

**PRODUCT INFORMATION**

**Resodip<sup>®</sup>**  
**MCM 635**

One-component epoxy dipping system

**Application:**

Dipping. Impregnation and sealing with automatic dispensing techniques and hot curing. Protection and electrical insulation for electronic and mechanical parts from weathering, corrosions, etc.

**Processing:**

The surface of the object to be processed must be cleaned from grease, oils and from other kind of contaminants. Best adhesion results are obtained when the surface is slightly coarse. It is suggested to preheat the pieces to 50-70 °C and to maintain the resin between 15 and 25°C. Dipping speed and curing cycle are to be adjusted to obtain a regular coating, depending on the desired thickness.

**Description:**

One component, self-extinguishing, epoxy system, with hot curing. Solvent free. High quality electrical characteristics. Excellent adhesion to metallic and non-metallic materials. Uniform covering thickness up to approx. 5 mm in one working process. The system is RoHS compliant (European directive 2002/95/EC).

**Instructions:**

In pre-filled products it is good practice to check and carefully rehomogenize the material if some settling is present. For some applications it can be useful to pre-heat the components and/or carry out a de-aeration step under vacuum of the mixture before casting.

**Curing / Post-curing:**

Hardening is carried out at 130-160°C during 4 - 6 hrs, according to size and material of the object to be dipped.

**Storage:**

One part epoxy resins can be stored for six months in the original, sealed packages in a cool (it is necessary to keep the product at temperature less than 0-15°C) and dry place. An anomalous absorption of humidity or an increase of the storage temperature can cause the loss of the latency of the product and its gradual hardening. The resin must be stored at 0 - 15°C in a storage room and in the original and sealed drums/tanks. When storing at room temperature (18 - 25°C) the storage

stability is vastly shortened.

**Handling precautions:**

Refer to the safety data sheet and comply with regulations relating to industrial health and waste disposal.

## SYSTEM SPECIFICATIONS

Property	Conditions	Method	Resin MCM 635	Hardener	UM
Viscosity at:	25°C	IO-10-50 (EN13702-2)	3.000÷10.000	-	mPas
Density at:	25°C	IO-10-51 (ASTM D 1475)	1,39÷1,45	-	g/ml
Gelation time	80°C	IO-10-52d (UNI 8701)	2÷8	-	min

## TYPICAL SYSTEM CHARACTERISTICS

Property	Conditions	Method	Value	UM
Mixing ratio by weight		for 100 g resin	100	g
Resin Colour			Orange	
Gelation time	130°C (2mm)	IO-10-73 (*)	3÷5	min
	160°C (2mm)	IO-10-73 (*)	2÷4	min
Gelation time	80°C 100ml	IO-10-52b (UNI 8701)	8÷14	min
	100°C 100ml	IO-10-52b (UNI 8701)	3÷5	min
Demoulding time	130°C (2mm)	(*)	9÷14	min
	160°C (2mm)	(*)	6÷10	min
Suggested curing cycles		(**)	4 hours at 80°C + 6-8 hours at 130°C	

## TYPICAL CURED SYSTEM PROPERTIES

Properties determined on specimens cured: 4 hours at 80°C + 6-8 hours at 130°C

Property	Conditions	Method	Value	UM
Density	25°C	IO-10-54 (ASTM D 792)	1,37÷1,41	g/ml
Hardness	25°C	IO-10-58 (ASTM D 2240)	53÷57	Shore A/15
Glass transition (Tg)		IO-10-69 (ASTM D 3418)	-20÷-5	°C
Water absorption (24h RT)		IO-10-70 (ASTM D 570)	0,08÷0,18	%
Linear thermal expansion (Tg -10°C)		IO-10-71 (ASTM E 831)	40÷50	10 <sup>-6</sup> /°C
Linear thermal expansion (Tg +10°C)		IO-10-71 (ASTM E 831)	270÷290	10 <sup>-6</sup> /°C
Max recommended operating temperature		IEC 60085 (***)	155	°C
Dielectric constant at:	25°C	IO-10-59 (ASTM D 150)	7÷8	
Loss factor at:	25°C	IO-10-59 (ASTM D 150)	130÷160	x 10 <sup>-3</sup>
Volume resistivity at:	25°C	IO-10-60 (ASTM D 257)	2 x 10 <sup>11</sup> ÷6 x 10 <sup>11</sup>	Ohm x cm
Dielectric strength	25°C	IO-10-61 (ASTM D 149)	18÷22	kV/mm
Flexural strength		IO-10-66 (ASTM D 790)	n.a.	MN/m <sup>2</sup>
Strain at break		IO-10-66 (ASTM D 790)	n.a.	%
Flexural elastic modulus		IO-10-66 (ASTM D 790)	n.a.	MN/m <sup>2</sup>
Tensile strength		IO-10-63 (ASTM D 638)	1,4÷2,2	MN/m <sup>2</sup>
Elongation at break		IO-10-63 (ASTM D 638)	>200	%

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**Legenda:**

IO-00-00 = Elantas Italia's test method. The correspondent international method is indicated whenever possible.

nd = not determined      na = not applicable      RT = TA = laboratory room temperature (23±2°C)

Conversion units:      1 mPas = 1 cPs      1MN/m<sup>2</sup> = 10 kg/cm<sup>2</sup> = 1 MPa

(\*) for larger quantities pot life is shorter and exothermic peak increases

(\*\*) the brackets mean optionality

(\*\*\*) The maximum operating temperature is given on the basis of laboratory information available being it function of the curing conditions used and of the type of coupled materials. For further possible information see post-curing paragraph.

**Disclaimer:**

The information given in this publication is based on the present state of our technical knowledge but buyers and users should make their own assessments of our products under their own application conditions.

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