EPOXY REPAIR COMPOUNDS AND COATINGS

Chemical resistance list

How cured SepcoTech epoxy stands up to solvents, caustics and acids, followed by application, curing, temperature and mechanical data for each product.

1 Chemical resistance of cured SepcoTech epoxy

Cured epoxy is highly resistant to corrosion and deterioration by dilute acids and caustics, and withstands the influence of mildly acidic water.

No or minor effect: normal temperature exposure Moderate or severe effect: hot or strongly concentrated exposure

Solvents

NO OR MINOR EFFECT

- Alcohols (e.g. methyl, ethyl, isopropyl, butyl)
- Antifreeze
- Cellosolves
- Chlorinated solvents, saturated (limited)
- Ester (e.g. amyl acetate)
- Greases
- Lacquers and lacquer thinner
- Methylene chloride
- Mineral spirits
- Naphtha
- Natural oils, e.g. linseed, olive, palm
- Oils and fuels, including diesel oil, fuel oil, gasoline, jet fuel, lubricating oil and silicone oil
- Paint thinner
- Shellac
- Toluene
- Trichloroethane
- Turpentine
- Xylene

MODERATE OR SEVERE EFFECT

- Acetone
- Ester (hot)
- Methyl ethyl ketone (MEK)

Caustics

NO OR MINOR EFFECT

- Chlorine bleach (dilute)
- Caustic potash
- Hydrogen peroxide
- Salt solutions, including alum, calcium chloride and salt
- Soap and soap solutions

MODERATE OR SEVERE EFFECT

- Bromine
- Caustic potash (hot)
- Chlorine
- Chromate solutions
- Hydrogen peroxide (hot)
- Hypochlorite bleach (concentrated or hot)
- Oxidizing agents
- Sodium peroxide
- Soap and soap solutions
- Oleum
- Plating solutions

Acids

NO OR MINOR EFFECT (dilute)

- Acetic
- Muriatic
- Nitric

MODERATE OR SEVERE EFFECT

- Acetic
- Aqua regia
- Carbolic
- Muriatic
- Nitric
- Sulfuric

Working with a chemical, concentration or temperature not listed here? Contact SepcoTech at tech@sepcotech.com before you choose the repair.

2 Application & mixing

Property	Super Guard 10233 White · 10234 Blue	Super Metal Filler Compound 10240	DuraFix FastSteel Putty Stick 10243 · 10244	Quick Fix Pipe Repair Tape 10247 · 10248 · 10249	Exhaust Repair Kit 10242	Aqua Guard Coating 10238 Grey · 10302 Black
Type	Epoxy coating	Heavy-duty filler	Epoxy putty	Fiberglass tape	Cold weld paste	Epoxy coating
Consistency	Fluid	Paste	Paste	–	Fluid / paste	Fluid
Application method	Brush, roller, spray	Spatula	Hand / knead	Hand	Spatula	Brush, roller, spray
Mixing ratio by volume	Pre-mixed (or 2:1)	1:1	1:1	–	Pre-mixed	Pre-mixed

3 Temperature & cure times

Property	Super Guard	Super Metal Filler Compound	DuraFix FastSteel Putty Stick	Quick Fix Pipe Repair Tape	Exhaust Repair Kit	Aqua Guard Coating
Max temperature	180 °C 356 °F	120 °C 248 °F	150 °C 300 °F	150 °C 300 °F	1300 °C 2372 °F	150 °C 300 °F
Pot life at 20 °C / 68 °F	65 min	20–30 min	10–15 min	5 min	20–30 min	45–55 min
Curing / dust free at 20 °C / 68 °F	3–4 hrs	1–2 hrs	10–20 min	5–10 min	4–5 hrs	3–4 hrs
Heat resistance corrosion protection	180 °C 356 °F	250 °C 482 °F	150 °C 300 °F	150 °C 300 °F	1300 °C 2372 °F	120 °C 248 °F

4 Mechanical properties

Property	Super Guard 10233 · 10234	Super Metal Filler Compound 10240	DuraFix FastSteel Putty Stick 10243 · 10244	Quick Fix Pipe Repair Tape 10247 · 10248 · 10249	Exhaust Repair Kit 10242	Aqua Guard Coating 10238 · 10302
Machinability	Yes	Yes	Yes	–	Yes	Yes
Hardness Shore D	80	≥ 82	80	75	–	80
Tensile strength, R-crack N/mm²	22.8	–	5.6	–	–	22.1
Tensile strength, E-modulus N/mm²	2057.3	–	–	–	–	1972.4
Compressive strength, R-crack N/mm²	53.7	–	36	–	–	51.3
Compressive strength, E-modulus N/mm²	546.6	–	–	–	–	518.8
Compressive strength, R-max N/mm²	53.7	–	n/a	–	–	51.3
Shear adhesion, R-crack N/mm²	30	34.413	–	–	–	29

Super Metal Filler Compound (10240): lab test results

Compressive strength, peak force	11351 N
Compressive strength, peak stress	67.58 N/mm²
Compressive strength, force at crack	11351 N
Compressive strength, stress at break	67.58 N/mm²
Compressive strength, displacement at peak	0.514 mm
Tensile strength, peak force	710.97 N
Tensile strength, peak stress	23.276 N/mm²
Tensile strength, force at crack	691.98 N
Tensile strength, stress at break	22.648 N/mm²
Tensile strength, displacement at peak	1.243 mm

5 Adhesion & other properties

Property	Super Guard 10233 · 10234	Super Metal Filler Compound 10240	DuraFix FastSteel Putty Stick 10243 · 10244	Quick Fix Pipe Repair Tape 10247 · 10248 · 10249	Exhaust Repair Kit 10242	Aqua Guard Coating 10238 · 10302
Adhesion to steel N/mm²	≥ 8.4	≥ 7.2	5.5	–	–	6.6
Adhesion to aluminium N/mm²	≥ 3.3	≥ 3.3	5.1	–	–	7.1
Specific volume m²/kg	2.1	0.62	n/a	–	–	2.1
Dielectric strength kV/mm	10	10	11.8	10.1	–	10
Taber test average wear index	122	–	–	–	–	146.2

6 Super Cast Compound

Chocking and casting compound

Application type	**Casting / chocking**
Consistency	**Fluid**
Application	**Pour / inject**
Mixing ratio, by volume	**18:1**
Max temperature	**150 °C (300 °F)**
Pot life at 20 °C / 68 °F	**20–30 min**
Curing / dust free at 20 °C / 68 °F	**6–8 hrs**
Specific gravity, mixed	**2.2 kg/dm³**

Compressive strength A + B, E-modulus	**1025 N/mm²**
R-break	**106 N/mm²**
A + B + 25 % silver sand, E-modulus	**855 N/mm²**
R-break	**98 N/mm²**
A + B + 25 % filler granulate 2.0–2.5 mm, E-modulus	**1147 N/mm²**
Bending tensile strength	**43.2 N/mm²**
E-modulus	**7200 N/mm²**
Shear strength	**6.8 N/mm²**
Tensile strength	**16.8 N/mm²**
Linear expansion coefficient	**5×10^{-5} K^{-1}**