non-rusting, all-purpose epoxy putty for repairs requiring low-friction finishes, such as machine lathe beds.

- Bonds to steel, iron, aluminum, ceramic, concrete, brass, and some plastics
- Contains wear-resistant fillers for low friction applications

Item#	Size	Items Per Case
DV11410	1 lb	6
		_

Devcon® FasMetal™

High-performance, alumina-filled epoxy for making fast, dependable emergency repairs to leaks in pipes.

- Hardens in 5 minutes
- Economical and convenient

tem#	Size	Items Per Case	TO DO
DV10780	3/4 lb	6	-ABS



Devcon® Zip Patch™

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

n #	Size	Item	s Per Case	
1500	4" x 9" pa	tch	6	u Santa

Devcon® Liquid Release Agent

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

- · Produces a high gloss finish
- Facilitates the accurate duplication of intricate details

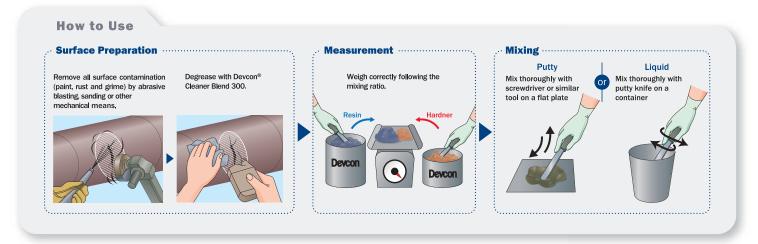
tem#	Size	Items Per Case
DV19600	1 pt	6

Devcon® Cleaner Blend 300

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

- Needs no rinsing; leaves no residue
- Evaporates fast

Item#	Size	Items Per Case
DV19510	1 pt	6



Devcon® Wear Resistant Devcon® Devcon® Devcon® Devcon **Physical Properties Carbide Putty** Bronze Putty (BR) FasMetal™ Zip Patch™ Putty (WR-2) Color Grey Bronze Dark Grey Dark Grey Brown Mix ratio by weight/volume 8:1 / 4:1 9:1 / 3:1 1.07:1 / 1:1 9:1 / 4:1 N/A Mixed viscosity (cP) 17.000 Putty Putty Putty Putty Functional cure (hours) 16 16 16 1 1 Pot life (minutes @ 23°C) 50 Specific Gravity (gm/cc) 1.75 2.23 1.69 N/A 1.8 Coverage per kg (m²@ 6mm) 0.0092 0.072 0.080 0.099 N/A Cured hardness (ASTM D2240) (Shore D) 85 85 90 70 85 Cured shrinkage 0.0009 0.0010 0.0005 0.0003 0.0010 (ASTM D2566) (inch/inch) Adhesive tensile shear 1,350 2,680 2,200 2,000 2,400 (ASTM D1002) (psi) Compressive strength (ASTM D695) (psi) 8.540 12.700 8,160 9,800 N/A Flexural strength (ASTM D790) (psi) 6.180 7.700 5.480 6.500 19.000 Modulus of elasticity (ASTM D638) (psi x 10⁵) 8.0 7.5 8.5 2.9 N/A Coefficient of thermal expansion (ASTM D696) 25 59 58 58 115 $[(cm)/(cm x ^{\circ}C)] \times 10^{-6}$ Thermal conductivity (ASTM C177) [(cal x cm)/(sec x cm2 x °C)] x 10-3 2.04 N/A 1.57 1.67 1.71 Dielectric constant 75.0 18.6 43.5 25.0 6.3 (ASTM D150) (1 kHz) Dielectric strength (ASTM D149) (volts/mil) N/A 25 400 250 Maximum continuous dry 121 121 121 121 93 service temperature (°C) Maximum continuous wet 48 48 48 48 N/A service temperature (°C)

