RESIN	HARDENER	MIXING RATIO
PU 880 Component A	PU 880 Component B	100:68

DESCRIPTION: Two components fluid polyurethane system. Solvent free. Very good electrical and mechanical properties. High toughness. High thermal shock resistance.

APPLICATIONS: Encapsulation and sealing of electrical and electronic components. Heating elements.

PROCESSING: Manual casting. Undervacuum casting. Room temperature or hot curing. It is advisable to dry or pre-heat the components to be casted.

INSTRUCTIONS: Handling precautions:
In pre-filled products it is a good practice to check and carefully rehomogenize the material if some settlement is present. Add the proper quantity of the hardener to the resin, mix carefully. Avoid air trapping. For some applications it can be useful pre-heat the components and/or carry on a dearation step under vacuum of the mixture before casting.

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. For hot curing systems it is advisable to follow the indications reported in the present data sheet verifiyng the correctness for the components under development. During curing process it is advisable to avoid thermal variations higher than 10°C/hour.

STORAGE AND PRECAUTIONS: Polyurethane resins and the isocyanate based hardeners can be stored for six months in the original sealed containers kept in a cool and dry place. The hardeners may present an increase in viscosity that do not change the cured system properties. After that period, or if the material has been stocked in anomalous conditions, pre-filled resins can be settled down and their use is possible only if they are accurately re-homogenized with the help, if necessary, of a mechanical mixer. Both components are moisture sensitive therefore it is a good practice to close the vessels immediately after each use. Moisture absorption may cause the expansion of the product during application and/or the hardener may crystallize during storage. The isocyanates may crystallize at low temperatures. To restore the original conditions, heat the material at 70-80°C avoiding local overheating. Before use, the product must be rehomogenized and cooled down at room temperature.

SYSTEM SPECIFICATIONS:

RESIN:	Gelation time 80°C 100 ml (UNI 8701)	Min.	10 - 14
HARDENER:	Viscosity at 25°C	mPas	60 - 120

TYPICAL SYSTEM CHARACTERISTICS

PROCESSING DATA	**PU 880 B**
Resin colour	Milky
Hardener Colour	Brown blue
Density at 25°C resin (ASTM D 1475)	g/ml 1,02 – 1,06
Density at 25°C hardener (ASTM D 1475)	g/ml 1,20 – 1,22
Mixing ratio by weight(for 100 g. RESIN)	g. 100:68
Mixing ratio by volume (for 100 ml. RESIN)	ml. 100:57
Initial mixture viscosity at 25°C (EN13702-2) (*)	MPas 400 – 800
Gelation time 25°C (15ml;6mm) (*)	h 2,5 – 3,5
Exothermic peak at 25°C (40mm;100ml)	45 – 55 °C
Demoulding time 25°C (15ml;6mm) (*)	h 6 – 8
Pot – Life at 25°C (50mm;200ml)	min. 40 – 50
Maximum racommended thickness	mm 20 – 30

TYPICAL CURED SYSTEM PROPERTIES

Properties determined on specimens cured: 24 h TA + 15 h 60°C.

PROCESSING DATA	PU 880 B
Surface	Bright
Density 25°C (ASTM D 792)	g/ml 1,00 - 1,02
Hardness25°C (ASTM D 2240)	Shore D/15 79 - 81
Glass transition (Tg) (ASTM D 3418)	°C 54 - 56
Water absorption (24h RT) (ASTM D 570)	% 0,15 - 0,25
Water absorption (2h 100°C) (ASTM D 570)	% 1,20 - 1,40
Thermal shock (n°10 cycles passed) (Metal insert Olyphant)	°C - 55 + 130
Max recommended operating temperature (***)	°C 130
Dielectric constant at: (ASTM D 150)	3,0 - 3,3
Loss factor at: (ASTM D 150)	x 10^-3 5 - 10
Volume resistivity at: (ASTM D 257)	Ohm x cm 1 x 10^16 - 5 x 10^16
Dielectric strength (ASTM D 149)	kV/mm 22 - 25
Linear thermal expansion (Tg -10°C) (ASTM E 831)	10^-6/°C 75 - 80
Linear thermal expansion (Tg +10°C) (ASTM E 831)	10^-6/°C 220 - 240
Flexural strength (ASTM D 790)	MN/m² 65 - 75
Strain at break (ASTM D 790)	% 6 – 10
Flexural elastic modulus (ASTM D 790)	MN/m² 2.000 - 2.200
Tensile strength (ASTM D 638)	MN/m² 45 - 55
Elongation at break (ASTM D 638)	% 4 – 6
Compressive strength (ASTM D 695)	MN/m² 65 - 75

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.
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.