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Preliminary Technical Data Sheet

Elan-tech®

MS 380 A/MS 380 B

100:90

Epoxy Paste

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Product description

- 2K epoxy paste
- Medium to fast curing
- Low density
- Easily sandable

Areas of application

Filling and finishing of uneven surfaces below and above the water line. Suitable for steel, aluminum or composite hulls.

Processing methods

Apply on clean and dry surfaces; before application of a second layer make sure the first is sufficiently cured to avoid any detachment from the surface; evaluate the application of a primer for very damaged substrate.

Curing/Post-curing

Post-curing is always advisable for Room Temperature curing system in order to stabilize the component and to reach the best properties. It is necessary when the component works at a high temperature. Recommended post-curing ramp-up: 10°C/hour. Cool it down slowly. The rate of heating and the indicated post-curing time are referred to standard specimen size. Users should evaluate the best conditions of curing or post-curing depending on the component size and shape. For big size components decrease the thermal gradient and increase the post-curing time.

Storage and stability

Epoxy paste and its hardener can be stored for one year in the original sealed containers stored in a cool, dry place. The hardener is moisture sensitive therefore it is good practice to close the container immediately after each use.

Handling precautions

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

Typical product properties

MS 380 A

Properties	Conditions	Test Method	Value	M/U
Colour		--	Grey	
Viscosity	25 °C	IO-10-50 (ISO 3219)	55000 ÷ 85000	mPa·s
Density	25 °C	IO-10-51 (ASTM D 1475)	0,79 ÷ 0,85	g/ml

MS 380 B

Properties	Conditions	Test Method	Value	M/U
Colour		--	Neutral	
Viscosity	25 °C	IO-10-95 (ISO 3219)	85000 ÷ 125000	mPa·s
Density	25 °C	IO-10-51 (ASTM D 1475)	0,68 ÷ 0,74	g/ml

Typical system properties

Properties	Conditions	Test Method	Value	M/U
Mix Ratio by weight		--	100 : 90	g
Mix Ratio by volume		--	100 : 100	ml
Initial mixture viscosity	25 °C	IO-10-95 (ISO 3219)	100000 ÷ 150000	mPa·s
Exothermic peak	25 °C - 80 mm - 500 ml	IO-10-53 (*)	70 ÷ 80	°C
Pot life	25 °C - 80 mm - 500 ml	IO-10-53 (*)	35 ÷ 45	min
Gel time	25 °C - 1 mm	IO-10-88 (ASTM D 5895-03)	6 ÷ 7	hrs
Maximum recommended thickness		--	30 ÷ 40	mm
Suggested curing cycles		(**)	24 h RT + 15 h 60 °C	

Typical cured system properties

Properties	Conditions	Test Method	Value	M/U
Specimens curing cycle		--	24 h RT + 15 h 60 °C	
Colour		--	Light grey	
Machinability	Excellent	--	Excellent	
Density (solid)	25 °C	IO-10-54 (ASTM D 792)	0,70 ÷ 0,76	g/ml
Hardness	25 °C	IO-10-58 (ASTM D 2240)	61 ÷ 65	Shore D/15
Glass Transition (Tg)	24 h RT	IO-10-69 (ASTM D 3418)	43 ÷ 49	°C
	7 days RT		46 ÷ 52	°C
	24 h RT + 15 h 60 °C		60 ÷ 66	°C
	5 h 80 °C		55 ÷ 60	°C
Maximum Tg	24 h RT + 15 h 60 °C	IO-10-69 (ASTM D 3418)	60 ÷ 66	°C
Linear thermal exp. (Tg -10 °C)		IO-10-71 (ASTM E 831)	25 ÷ 35	ppm/°C
Linear thermal exp. (Tg +10 °C)		IO-10-71 (ASTM E 831)	40 ÷ 48	ppm/°C
Max recommended operating temperature		(***)	57	°C

IO-00-00 = Elantas Europe internal 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.

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