Chemica	I Resistance	Devcon® Carbide Putty	Devcon® Bronze Putty (BR)	Devcon® Wear Resistant Putty (WR-2)	Devcon® FasMetal™	Devcon® Zip Patch™
	Acetic 10%	-	0	0	0	0
ACID	Hydrochloric 10%	0	•	•	•	•
	Sulfuric 10%	0	•	•	•	•
	Methanol	0	0	0	0	0
ALCOHOLS	Isopropanol	-	0	0	0	0
	Acetone	-	0	0	0	0
KETONES	Methyl ethyl ketone	0	0	0	0	0
ALKALIS	Ammonium hydroxide 20%	-	•	•	•	0
ALNALIS	Sodium hydroxide 10%	-	•	•	•	0
LIVERGOARRONIC	Gasoline (unleaded)	•	•	•	•	•
HYDROCARBONS	Mineral spirits	-	•	•	•	0
CHLORINATED HYDROCARBONS	1-1-1 Trichloroethane	•	•	•	0	0
CALTO	Sodium chloride	-	•	•	0	0
SALTS	Trisodium phosphate	•	•	•	0	0

Key: ● Excellent ● Very Good ○ Fair ○ Poor

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Wearing Compounds

Devcon® Drense Blok™ WEARING COMPOUNDS

Specially formulated wear-resistant epoxy coatings that protect dry materials handling and storage equipment from abrasion, corrosion andwear. The DFense Blok™ product line is truly an advanced epoxy technology with quicker functionalcure times and better abrasion resistance.

Devcon® DFense Blok™

A bead-filled epoxy compound formulated to significantly outlast traditional wear and abrasion products while providing superior protection.

- 4X better abrasion resistance than competition
- 7X better drop impact

Item#	Size	Items Per Case
DV11330	30 lh	1

Devcon® DFense Blok™ Fast Cure (FC)

A bead-filled epoxy compound that allows equipment to be returned to service in 2 hours.

- Non-sagging, good adhesion
- Withstands operating temperature, as high as 148°C

Item #	Size	Items Per Case
DV11350	9 lb	1

Devcon® DFense Blok™ Quick Patch

The only ceramic bead-filled wear and abrasion resistant epoxy for emergency repair.

- · Eliminates down-time with exceptionally fast cure
- Repairs holes, leaks and cracks

Item#	Size	Items Per Case
DV11320	9 lh	1

Devcon® DFense Blok™ Surface Wetting Agent

- Zero wait time before applying DFense Blok™
- Orange color for easy visual inspection

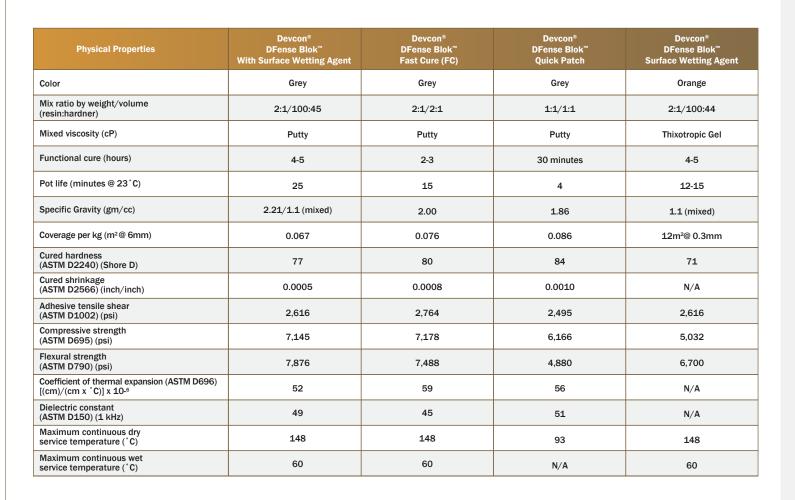
Item#	Size	Items Per Case
DV11340	1 lb	2











Chemic	al Resistance	Devcon® DFense Blok™ With Surface Wetting Agent	Devcon® DFense Blok™ Fast Cure (FC)	Devcon® DFense Blok™ Quick Patch	Devcon® DFense Blok™ Surface Wetting Agent
	Acetic 10%	0	\otimes	0	0
ACID	Hydrochloric 10%	•	•	•	•
	Sulfuric 10%	•	•	•	•
	Methanol	0	0	0	0
ALCOHOLS	Isopropanol	0	0	0	0
	Acetone	0	0	0	0
KETONES	Methyl ethyl ketone	0	0	0	0
ALIVALIS	Ammonium hydroxide 20%	•	•	•	•
ALKALIS	Sodium hydroxide 10%	•	•	•	•
LIVERGOARDONIS	Gasoline (unleaded)	0	0	•	0
HYDROCARBONS	Mineral spirits	•	•	•	•
CHLORINATED HYDROCARBONS	1-1-1 Trichloroethane	•	•	•	•
04170	Sodium chloride	•	•	•	•
SALTS	Trisodium phosphate	•	•	•	•

