

Polycarbonate Resin

				Glass Fiber Reinforced					
Properties	Test Method	Terms	Units	GS-2010MR2	GS-2020MR2	GS-2030MR2	GS-2040MR2		
				GF	GF	GF	GF		
				10%	20%	30%	40%		
Physical properties									
Density	ISO 1183	-	g/cm ³	1.27	1.35	1.43	1.52		
Water absorption	-	23degC, Underwater	%	0.14	0.11	0.09	0.08		
Rheological properties									
Melt Mass-flow Rate	ISO 1133	Temperature	g/10min	8.8	8.5	5.7	3.7		
Melt Volume-flow Rate			cm ³ /10min	8.2	8.9	4.8	2.7		
			degC	300	300	300	300		
			kg	1.2	1.2	1.2	1.2		
Moulding shrinkage (3.2mmt)	-	MD	%	0.3 - 0.5	0.1 - 0.3	0.05 - 0.25	0.05 - 0.25		
		TD		0.4 - 0.6	0.3 - 0.5	0.25 - 0.45	0.2 - 0.4		
Mechanical properties									
Tensile modulus	ISO 527-1 , 527-2	-	MPa	4400	6200	8900	11700		
Yield stress					-	-	-	-	
Yield strain					%	-	-	-	-
Nominal strain at break						-	-	-	-
Stress at 50% strain					MPa	-	-	-	-
Stress at break						78	97	103	139
Strain at break			%	2.9	2.7	1.5	2.1		
Flexural strength	ISO 178	-	MPa	125	140	163	226		
Flexural modulus					3900	5800	8000	10800	
Charpy impact strength	ISO 179-1 , 179-2	23 degC	kJ/m ²	51	64	37	68		
Charpy notched						0	0	0	0
Charpy notched impact strength			23 degC	kJ/m ²	7	12	11	20	
				0	0	0	0		
Thermal properties									
Melting temperature	ISO 11357-3		degC	-	-	-	-		
Glass transition temperature	ISO 11357-2		degC	-	-	-	-		
Temperature of deflection under load	ISO 75-1 , 75-2	1.80MPa	degC	138	141	145	144		
		0.45MPa		145	146	148	149		
Vicat softening temperature	ISO 306		degC	-	-	-	-		
Coefficient of Linear thermal expansion	ISO 11359-2	MD	1/degC	4.0E-05	2.6E-05	1.8E-05	1.5E-05		
		TD		6.7E-05	6.3E-05	6.3E-05	6.1E-05		
Flammability	UL94	-	-	-	-	-	-		
Flammability	UL94	0.8mmt	-	-	-	-	-		
Flammability	UL94	1.6mmt	-	-	-	-	-		
Electrical properties									
Relative permittivity	IEC 60250	100Hz	-	-	-	3.6	-		
		1MHz		-	-	3.5	-		
Dissipation factor	IEC 60250	100Hz	-	-	-	0.0011	-		
		1MHz		-	-	0.0084	-		
Volume resistivity	IEC 60093	-	ohm-m	-	-	2E+14	-		
Surface resistivity	IEC 60093	-	ohm	-	-	2E+15	-		
Electric strength	IEC 60243-1	1mmt	MV/m	-	-	32	-		
		2mmt		-	-	-	-		
		3mmt		-	-	20	-		
Comparative tracking index	IEC 60112	-	-	200	200	150	200		
				GSV2010R2 (V-2) GSN2010R2 (V-0)	GSV2020R2 (V-2) GSN2020R2 (V-0)	GSV2030R2 (V-2) GSN2030R2 (V-0)	GSV2030R2 (V-2) GSN2040R2 (V-0)		

The listed properties are portrayed as general information only and are not product specifications.

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