

TECHNICAL DATASHEET MP313C DIPPING VARNISH

MP313C is a one component, air-drying solvent-based varnish. MP313C has been designed for application by dipping. Best results will be obtained by use of PCB dipping machine, such as that produced by Robnor Resins. Coating of suitable, even thickness requires a slow steady withdrawal from the dipping bath - thus difficult to achieve by hand dipping. If the PCB has a number of large standoff units this may necessitate a draining step in the dipping cycle. The thickness of varnish applied may be varied with the limits by altering the speed of withdrawal from the bath - the slower the withdrawal, the thinner the coat. Attempting to apply too thick a coat in one stage may result in sagging or wrinkling. If a thick coat is required, this is best achieved via two thin coats - the first coat must be thoroughly cured before the second is applied. In all cases before the application of the coating thorough cleaning and drying is essential. Immediately before PCB assemblies are conformally coated all flux residues and other surface contaminants should be removed. If practicable a cleanliness level better than $1.5\mu\text{gNaCl}/\text{cm}^2$ salt weight equivalents should be achieved. The material will dry to give a tough hard-working insulating varnish when cured at room temperature; however, superior properties will be obtained if cured at elevated temperatures. A suggested cure schedule is 8hours @ 80°C . This material is normally supplied at a dilution that should give a coating thickness in the region of $35\mu\text{m}$, however this can be altered by changes to application procedures. In some applications thinning of the material may be required e.g. spraying. In such instances TS109 Thinners should be used.

NOTE: To avoid dispersion of MP313C as an aerosol (i.e. fine spraying or mist) in the workroom atmosphere, spraying application should not be carried out except in a properly equipped spraying booth.

Typical Characteristics

Property	Value	
Colour	Yellow	
Non-volatile content - 2grm @ 2hr 120°C	$53 \pm 2\%$	
Brookfield viscosity @ 25°C /spindle 3/100rpm	300 - 600 mPa	
*Touch dry time @ 25°C	20-40 Minutes	These times will vary with coating thickness and can be shortened appreciably by use of elevated temperatures up to 80°C .
Thorough Dry Time @ 25°C	6 Hours	
Hard Dry Time @ 25°C	15 Hours	

* It should be noted however, that whilst drying is permissible in the open workroom at temperatures up to 35°C with good extraction/ventilation at work stations, drying at temperatures above 35°C should be carried out in suitably-extracted drying ovens which exhaust the effluent air to the outside atmosphere.

Cleaning

All equipment should be cleaned before the compound has hardened. Robnor Resins' TS130 is a suitable non-flammable cleaning agent, although other solvents may be found suitable. TS130 is also suitable for removing cured resins - data available on request.

Handling Precautions

It is advisable that skin and eye contact are avoided by using appropriate personal protective equipment. Adequate ventilation of the working area is recommended. However, where vapour levels are likely to be above occupational exposure limits, or discomfort is experienced, appropriate respiratory protection should be worn. It is essential that the specific hazards of the system being used be known before handling any material supplied by Robnor. Users should familiarise themselves with the Health and Safety information provided by the Company both in written correspondence and in the information sources listed below.

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