 $\text{Key:} \ \, \blacksquare \ \, \text{Excellent} \quad \, \blacksquare \ \, \text{Very Good} \quad \bigcirc \ \, \text{Fair} \qquad \, \bigcirc \ \, \text{Poor}$

www.itwadhesives.com www.itwadhesives.com

WEARING COMPOUNDS

Specially formulated wear-resistant epoxy coatings that protect dry materials handling and storage equipment from abrasion, corrosion and wear. These products are trowelable, non-sag putties available in large particulate, high impact, and high temperature formulas. truly an advanced epoxy technology with quicker functional

Devcon® Wear Guard™ Fine Load

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

- Withstands operating temperatures as high as 148°C
- Outstanding resistance to a wide range of chemicals

Item #	Size	Items Per Case
DV11470	30 lb	1

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 ".

- · Trowels onto overhead or vertical surfaces without sagging
- Ideal for repairing scrubbers, ash handling systems, pipe elbows, screens, and chutes

Item#	Size	Items Per Case
DV11490	30 lb	1

Devcon® Wear Guard™ High Temp

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

- Heat-cured, trowelable system that gives up to 30% improvement over conventional wear compounds
- Withstands continuous service temperatures to 232 °C

Item#	Size	Items Per Case	
DV11480	30 lb	1	

Devcon® Wear Guard™ High Impact

High density, micro alumina ceramic bead-filled epoxy system with urethane acyrlate for superior impact abrasion used for protecting equipment against tremendous impact and flex.

- · High compression and impact strength
- Extremely wear resistant

Item #	Size	Items Per Case
DV11460	30 lb	1

Devcon® Combo Wear FC

High-tech, epoxy compound for quickly repairing processing equipment and returning to service in as little as 1.5 hours

• Excellent adhesion to metal, ceramic, and concrete

Item#	Size	Items Per Case
DV11450	9 lh	1

Devcon® Aluminium Wear Compound

Blended aluminium-filled epoxy,used to repair fatigued metal surface where exceptional durability and ruggedness is required.

- Fill voids or pores in casting
- Protects metal from bi-metallic corrosion

tem#	Size	Items Per Case
N/DE007	20 lb	1

Surface Preparation Remove all surface contamination (paint, rust and grime) by abrasive blasting, sanding or other mechanical means. Devon Devon Resin Mixing Expanded metal Temporarily fix the expanded metal by spot welding, apply putty from above. Fessin Hardner

Physical Properties	Devcon® Wear Guard™ Fine Load	Devcon® Wear Guard™ High Load	Devcon® Wear Guard™ High Temp	Devcon® Wear Guard™ High Impct	Devcon® Combo Wear FC	Devcon® Aluminum Wear Compound
Color	Grey	Grey	Grey	Dark Grey	Grey	Dark Grey
Mix ratio by weight/volume (resin:hardner)	2:1 / 2:1	2:1 / 2:1	13.7:1 / 6:1	2.5:1/2.5:1	2:1/2:1	9:1/4:1
Mixed viscosity (cP)	Putty	Putty	Putty	Putty	Putty	Putty
Functional cure (hours)	6-8	6-8	Heat Cured	6-8	2-3	16
Pot life (minutes @ 23 °C)	30	30	120	30	7	50
Specific Gravity (gm/cc)	2.20	2.20	1.94	2.23	2.20	1.80
Coverage per kg (m²@ 6mm)	0.072	0.072	0.086	0.072	0.072	0.093
Cured hardness (ASTM D2240) (Shore D)	87	87	87	85	87	88
Cured shrinkage (ASTM D2566) (inch/inch)	0.0006	0.0006	0.0010	0.0006	0.0008	0.0005
Adhesive tensile shear (ASTM D1002) (psi)	1,375	1,474	2,300	2,567	1,450	2,580
Compressive strength (ASTM D695) (psi)	11,000	11,000	13,200	7,250	11,000	9,840
Flexural strength (ASTM D790) (psi)	7,190	7,140	8,220	6,144	7,140	7,260
Coefficient of thermal expansion (ASTM D696) [(cm)/(cm x °C)] x 10-6	61	58	49	61	61	N/A
Dielectric constant (ASTM D150) (1 kHz)	46.0	41.0	38.0	46.0	41.0	N/A
Maximum continuous dry service temperature (°C)	148	148	232	148	148	121
Maximum continuous wet service temperature (°C)	60	60	65	60	60	60

