

DPC-Epoxy resins for tooling and patternmaking

955

Handling data and final properties

DPC-Casting resins

System	GG		GS		GB	
DPC-Resin	GG	GG	GS	GS	GB	GB
DPC-Hardener	GR	GN	GR	S	GR	S
Properties	Grey, silicon-carbide filled resin, with high resistance to abrasion, hardly workable, non setting		Black, steel filled resin, with good abrasion resistance and high mechanical strength, well workable, non settling even after extended storage		Blue, steel powder filled resin, with good abrasion resistance, and high mechanical strength, well workable, non settling	
Applications	Foundry patterns and plates, milling patterns, jigs, deep drawing tools etc.		Foundry patterns, core boxes, gauges, jigs, fiberglass reinforced tools		Foundry patterns, core boxes, gauges, jigs, fiberglass reinforced tools, moulds, ram guides etc. With hardener 'S' and 'Aerosil' suitable for application as gelcoat resin	

Preparation/Processing

Mixing ratio	100 : X	parts b.w.	10	12	10	7	10	7
Mix viscosity (25°C)		mPa.s	5000 - 7000	15000 - 19000	6000 - 8000	19000 - 23000	5500 - 7500	19000 - 23000
Pot life (100g/25°C)		min.	50	50 - 60	50	15 - 20	50	15 - 20
Curing		h / °C	24 - 48 / RT	24 - 48 / RT	24 - 48 / RT	24 - 48 / RT	24 - 48 / RT	24 - 48 / RT
Postcuring		h / °C	7 d / RT	7 d / RT	7 d / RT	7 d / RT	7 d / RT	7 d / RT

Properties of cured material (24 h / RT + 2 h / 120°C)

Property	Unit	GG	GS	GB
Glass transition temperature TG	°C	67	82	67
Modulus of elasticity (Flex.)	DIN EN ISO 178 MPa	8120	6580	6670
Flexural strength	DIN EN ISO 178 MPa	105	96	95
Deflection (at break)	DIN EN ISO 178 mm	3,5	3,9	3,4
Tensile strength	DIN EN ISO 527-1,2 MPa	53	50	60
Elongation	DIN EN ISO 527-1,2 %	1,1	1,5	1,4
Impact strength	DIN ISO EN 179 kJ/mm ²	10 - 12	10 - 14	8 - 12
Hardness	DIN 53505 Shore D	89 - 90	88 - 90	89 - 90

System	GW		GHG		GTG	
DPC-Resin	GW	GW	GHG	GHG	GTG	GTG
DPC-Hardener	GR	TT	GR	GN	T	T
Properties	White, heavy duty resin for general purpose		Blue, low-cost casting and backing resin, well workable		Grey, aluminium filled resin, with high heat resistance, well workable	
Applications	Foundry patterns, core-boxes, milling patterns a.s.o.		Backings, pattern negatives, milling patterns etc.		Foundry patterns, milling patterns, moulds, fiberglass reinforced tools, vacuum deep drawing tools, jigs etc.	

Preparation/Processing

Mixing ratio	100 : X	parts b.w.	10	6	10	15	7
Mix viscosity (25°C)		mPa.s	5000 - 7000	13000 - 16000	5500 - 7500	15000 - 18000	10000 - 13000
Pot life (100g/25°C)		min.	50	40	70 - 80	70 - 80	50
Curing		h / °C	24 - 48 / RT	24 - 48 / RT	24 - 48 / RT	24 - 48 / RT	24 - 48 / RT
Post curing		h / °C	7 d / RT	7 d / RT	7 d / RT	7 d / RT	2 / 120

Properties of cured material (24 h / RT + 2 h / 120°C)

Property	Unit	GW	GHG	GTG
Glass transition temperature TG	°C	76	97	62
Modulus of elasticity (Flex.)	DIN EN ISO 178 MPa	6920	8130	5070
Flexural strength	DIN EN ISO 178 MPa	93	95	80
Deflection (at break)	DIN EN ISO 178 mm	2,6	2,3	3,4
Tensile strength	DIN EN ISO 527-1,2 MPa	51	44	35
Elongation	DIN EN ISO 527-1,2 %	0,8	0,6	1,0
Impact strength	DIN ISO EN 179 kJ/mm ²	5 - 7	6 - 8	7 - 9
Hardness	DIN 53505 Shore D	87 - 88	88 - 90	84 - 86

URESID-Polyurethane casting resins

System	25 R		26 G		28	
URESID	Comp. A	Comp. B	25 R	26 G	28	28 G
Properties	Red, solvent-free-quick-setting resin, with excellent mechanical properties, low shrinkage; tough and well workable		Green, multi-purpose quick-setting casting resin, less sensitive to moisture		Multi-purpose quick-setting resin. The white type 28 may be coloured BLUE or GREEN with our colour concentrates	
Applications	Multi-purpose, quick-setting resin for high-precision patterns, negatives, prototypes etc.		Patterns and moulds of all kinds, especially for embedding wood		Foundry patterns and moulds of all kinds, negative patterns, prototypes a.s.o.	

Preparation/Processing

Mix ratio	100 A : X B	parts b.w.	25	15	20	20
Pot life (100g/25°C)		min.	5 - 6	3 - 4	3 - 4	3 - 4
Demould time		min.	60 - 90	30 - 60	30 - 60	30 - 60
Curing		h / °C	5 / RT	2 - 3 / RT	2 - 3 / RT	2 - 3 / RT
Postcuring		h / °C	24 / RT	24 / RT	24 / RT	24 / RT

Properties of cured material (24 h / RT)

Property	Unit	25 R	26 G	28	28 G
Glass transition temperature TG	°C	55 - 60	ab. 50	ab. 50	ab. 50
Modulus of elasticity (Flex.)	DIN EN ISO 178 MPa	4000 - 4500	4000 - 4500	3000 - 3500	3000 - 3500
Flexural strength	DIN EN ISO 178 MPa	70 - 80	40 - 50	40 - 50	40 - 50
Deflection (at break)	DIN EN ISO 178 mm	4 - 4	2 - 2,5	2,5 - 3	2,5 - 3
Impact strength	DIN ISO EN 179 kJ/mm ²	7 - 9	4 - 5	5 - 6	5 - 6
Hardness	DIN 53505 Shore D	ca. 85	80 - 82	80 - 82	80 - 82