



TECHNICAL DATASHEET

PRODUCT: M-SEAL GENERAL PURPOSE EPOXY COMPOUND

DESCRIPTION: **M-SEAL GP** epoxy compound is a two component room temperature setting, easy to use multi-purpose putty. **M-SEAL GP** epoxy compound is useful in sealing, gripping, joining & insulating variety of surfaces like ferrous and non-ferrous metals, porcelain, ceramic, marble, granite, ivory, asbestos, glass, wood, leather, certain plastics etc. **M-SEAL GP** epoxy compound on curing exhibits tough & long lasting bond and sets into a hard mass that can be drilled, filed, tapped, machined, cut and then painted. It has very good electrical insulating properties and the cured product is resistant to moisture, heat, mild acids & alkali.

APPLICATION AREA:

INDUSTRIAL: Ideal for sealing blowholes, cracks, and leakage in ferrous and non-ferrous casting, pumps and mould boxes etc. It gives smooth finish to joints & corners and sealing holes/cracks in wooden and metal patterns. Sealing of leakage/cracks in metal fabrications, industrial vessels, boilers, hulls of ships, boats and trawlers. Sealing water supply mains, storage tanks, concrete sewer pipes, heat exchanger coils etc. Repairing of damaged internal threads of various types of machine pumps. Sealing cracks in casings of meters/gear-box etc.

ELECTRICAL: Sealing and insulating cable terminators, cable entries into switch boxes, machines etc. Covering and insulating underground and overhead twist-joints of aluminium conductors. Sealing flanges and cable entry portions of conventional cable-joints/moulds to make them moisture-proof. Sealing leakage in transformers, oil circuit breakers and other oil filled electrical switchgear equipment. Joining metal parts to porcelain parts of suspension insulators and bonding broken porcelain insulators.

AUTOMOBILE: Filling automobile body dents and cracks on the body. Sealing leakage in radiator, diesel/petrol tank, water/fuel pumps, engine blocks, gear boxes, differential, carburetor, battery casing, muffler, silencer, fuel injection pumps etc.

GENERAL/HOUSEHOLD: In Handicraft to make various moulds and sculptures, In houses to close ant/cockroach holes, Repairing and sealing leakage in overhead/flush tanks, taps, pipelines etc. Filling gaps in aluminium sliding window, channels and concrete. To strengthen the hold of screws in the wall, to build wooden articles eaten by white-ants or metallic structure affected by corrosion and many other unlimited applications.

GENERAL INSTRUCTIONS FOR USE:

- **Substrate Preparation:** To get improved results, proper substrate preparation is essential to remove rust, dust, grease etc from the surface. Abrade the surface with emery paper and degrease it with TRICHLOROETHYLENE or ACETONE solvent.
- **M-SEAL GP** epoxy compound consists of two parts (RESIN & HARDENER) which are supplied in the form of sticks of equal volume, individually wrapped and sealed to be mixed in the ratio of 1:1 by volume or weight.
- The RESIN (Green) & HARDENER (Black) are in contrast colours to help to know the uniform mixing. Take equal quantity of Resin and Hardener and mix thoroughly with both hands by rolling between two palms until a uniform dark grey colour is attained. It takes about 1-2 minutes to get a uniform mix for 50g of putty.
- As soon as **M-SEAL GP** Resin/Hardener is mixed, the chemical reaction starts immediately and it is advisable to start application on clean substrate as soon as mixing is over. Spreading of adhesive is easy in the first 5-10 minutes, whereas smoothening of adhesive surface with damp cloth is possible up to about 30 minutes from mixing.

- **M-SEAL GP** epoxy compound will harden in 1-2 hours to an extent wherein one can start next operation viz. drilling, tapping, filing etc. At low temperatures the curing process is prolonged and similarly at elevated temperatures the processing time is reduced. A cured **M-SEAL** epoxy compound can be painted. It is neither affected by normal heat/moisture nor by mild chemicals.

DO'S & DON'TS:

- Keep the unused **M-SEAL GP** Resin & Hardener portion well packed for further use.
- We do not recommend addition solvent/water to facilitate the ease of application of mix. Similarly excess hardener is not to be added to make the setting fast.
- Since this product is mixed on bare hands, trim fingernails to avoid accumulation of product in the sensitive part.
- Do not hold the mix for long time in the hand after the mixing is over. It will reduce the usable life of mix especially in application where the bonding of putty to the surface on which it is applied, is critical e.g. Armature Balancing.

TYPICAL COMPOSITE PROPERTIES:

S.No.	TEST PROPERTY	UNIT	VALUE
1	PROCESSING TIME (USABLE-LIFE) at 30°C for 50 g mix	Minutes	15 approx.
2	SETTING TIME (Hardening Time) at 30°C for 30g mix by Shore-A	Minutes	60 approx.
3	TENSILE STRENGTH as per ASTM D-638	Kg/cm ²	> 200
4	COMPRESSIVE STRENGTH as per ASTM D-695	Kg/cm ²	> 400
5	FLEXURAL STRENGTH as per ASTM D-790	Kg/cm ²	> 350
6	IMPACT STRENGTH (Un-notched) as per ASTM D- 256	Kg.cm/cm ²	> 3.0
7	HARDNESS (By Shore-D Durometer) as per ASTM D-2240	Scale Value	> 75
8	OVERLAP SHEAR STRENGTH (M.S) as per ASTM D-1002	Kg/cm ²	> 90
9	DI-ELECTRIC STRENGTH at R.T. as per ASTM D-1497	KV/mm	> 10
10	WATER ABSORPTION as per ASTM D-570	%	< 0.5
11	WORKING TEMPERATURE LIMIT	°C	80°C

NOTE: The above typical-properties should not be construed as product specification.

SAFETY PRECAUTIONS: **M-SEAL GP** epoxy putty products are non-flammable. Generally these putties when mixed in right proportions, on complete cure, are non-toxic & harmless. The resin component is non-toxic, hardener being based on amine type hardener may cause irritation to sensitized skin. **Barrier Cream may be used to protect skin while mixing and when the job is over, hands may be washed with soap and water.** Any remaining residue will fall off in 1-2 days. **Please do not use organic solvents for cleaning hands. KEEP AWAY FROM CHILDREN.**

STORAGE & SHELF LIFE: Store in a cool (< 30 °C) and dry place. Under such storage conditions the shelf life of the product is about 12 months in sealed unopened packs.

NOTE: We recommend that before using our product in full-scale production, the customer should make his own tests to determine the suitability of the product under his operating conditions. As the circumstances under which our product is stored, handled and used are beyond our control ,we can not assume any responsibility for their misuse by the customer.

STATUS: 21/11/2001