NOTES: ² Three-part system, beads separate

Chemica	al Resistance	Devcon® Wear Guard™ Fine Load	Devcon® Wear Guard™ High Load	Devcon® Wear Guard™ High Temp	Devcon® Wear Guard™ High Impct	Devcon® Combo Wear FC	Devcon® Aluminum Wear Compound
	Acetic 10%	0	0	0	-	0	-
ACID	Hydrochloric 10%	•	•	•	•	•	-
	Sulfuric 10%	•	•	•	•	•	0
	Methanol	0	0	0	0	0	0
ALCOHOLS	Isopropanol	0	0	0	-	-	-
	Acetone	0	0	0	-	-	-
KETONES	Methyl ethyl ketone	0	0	0	0	•	-
ALIVALIS	Ammonium hydroxide 20%	•	•	•	-	-	-
ALKALIS	Sodium hydroxide 10%	•	•	•	-	-	•
10/22004220010	Gasoline (unleaded)	•	•	•	•	0	-
HYDROCARBONS	Mineral spirits	•	•	•	-	-	-
CHLORINATED HYDROCARBONS	1-1-1 Trichloroethane	•	•	•	•	•	-
0.11.70	Sodium chloride	•	•	•	-	-	-
SALTS	Trisodium phosphate	•	•	•	•	•	-

Precision Repair

PRECISION REPAIR COMPOUNDS

Ceramic filled epoxy technology used to make permanent repairs to pumps, shafts, pipes, and tanks where a corrosion-resistant polymer is needed to protect all metals against corrosion and erosion in slurry applications. These products apply easily with a brush or trowel.

Devcon® Titanium Putty

High-performance, non-rusting titanium-reinforced epoxy putty for making repairs that can be precision machined.

- Withstands heavy loads in harsh chemical environments
- · High compressive strength

tem#	Size	Items Per Case	The me
DV10760	1 lb	6	*ABS
DV10770	2 lb	6	

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.

- Temperature range up to 176°C
- Brushable Ceramic white is NSF 61 Certified

tem#	Size	Items Per Case	TO DO
DV11760	2 lb (Red)	6	*ABS
DV11765	2 lb (Blue)	6	
DV11770	2 lb (White)	6	

Devcon® Ceramic Repair Putty

Trowelable, alumina-filled epoxy compound for rebuilding, smoothing and protecting processing equipment exposed to corrosion, erosion, cavitation, chemicals and acids.

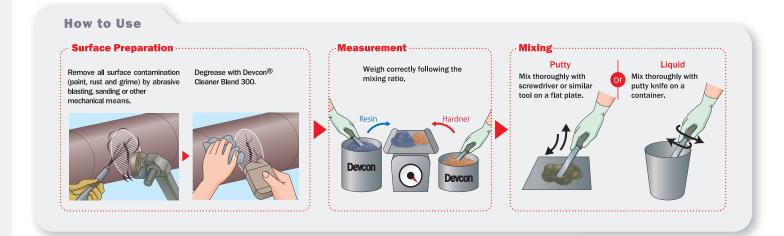
- Temperature range up to 176°C
- Excellent for filling

tem#	Size	Items Per Case	MARI
DV11700	3 lb	6	*AB









Red, Blue Putty Color Red. Blue White Dark Blue Grey Mix ratio by weight/volume 5.6:1 / 3.4:1 8.5:1 / 5.6:1 7:1 / 4.3:1 4.3:1 / 3:1 Mixed viscosity (cP) 32,000 40,000 Putty Putty Functional cure (hours) 16 Pot life (minutes @ 23°C) 21 40 21 Specific Gravity (gm/cc) 2.36 1.62 1.53 1.69 Coverage per kg (m²@ 6mm) 0.067 0.71^{1} 0.71^{1} 0.095 Cured hardness 87 90 87 90 (ASTM D2240) (Shore D) Cured shrinkage 0.0010 0.0020 0.0020 0.0022 (ASTM D2566) (inch/inch) Adhesive tensile shear 2,000 2,000 2,000 2,000 (ASTM D1002) (psi) Compressive strength (ASTM D695) (psi) 15.200 15.200 15 200 12.700 Flexural strength (ASTM D790) (psi) 7,700 8,000 8,000 6,475 Modulus of elasticity 8,000 9.5 8,000 9.0 (ASTM D638) (psi x 105) Coefficient of thermal expansion (ASTM D696) 40 16 16 31 [(cm)/(cm x °C)] x 10-6Thermal conductivity (ASTM C177) [(cal x cm)/(sec x cm² x °C)] x 10-3 1.95 19 19 1.88 Dielectric constant (ASTM D150) (1 kHz) 44.8 1.92 1.92 41.0 Dielectric strength (ASTM D149) (volts/mil) 56 382 382 370 Maximum continuous dry 176 176 176 176 Maximum continuous wet 65 65 65 65

