

EMS FORCE[®] Epoxy Adhesive 58-15



Product description

EMS FORCE[®] 58-15 is a slow curing, general purpose adhesive / encapsulant. Forms a hard, rigid bond or coating.

Features	Recommended Applications
<ul style="list-style-type: none"> ▪ 100% reactive, no solvents ▪ Good dielectric strength ▪ Good solvent resistance ▪ Suitable for bonding metals, fabrics, ceramics, glass, wood and concrete (in combinations) 	<ul style="list-style-type: none"> ▪ Pots and encapsulates electronic components and assemblies ▪ Seals against dust, dirt and contamination ▪ Metal-to-metal bonding and repairs

	Resin	Hardener
Main constituent	Epoxy Resin	Amine
Appearance (uncured)	Liquid	Liquid
Colour	Clear	Pale Yellow
Viscosity	High	Medium
Odour	Characteristic	Ammonia like
Mix Ratio by volume	1:1	



Physical properties uncured of adhesive

Specific gravity Conditions: 22°C	:	1.1
Corrosivity	:	Non-corrosive
Solvent content	:	0%
Viscosity Conditions: 22°C	:	8000-13000 cPs



Typical curing performance of adhesive

Note that curing performance can differ due to temperature. The values given below are measured at 24°C.

Working time	:	1 hour
Functional cure time	:	3 to 4 hours
Full cure time	:	16 hours

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Typical properties of cured adhesive

Tensile shear strength (steel)	:	165 kg/cm ²
Operating temperature (dry)	:	-40°C +121°C
Cured hardness	:	85D
Dielectric strength	:	490 V/mm



Environmental resistance of cured adhesive

Environmental resistance of cured adhesive is measured after curing 7 days at room temperature by applying 30 days of immersion at 24°C.

Exposure Material	Result	Exposure Material	Result
Kerosene	Very good	Methanol	Not appropriate
Hydrochloric Acid	Very good	Tolunene	Very good
Chlorinated Solvent	Fair	Ammonia	Very good
100% Sulphuric Acid	Very good	10% Sodium Hydroxide	Very good

NOTE: Epoxies are very good in water, saturated salt solution, leaded gasoline, mineral spirits, oil and propylene glycol. Epoxies are generally not recommended for long-term exposure to concentrated acids and organic solvents.



Directions for use

Surface Preparation:

58-15 Epoxy works best on clean surfaces. If surface is oily or greasy, use chemical cleaner to degrease the surface. Surfaces should be free of heavy deposits of grease, oil, dirt or other contaminants, or cleaned with industrial cleaning equipment such as vapour phase degreasers or hot aqueous baths. Abrading or roughening the surfaces of metals will increase the microscopic bond area significantly and optimise the bond strength.

Application:

Apply mixed epoxy directly to one surface as an even film. Assemble with the mating part within the recommended working time. Contact the parts firmly to minimise any gap and ensure good contact of the epoxy with the mating part. A small amount of epoxy should flow out the edges to show there is adequate gap filling. For very large gaps, apply epoxy to both surfaces and spread to cover the entire area.

Let bonded assemblies stand for the recommended functional cure time before handling. They are capable of withstanding processing forces at this point, but should not be dropped, shock loaded or heavily loaded.

Cure:

Cure time for 58-15 Epoxy is 3-4 hours for a functional cure. Full bond strength is reached within 16 hours.

TDS

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Packaging

Amount	Resin	Hardener
Total 2kg	1 kg	1 kg
Total 40kg	20 kg	20 kg



Storage and shelf life

Keep product in its original container at 22°C and avoid to contact with direct sunlight. Storage below 5°C and above 25°C can negatively affect product properties.

Material removed from its original container can be contaminated during usage which affects both adhesive performance and storage life. Therefore, do not return contaminated product to the original container.

Metsan cannot take any responsibility for product which has been contaminated or stored under conditions different than previously indicated.

Shelf life: 36 months at 22°C



Health and safety

The product contains amine and epoxy resin that are hazardous.

For further information, please consult Safety Data Sheet (SDS) before use.

Disclaimer

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