

EN

Technical Data Sheet

EpoxyLite®

235SG A + B

UL listed

Epoxy system - Two component
Trickle impregnating resin

ELANTAS Europe Sales offices:

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

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

Quattordio (AL) 15028 - Italy
Via San Martino, 6
Tel +39 0131 773870 Fax +39 0131 773875

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



Product description

Product is a two component, low viscosity, epoxy based resin system.

Material is a 100% solids, room temperature curing system with low emissions and is compatible with most commonly used insulation materials and systems.

Areas of application

Product is designed for the impregnation of all conventional rotating and stationary windings.

- Rotating Electrical Machines
- Electrical Drives
- Power Tools
- Electrical Coils

Properties of cured product

The cured product is tough and resilient, with good mechanical and dielectrical properties.

Product shows good resistance to the effects of liquid chemicals and solvent vapours.

Product has a temperature index of $\geq 180^{\circ}\text{C}$ (according to UL 1446) and Underwriter Laboratories in File E 171184.

Product is suitable for hermetic application.

Processing methods

Typical methods of application are:

- Trickle Impregnation
- Spray, Brush or Pouring

Please refer to ELANTAS Technical Sales for application process specific data for this product.

Storage and stability

When stored correctly in tightly sealed containers the resin and hardener have a shelf life of 24 months from the date of manufacture.

Material should be stored below 25°C and kept away from direct sunlight and or other sources of heat.

Mixed product pot-life will reduce in time, relative to an increase in the mixed volume. In addition an increase in the exothermic peak will occur.

Handling precautions

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

Sales specifications

235SG Resin

Properties	Conditions	Test Method	Value	M/U
Viscosity	25 °C	IO-10-50 (ISO 3219)	1950 ÷ 3450	mPa·s

235SG Hardener

Properties	Conditions	Test Method	Value	M/U
Viscosity	25 °C	IO-10-50 (ISO 3219)	200 ÷ 300	mPa·s

Typical product properties

235SG Resin

Properties	Conditions	Test Method	Value	M/U
Appearance		Visual method	Liquid	
Density	25 °C	IO-10-51 (ASTM D 1475)	1,10 ÷ 1,14	g/ml

235SG Hardener

Properties	Conditions	Test Method	Value	M/U
Appearance		Visual method	Liquid	
Density	25 °C	IO-10-51 (ASTM D 1475)	1,00 ÷ 1,04	g/ml

Typical system properties

Properties	Conditions	Test Method	Value	M/U
Mix Ratio by weight		--	100 : 20	g
Gel time	25 °C	IO-10-94 (DIN 16945)	130 ÷ 145	min
	60 °C		9 ÷ 10	min

Curing conditions

Properties	Conditions	Test Method	Value	M/U
Suggested curing cycle		--	60 min at 130°C	

Typical mechanical properties in cured condition

Properties	Conditions	Test Method	Value	M/U
Specimens curing cycle		--	3 h at 130°C	
Bond strength (twisted coils)	25 ± 2 °C	IOS 1.02_102_QT (IEC 61033)	600 ÷ 660	N
	90 ± 2 °C		420 ÷ 500	N
	130 ± 2 °C		110 ÷ 135	N
	155 ± 2 °C		70 ÷ 80	N
	180 ± 2 °C		55 ÷ 70	N

Temperature index

Properties	Conditions	Test Method	Value	M/U
TI (twisted pair)	1000 V	UL 1446	180	°C

Typical dielectric properties in cured condition

Properties	Conditions	Test Method	Value	M/U
Specimens curing cycle	2 mm thick specimen	--	3 h at 130°C	
Dielectric constant at 50 Hz	25 ± 2 °C	IO-10-59 (ASTM D 150)	3,1 ÷ 3,5	
Dielectric constant at 1000 Hz	25 ± 2 °C	IO-10-59 (ASTM D 150)	3,2 ÷ 3,5	
Loss factor at 50 Hz	25 ± 2 °C	IO-10-59 (ASTM D 150)	4,5 ÷ 5,5	x10 ⁻³
Loss factor at 1000 Hz	25 ± 2 °C	IO-10-59 (ASTM D 150)	10 ÷ 15	x10 ⁻³
Volume resistivity	25 ± 2 °C	IO-10-60 (ASTM D 257)	5x10 ¹⁵ ÷ 5x10 ¹⁶	Ω·cm
	90 ± 2 °C		1x10 ¹⁴ ÷ 1x10 ¹⁵	Ω·cm
	130 ± 2 °C		5x10 ¹⁰ ÷ 5x10 ¹¹	Ω·cm
	155 ± 2 °C		5x10 ⁹ ÷ 5x10 ¹⁰	Ω·cm
Dielectric strength	25 ± 2 °C - 2 mm	IO-10-61 (ASTM D 149)	25 ÷ 35	kV/mm

Typical resistance to chemicals

Properties	Conditions	Test Method	Value	M/U
Water absorption (24 h RT)		IO-10-70 (ASTM D 570)	0,05 ÷ 0,10	%
Water absorption (2 h 100 °C)		IO-10-70 (ASTM D 570)	0,6 ÷ 1,0	%

Product of ELANTAS Europe. Our advice given verbally or in writing is based on the present state of our technical knowledge, but is intended as information given without obligation, also with respect to any protective rights held by third parties. It does not relieve your own responsibility to check the products for their suitability to the purposes and processes intended and in accordance with the technical sheets of the products. The application usage and processing of the product are beyond our control and will completely fall into the scope of responsibility of buyers and users. Should there nevertheless be a case of liability from our side, this will be limited to any damage equivalent to the value of the merchandise delivered by us. Naturally, we assume responsibility for the unobjectionable quality of our products, as defined in our general terms and condition. Product conformity is guaranteed by properties defined in sales specification. Typical properties do not constitute part of the agreed product property or sales specification. Deviation from typical properties does not constitute non-conformity of the product. Typical properties are provided for general information purpose and as a guideline for the choice of the product; they are subject to variation related to i.e. curing cycles, specimen preparation, batch to batch variability, etc. unless specifically agreed with customers.