NOTES: 1 Coverage (m2@ 0.375mm)

Chemica	I Resistance	Devcon® Titanium Putty	Devcon® Brushable Ceramic Red, Blue	Devcon® Brushable Ceramic White	Devcon® Ceramic Repair Putty
	Acetic 10%	0	0	0	0
ACID	Hydrochloric 10%	•	•	•	•
	Sulfuric 10%	•	•	•	•
41 0011010	Methanol	•	•	•	•
ALCOHOLS	Isopropanol	•	•	•	•
VETONEO	Acetone	0	0	0	0
KETONES	Methyl ethyl ketone	0		0	0
ALKALIS	Ammonium hydroxide 20%	•	•	•	•
ALNALIS	Sodium hydroxide 10%	•	•	•	•
LIVERGOARRONIC	Gasoline (unleaded)	•	•	•	•
HYDROCARBONS	Mineral spirits	•	•	•	•
CHLORINATED HYDROCARBONS	1-1-1 Trichloroethane	•	•	•	•
CALTO	Sodium chloride	•	•	•	•
SALTS	Trisodium phosphate	•	•	•	•

Key: ● Excellent ● Very Good ○ Fair ○ Poor

Belting and Rubber Repair

PRECISION REPAIR COMPOUNDS

Flexible urethane technologies for repairing worn or damaged SBR conveyor belts, rubber lined equipment such as pipes and tanks in mines, quarries, and coal-fired power plants. These products are in a non-sag putty for patching and repairing linings along with self-leveling thixitropic versions that create a smooth surface for repairing conveyor belts.

Devcon® R-Flex®

The newest belt repair product in the market place. A self-leveling urethane kit for repairing holes and tears in conveyor belts. Also used to cover and protect clips/pins from scrapers.

- Functional cure in 90 minutes
- High adhesion with surface pull of the SBR rubber
- Kit includes surface conditioner

Item #	Size	Items Per Case
DV15565	1.5 lb	4



Before Repair: Large tear in belt due to rocksgetting caught under the scraper blade.



After Repair: Belt flap cut down, Devcon

Devcon® Flexane® 80 Putty

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

- Service temperatures to 82°C in dry environments and 48°C in wet environments
- Bonds to metal, concrete, rubber, wood, and fiberglass surfaces

Item #	Size	Items Per Case
DV15820	1 lb	12

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)
- Cures at room temperature to a semi-rigid rubber material

Item#	Size	Items Per Case
DV15800	1 lb	12

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 (Shore A 97)
- Requires only a five hour demolding time

Remove all surface contamination Degrease with Devcon®

Item#	Size	Items Per Case
DV15250	1 lb	12

How to Use

Surface Preparation

(paint, rust and grime) by abrasive

Devcon® Flexane® Brushable

High-performance brushable urethane for protection against abrasion and impact.

- Excellent for repairing/coating rubber-lined pumps, tanks and valves
- Applies in thicknesses of 50 mils in one application

ltem#	Size	Items Per Case	MARC
DV15350	1 lh	12	ZADS

Devcon® Flexane® Primer

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).

tem#	Primer	Size	Items Per Case
V15980	FL-10	4 oz	6
V15985	FL-20	4 oz	6
V15984	FL-40	4 oz	6

Measurement · Mixing Mix thoroughly with putty knife on a container Weigh correctly following the mixing ratio.

