

PRODUCT INFORMATION

Micares[®]

X1080 R14/P 978

100:28,6

2-components flexible expanding polyurethane system

Application:

Micares® X1080R14 is a expandable casting resin system based on polyurethane. This two component potting compound is curing at room temperature and at elevated temperatures.

Processing:

Micares® X1080R14 is easy to handle and to process. The processing itself take place under normal conditions, e.g. ambient temperature and atmospheric pressure.

Description:

Flexible, synthetic foam with closed pores especially suitable as light weight insulation. It adheres well to metal and other materials. The foam volume is about twice the mixture volume. The expansion is strongly influenced by mixing equipment, casted conditions and environment (temperature and humidity).

Instructions:

The resin and hardener are mixed according to the specified ratio at ambient temperature, preferably using automatic dosing and mixing equipment. If the resin has been stored for a long period of time, it is recommended to stir well the complete content of the container and to check the viscosity before the processing is being started. Formation of lumps has to be prevented by applying of appropriate stirring conditions. The mixture is applied at ambient temperature (above 18°C). The moulds should be treated with a release agent to facilitate subsequent mould removal. The resin is chemically stable. However, before use, it must be carefully stirred with a suitable equipment since all resins containing a mineral filler tend to build deposits. Stirring with particular care is necessary in case, when the resin has been stored for a long period of time.

Curing / Post-curing:

For room temperature curing system the post-curing allows the fast stabilization of the material and the obtainment of the best electrical and mechanical properties. During the curing process it is advisable to avoid thermal variations higher than 10°C/hour.

Storage:

Polyols can be stored for nine months and the

isocyanate based hardeners for one year in the original sealed tins stored in a cool, dry place. The hardeners may present an increase in viscosity that does not change the cured system properties. Both components should be stored in appropriate room in their originally sealed containers. Avoid storage outside. The resin is chemically stable. However, before use, the resin must be carefully stirred with a suitable equipment since all resins containing mineral filler tend to build deposits. Stirring with particular care is necessary, when the resin has been stored for a long period of time. Important: The hardener must be kept away from any exposure to humidity. It should always be stored well sealed.

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 X1080 R14	Hardener P 978	UM
Viscosity at:	25°C	IO-10-50 (ISO3219)	15.000÷35.000	150÷250	mPas
Density at:	25°C	IO-10-51 (ASTM D 1475)	1,25÷1,35	-	g/ml
Gelation time	25°C	IO-10-52d	7÷18	-	min

TYPICAL SYSTEM CHARACTERISTICS

Property	Conditions	Method	Value	UM
Mixing ratio by weight		for 100 g resin	100:28,6	g
Mixing ratio by volume		for 100 ml resin	100:30,2	ml
Resin Colour			Black	
Hardener Colour			Brown	
Density hardener	25°C	IO-10-51 (ASTM D 1475)	1,20÷1,24	g/ml
Initial mixture viscosity at:	25°C	IO-10-50 (ISO3219)	4.000÷6.000	mPas
Pot life (doubled initial viscosity)	25°C	IO-10-50 (ISO3219)	3÷5	min
Gelation time	25°C (15ml;6mm)	IO-10-73 (*)	25÷35	min
Demoulding time	25°C (15ml;6mm)	(*)	60÷80	min

TYPICAL CURED SYSTEM PROPERTIES

Properties determined on specimens cured: 24 h TA + 15 h 60°C (on bracket the properties of compact system)

Property	Conditions	Method	Value	UM
Density	25°C	IO-10-54 (ASTM D 792)	0,30÷0,34	g/ml
Hardness	25°C 25°C	IO-10-58 (ASTM D 2240) IO-10-58 (ASTM D 2240)	80÷88 45÷55	Shore A/15 Shore D/15
Glass transition (Tg)		IO-10-69 (ASTM D 3418)	30÷40	°C
Flammability		IO-10-68 (V-0)	12	mm
Max recommended operating temperature		IEC 60085 (***)	130	°C
Dielectric constant at:	25°C	IO-10-59 (ASTM D 150)	1,5÷2,0 (4,0÷5,0)	
Loss factor at:	25°C	IO-10-59 (ASTM D 150)	40÷50 (30÷40)	x 10 ⁻³
Volume resistivity at:	25°C	IO-10-60 (ASTM D 257)	1 x 10 ¹⁵ ÷3 x 10 ¹⁵ (5 x 10 ¹⁵ ÷9 x 10 ¹⁵)	Ohm x cm
Dielectric strength	25°C	IO-10-61 (ASTM D 149)	3÷6 (15÷20)	kV/mm
Flexural strength		IO-10-66 (ASTM D 790)	4÷7 (28÷38)	MN/m ²
Strain at break		IO-10-66 (ASTM D 790)	3,5÷5,5 (>15)	%
Flexural elastic modulus		IO-10-66 (ASTM D 790)	300÷400 (2.000÷2.500)	MN/m ²
Tensile strength		IO-10-63 (ASTM D 638)	1,5÷3,0 (15÷25)	MN/m ²
Elongation at break		IO-10-63 (ASTM D 638)	1,8÷3,0 (8÷12)	%

ELANTAS EUROPE Sales offices:

Strada Antolini n°1 loc. Lemignano
43044 Collecchio (PR)
Italy
Tel +39 0521 304777
Fax +39 0521 804410

Grossmannstr. 105
20539 Hamburg
Germany
Tel +49 40 78946 0
Fax +49 40 78946 349

info.elantas.europe@altana.com
www.elantas.com

Legenda:

IO-00-00 = Elantas Europe'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/m² = 10 kg/cm² = 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.

Manufactured: ELANTAS Europe S.r.l. Sito di Strada Antolini n° 1, 43044 Collecchio (PR), Italy
www.elantas.com