

Technical Data Sheet

SHIMOCAST 101/M2 (...) + Hardener IS 32

Room Temperature Curing, Polyurethane Resin System for Casting & Potting

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Description

SHIMOCAST 101/M2 (...) is a versatile potting compound is ideal for encapsulation of power cable joints up to 36 kV and potting capacitors, electronic flashers and other components. When cured with MDI type isocyanate hardener at ambient temperature, semi-flexible castings are obtained.

The system offers the following advantages:

- Low water absorption
- Low exotherm
- Good bond strength
- Negligible shrinkage
- Excellent impact resistance
- Excellent resistance to heat shock
- Resistance to transformer oil, dilute acids and alkalies
- Good hydrolytic stability

Areas of Application

SHIMOCAST 101/M2 (...) is ideal for potting, casting, encapsulation and sealing the following:

- Power cable joints
- Capacitors
- Auto Electricals
- Filters
- Transformers

Application Method

The resin component Shimocast 101/M2 (...) should be first stirred, since the filler on long storage has settling tendency.

SHIMOCAST 101/M2 & Hardener IS 32 should then be mixed in recommended proportion at room temperature (20-40°C) and used for casting or potting within the potlife (usable life of mixture).

Properties of SHIMOCAST 101/M2 (...) and Hardener IS 32 as supplied:

	Test method	Unit	SHIMOCAST 101/M2 (...)	Hardener IS 32
Colour & Appearance [*] [***]	DBI 1001[**]		Plain / Brown filled resin	Brown clear liquid
Viscosity at 27°C (Brookfield) [*]	DBI 3005[**]	mPa.s	10000 -14000	100 - 300
Density at 27 °C	DBI 3047A [**]	g/ml	1.44 -1.64	1.12 -1.32
Flash point	DIN 51584(Open cup)	°C	> 150	> 150
Isocyanate content [*]	DBI 1036[**]	%	NA	29 - 33
Storage stability [*]	When stored in original sealed container at R.T.	months	12	12
[*] These properties form our sales specification [**] DBI are our internal test methods and are available on request [***] Available in plain and brown colours				

Mixing Proportion & Pot Life:

Mixing Ratio (Resin: Hardener)		Parts by weight	100: 16 ± 1
Initial Viscosity of mixture at 27 °C	DBI 3005[**]	mPa.s	3500-5500
Pot life of 236 g mix at 27 °C	DBI 1019[**]	min	35-45
Gel time at 27 °C for 236 g mix [*]	DBI 3172[**]	min	45-55
Temperature rise (exothermal)	IEC 60455	°C	55-65

Recommended Curing Cycle:

24 hrs at R.T Optimum properties obtained after 4 – 5 days

Cured Film Properties:

Specimen cured for 16 h at R.T + 4h at 80°C

Density	IEC 60455	g/cm ³	1.5
Tensile strength	ISO 527	N/mm ²	6.5
Elongation at break	ISO 527	%	34
Hardness	ISO 868	Shore A	88
Water absorption	ISO 62	%	0.3

Dielectric Properties:

Specimen cured for 16 h at R.T + 4 h at 80°C

Dielectric strength as per IEC 60243 with 3 mm specimen	at RT	kV/mm	14
Volume resistivity at 500 V DC as per IEC 60455-2	at RT	ohm.cm	10 ¹⁴ NT
Dielectric constant at 30 V/1 kHz as per IEC 60455-2	at RT at 155 ⁰ C	-	NT NT
Dielectric loss factor 30 V/1 kHz as per IEC 60455-2	at RT at 130 ⁰ C	-	0.06 0.2
Track resistance by IEC 60112	At RT	Volts	>600

Packaging:

SHIMOCAST 101/M2 (...) : 25 kg in open mouth PP bucket.
Hardener IS 32 : 25 kg in Poly containers.

Safe Handling:

Hardener IS 32 is vulnerable to humidity and must be stored in the original sealed containers at temperatures between 20 °C and 40 °C. Temperatures below and above these limits result in crystallization and polymerization respectively.

Hardener IS 32 has low volatility and hence is relatively safe. However, customers are advised to ensure that the work place is clean and well ventilated. Workers should wear protective goggles and gloves, refrain from eating at work place and wash their hands with soap on completion of job. If the material accidentally splashes into the eyes, they must be rinsed with clean water and a doctor consulted immediately.

The cured casting is not harmful to health. For detailed information on processing, kindly refer to our Technical Information "Safe Processing with Resins and Hardener" & material safety data sheets of SHIMOCAST 101/M2 (...) and Hardener IS 32.

Disclaimer

This information is intended only for general guidance in the application of our product. It has been obtained by careful investigation and represents the present state of our knowledge and experience. Because of the large number of possible methods of application and processing we are not able to assume responsibility in any one particular case for either the technical results or the patent rights situation applicable to the country under consideration.

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