	NEW				
Physical Properties	Devcon® R-Flex®	Devcon® Flexane® 80 Putty	Devcon® Flexane® 80 Liquid	Devcon® Flexane® 94 Liquid	Devcon® Flexane® Brushable
Color	Black	Black	Black	Black	Black
Mix ratio by weight/volume (resin:hardner)	88:12	72:28	77:23	69:31	80:20
Mixed viscosity (cP)	Putty	Putty	10,000	6,000	40,000
Pot life (minutes @ 23°C)	4	20	30	10	45
Specific Gravity (gm/cc)	N/A	1.20	1.00	1.00	N/A
Coverage per kg (m²@ 6mm)	0.158	0.135	0.152	0.152	0.149
Functional cure (hours)	11/2	12	16	16	18
Demolding time (hours)	N/A	N/A	10	5	N/A
Cured hardness (ASTM D2240) (Shore D)	92	87	87	97	86
Cured shrinkage (ASTM D2566) (inch/inch)	N/A	0.0014	0.0018	0.0014	0.232
Tensile strength (ASTM D412) (psi)	1,462	1,700	2,100	2,800	3,500
Tear resistance (ASTM D624) (pli)	270	300	350	415	400
Abrasion resistance weight loss¹(mg)	270	280	285	330	90
Maximum elongation (ASTM D412) (%)	421	300	650	500	600
Dielectric strength (ASTM D149) (volts/mil)	350	350	350	350	340
Maximum continuous dry service temperature (°C)	82	82	82	82	82
Maximum continuous wet	48	48	48	48	48

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

Chemic	al Resistance	NEW Devcon® R-Flex®	Devcon® Flexane® 80 Putty	Devcon® Flexane® 80 Liquid	Devcon® Flexane® 94 Liquid	Devcon® Flexane® Brushable
	Acetic 10%	0	0	0	0	0
	Hydrochloric 10%	0	•	•	•	0
ACID	Sulfuric 10%	0	•	•	•	0
	Sulfuric 50%	0	0	•	•	0
	Phosphoric 10%	0	•	•	•	0
	Methanol	\Diamond	0	0	0	0
ALCOHOLS	Isopropanol	\Diamond	0	0	0	0
./FT0.\IF0	Acetone	\Diamond	0	0	0	0
KETONES	Methyl ethyl ketone	\Diamond	0	0	0	0
*******	Ammonium hydroxide 20%	•	0	•	•	•
ALKALIS	Sodium hydroxide 10%	•	•	•	•	•
	Gasoline (unleaded)	0	0	0	0	0
HYDROCARBONS	Mineal spirits	0	0	0	0	0
SALTS	Sodium chloride	•	•	•	•	•
	Trisodium phosphate	•	•	•	•	•
	Aluminum sulfate 10%	•	•	•	•	•
	Sodium carbonate 10%	•	•	•	•	•

Key: ● Excellent ● Very Good ○ Fair ○ Poor

Floor Repair and Coating

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.

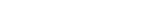
Item#	Size	Items Per Case
DV13100	10 lb	1
DV13120	40 lb	1



Devcon® Floor Patch™ FC (Fast-Cure)

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

ltem#	Size	Items Per Case	•
DV13110	10 lb	1	1



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#	Size	Items Per Case
DV13550	35 lb	1

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 4°C.

Item#	Size	Items Per Case
DV13090	2 gal	1



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#	Size	Items Per Case	-6
DV12710	2 gal	1	MSF

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#	Size	Items Per Case
DV12750	2 gal	1

Epoxy Coat® 7000 AR Epoxy Coat™ 7000 Non VOC Coverage per unit (m² @ thickness) 1.75 m²/ 6 mm 0.44 m²/ 6 mm Mixed viscosity (cP) Putty Putty Putty 2,000 3,600 60 ~ 90 60 ~ 90 60 ~ 90 60 ~ 90 Pot life (minutes @ 23°C) 15 36 Functional cure (hours) 24 24 Cured hardness (ASTM D2240) (Shore D) 85 85 95 85 85 Maximum continuous service temperature (°C) 120 120 120 82 93 100 100 100 % Solids 100 100

