

FLUVEX^â - CAST

For medium and high voltage engineering applications.

GENERAL-PURPOSE

FLUVEX[®]-CAST epoxy resins are specifically developed casting systems for electrical applications. A number of different standard formulations meet the high demands on epoxy castings. In addition to the standard systems Micafil's engineering department is well prepared to offer you customised systems. With our long experience in epoxy resin applications we can guarantee our customers the best possible solution for their epoxy castings. Up to date laboratories and testing equipment as well as strict quality control procedures throughout manufacture, from the raw material to the finished component, guarantees the constant quality and security in service of our products.

APPLICATIONS

FLUVEX[®]-CAST resin components have been giving excellent service in a wide variety of electrical systems up to a rating of 800 kV for many years. FLUVEX[®]-CAST resins, such as spacers, bushings or cable end terminations, are widely used in SF₆ gas insulated medium and high voltage switchgears all over the world. In the field of cable accessories, many FLUVEX[®]-CAST resin components are utilised. Micafil's expertise in epoxy castings ensures void and partial discharge free components.

PRODUCTION FACILITIES

FLUVEX[®]-CAST epoxy resins can be processed under vacuum or by means of automatic pressure gelation (APG). Micafil's casting facilities can deal with component dimensions up to 1800 mm diameter and 2000 mm length. Castings weighting up to 160 kg can be processed. The specially developed surface treatment of inserts, shielding, electrodes and other cast-in metallic or plastic parts supports the excellent performance of our insulators.

PERSONAL REMARKS :

Epoxy resin casting systems

Properties	Standards	Units	FLUVEX ^â -CAST									
			-1402	-1441	-1442	-1443	-1444	-1447	-1448	-1450	-1451	-1462
Colour (natural)	approx. RAL 7013 ¹ approx. RAL 1014 ²		ivory ²	ivory ²	brown-grey ¹	black	brown-grey ¹	brown-grey ¹	brown-grey ¹	grey	ivory ²	brown-grey ¹
Density	ISO 1183 / DIN 53479	g/cm ³	2.1	2.1	1.8	1.7	1.8	1.8	1.8	2.3	2.0	1.9
Filler			Al ₂ O ₃	Al ₂ O ₃	SiO ₂	SiO ₂ carbon black	SiO ₂	SiO ₂	SiO ₂	SiO ₂	Al ₂ O ₃	SiO ₂
Tensile strength	DIN EN ISO 527	MPa	65	45	70	>40	75	65	70	65	70	70
Flexural strength	DIN EN ISO 178	MPa	110	60	110	-	110	100	110	110	120	110
Flexural modulus of elasticity	DIN EN ISO 178	GPa	10	8	8	8	11	8.5	8	-	8	8
Charpy Impact strength	DIN EN ISO 179	kJ/m ²	2.2	1.6	2	-	1.4	1.7	1.7	1.5	-	1.8
Glass transition temperature T _g	IEC 1006	°C	120	120	120	150	155	150	120	130	145	120
Coefficient of thermal expansion (CTE) 25°C - 100°C	DIN 52328	10 ⁻⁶ / K	35	35	35	38-40	35	38	35	-	35	-
Relative permittivity ε _r 50 Hz	IEC 250 / 53483		6.5	5.5	4.5	-	3.2	4.0	3.2	5.5	6.0	3.5
Dissipation factor tan δ 50 Hz	IEC 250 / 53483	%	1	1	1	-	0.5	3.5	0.6	2.8	< 1	< 1
Volume resistivity	IEC 93	Ω cm	10 ¹⁵	10 ¹⁵	10 ¹⁵	4 · 10 ³	10 ¹⁵	10 ¹⁵	10 ¹⁵	10 ¹⁵	10 ¹⁵	10 ¹⁵
Surface resistivity		Ω	10 ¹⁵	10 ¹⁵	10 ¹⁵	-	10 ¹⁵	10 ¹⁵	10 ¹⁵	10 ¹⁵	10 ¹⁵	10 ¹⁵
Comparative tracking index CTI (Solution A)	DIN IEC 112	CTI	600	600	600	-	600	600	600	600	600	600
Process			APG / VCP	APG / VCP	APG / VCP	APG	APG / VCP	APG / VCP	APG / VCP	VCP	VCP	VCP
APG : Injection-casting process / VCP : Vacuum-casting process												
Resin systems		1402	Solid resin:	Bi-phenolic A epoxy resin		Solid hardener:	Phthalic acid anhydride					
		1441, 1442, 1443, 1444, 1447, 1448, 1451, 1462	Liquid resin:	Bi-phenolic A epoxy resin		Liquid hardener:	Carbonic acid anhydride hardener					
		1450	Liquid resin:	Cycloaliphatic epoxy resin		Liquid hardener:	Anhydride hardener					

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