Chemica	al Resistance	Floor Patch™	Floor Patch™FC	Ultra Quartz™	Epoxy Coat™ 7000 Non VOC	Epoxy Coat™ 7000 AR
	Acetic 10%	0	0	0	0	0
ACID	Hydrochloric 10%	•	•	•	•	•
	Sulfuric 10%	•	•	•	•	•
	Methanol	0	0	•	0	0
ALCOHOLS	Isopropanol	0	0	0	0	0
	Acetone	0	0	0	0	0
KETONES	Methyl ethyl ketone	0	0	0	0	0
ALKALIC	Ammonium hydroxide 20%	•	•	•	•	•
ALKALIS	Sodium hydroxide 10%	•	•	•	•	•
LIVERGOARRONIC	Gasoline (unleaded)	•	•	•	•	•
HYDROCARBONS	Mineral spirits	•	•	•	•	•
CHLORINATED HYDROCARBONS	1-1-1 Trichloroethane	•	•	•	•	•
CALTO	Sodium chloride	•	•	•	•	•
SALTS Trisodium phos	Trisodium phosphate	•	•	•	•	•

Key: ● Excellent ● Very Good ○ Fair ○ Poor







Devcon® Mil-Spec Specifications

Product	Part #	Specification	
Plastic Steel® Putty (A)	DV10110, DV10120		
Titanium Putty	DV10760, DV10770	MIL-PRF-24176C, Type I	
Ceramic Repair Putty	DV11700		
Aluminum Putty (F)	DV10610, DV10620	MIL-PRF-24176C, Type II	
Plastic Steel® Liquid (B)	DV10210, DV10220, DV10230	- MMM-A-1754	
Aluminum Liquid (F-2)	DV10710, DV10720		

Devcon® ABS Type Approved Products

Product	Part #	ABS
Flexane Brushable	DV15350	
Plastic Steel® Putty (A)	DV10110, DV10120	
Plastic Steel® 5 Minute® Putty (SF)	DV10240	
Aluminum Putty (F)	DV10610, DV10620	
Titanium Putty	DV10760, DV10770	
Stainless Steel Putty (ST)	DV10270	
Bronze Putty (BR)	DV10260	ABS
Ceramic Repair Putty	DV11700	
Plastic Steel® Liquid (B)	DV10120, DV10220, DV10230	
Aluminum Liquid (F2)	DV10710, DV10720	
Brushable Ceramic Red	DV11760	
Brushable Ceramic Blue	DV11765	
Brushable Ceramic White	DV11770	

Devcon® NSF Registered Products

Product	Part #	NSF Approval
Stainless Steel Putty	DV10270	NSF/
Brushable Ceramic White	DV11770	ANSI 61
Floor Patch™	DV13100, DV13120	
Floor Patch™ FC	DV13110	R2
Epoxy Coat™ 7000 Non VOC	DV12750	

Viscosity (cP)

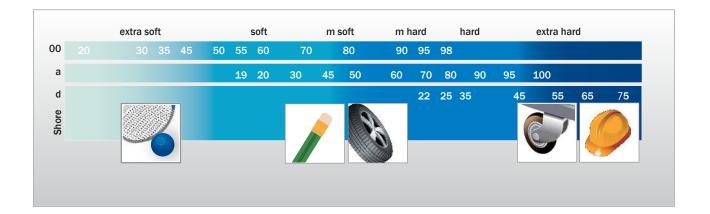
Viscosity is a measure of a fluid's resistance to flow as compared to water. Viscosity is measured in Centipoise (cP).

Material	Centipoise (cP) @ 21°C¹	
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 (21°C) and are approximate. Values will increase at lower temperatures and decrease at warmer temperatures.

Shore Hardness

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





SDS/TDS: Access SDSs and TDSs from our website: www.itwadhesives.com. Select the product brand to search.

3 excellent benefits of Devcon

Benefits 1

Metal patching or joining without the use of welding (heat/sparks free).



Devcon products can be applied safely and easily even in places where welding is prohibited and areas that are difficult to access.

Benefits 2

Easy to mix and apply. No special skill or technique is required.



Weigh Resin & Hardener according to the recommended ratio. Mix both thoroughly until a uniform, streak-free consistency is obtained.

Benefits 3

Immediate
emergency repair
with Devcon
products on hand.



With Devcon products around, it resolve your emergency repair needs such as oil/water leakage.

Precaution for use

- Prepare a ventilation system at work place or handle at well-ventilated place.
- Wear protective gloves/clothing/glasses/mask/face protection for avoiding chemical (dust/liquid/vapor/gas) exposure.
- •Avoid fire while storage and handling.
- •Store in a well-ventilated place away from children with container tightly closed.
- Dispose of contents/container in accordance with local / regional / national/international regulation.



SDS/TDS: Access SDSs and TDSs from our website: www.itwadhesives.com. Select the product brand to search.