

# Carbotex® Polycarbonate Resin

Properties	Standards	Test Conditions	Units	Super High Flow						Flame Retardant (Non-brominated)
				<ul style="list-style-type: none"> <li>• Standard</li> <li>• Mould Release</li> <li>• UV Stability</li> <li>• UV Stability + Mould Release</li> </ul>	<ul style="list-style-type: none"> <li>• Standard</li> <li>• Mould Release</li> <li>• UV Stability</li> <li>• UV Stability + Mould Release</li> </ul>					
				K-20T28 K-20MRA28 K-20UV28 K-20UVR28	K-20 K-20MRA K-20UV K-20UVR	K-30 K-30MRA K-30UV K-30UVR	K-40 K-40MRA K-40UV K-40UVR	K-50 K-50MRA K-50UV K-50UVR	K-30FR	K-30FRT12

## Mechanical Properties

Izod Impact Strength	ASTM D256	V-Notched 1/8" 23°C	J/m kgf•cm/cm ft•lbf/in	540 55 10	740 75 14	780 80 15	830 85 16	830 85 16	780 80 15	830 85 16
Tensile Strength at break	ASTM D638	---	MPa kgf/cm <sup>2</sup> lbf/in <sup>2</sup>	63 640 9100	63 640 9100	63 640 9100	63 640 9100	63 640 9100	63 640 9100	63 640 9100
Tensile Elongation at break	ASTM D638	---	%	120	120	120	120	120	120	120
Flexural Strength	ASTM D790	---	MPa kgf/cm <sup>2</sup> lbf/in <sup>2</sup>	85 870 12400	85 870 12400	85 870 12400	85 870 12400	85 870 12400	84 860 12200	84 860 12200
Flexural Modulus	ASTM D790	---	MPa kgf/cm <sup>2</sup> lbf/in <sup>2</sup>	2160 22000 313000	2160 22000 313000	2160 22000 313000	2160 22000 313000	2160 22000 313000	2160 22000 313000	2160 22000 313000
Rockwell Hardness	R scale	---	---	120	120	120	120	120	120	120

## Thermal Properties

Flammability	UL-94	---	---	V-2 (0.4mm)	V-2 (0.4mm)	V-2 (1.6mm)	V-2 (1.6mm)	V-2 (1.6mm)	V-0 (3.0mm)	V-0 (3.0mm)
Heat Deflection Temperature	ASTM D648	---	°C	129	131	132	133	134	132	133
			°F	264	267	269	271	273	269	271
Melt Flow Rate	ASTM D1238	300°C 1.2 kgf	g/10 min.	30	20	15	12	9	15	12

## Optical Properties

Light Transmittance	ASTM D1003	3.0mm	%	89	89	89	89	89	89	89
Light Refractive Index	ASTM D542	---	---	1.58	1.58	1.58	1.58	1.58	1.58	1.58
Haze	ASTM D1003	3.0mm	%	< 1	< 1	< 1	< 1	< 1	< 1	< 1

### Physical Properties

Specific Gravity	ASTM D792	---	---	1.20	1.20	1.20	1.20	1.20	1.20	1.20
Water Absorption	ASTM D570	24 hrs @23°C Water immersion	%	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Mould Shrinkage	ASTM D995	Parallel	%	0.5 ~ 0.7	0.5 ~ 0.7	0.5 ~ 0.7	0.5 ~ 0.7	0.5 ~ 0.7	0.5 ~ 0.7	0.5 ~ 0.7
		Across								

### Electrical Properties

Dielectric Breakdown Strength	ASTM D149	---	kV/mm	20	20	20	20	20	20	20
Dielectric Constant	ASTM D150	10 <sup>6</sup> Hz	---	2.9	2.9	2.9	2.9	2.9	2.9	2.9
Dielectric Dissipation Factor	ASTM D150	10 <sup>6</sup> Hz	---	0.009	0.009	0.009	0.009	0.009	0.009	0.009
Arc Resistance	ASTM D495	---	sec.	110	110	110	110	110	110	110
Volume Resistivity	ASTM D257	---	Ω · cm	10 <sup>16</sup>	10 <sup>16</sup>	10 <sup>16</sup>	10 <sup>16</sup>	10 <sup>16</sup>	10 <sup>16</sup>	10 <sup>16</sup>

To our best knowledge, the values contained herein are given in good faith. However, no warranty, express or implied is made nor is liability accepted in connection with this information. Actual values of each production lot may vary within normal tolerances. All properties give reserve the right to make additions, deletions, or modifications to the information at any time without prior notification. (27.12.2010)

<i>Retardant &amp; Non-chlorinated)</i>		<i>Food Contact</i>				<i>Extrusion</i>		<i>Glass Fibre Reinforced</i>				<i>Glass Fibre Flame R (Non-brominated &amp;</i>	
KFN-30	KFN-30T12	KV-20FD	KV-30FD	KV-40FD	KV-75FD	K-75E	K-75EUV	KG-10MRA	KG-15MRA	KG-20MRA	KG-30MRA	KGN-10MRA	KGN-15MRA
780 80 15	830 85 16	740 75 14	780 80 15	830 85 16	880 90 17	880 90 17	880 90 17	69 7 1.3	78 8 1.5	90 9 1.6	100 10 1.8	69 7 1.3	78 8 1.5
63 640 9100	63 640 9100	63 640 9100	63 640 9100	63 640 9100	63 640 9100	63 640 9100	63 640 9100	74 750 11000	98 1000 14200	108 1100 15600	127 1300 18500	74 750 11000	98 1000 14200
120	120	120	120	120	120	120	120	5	4.5	4	3	5	4.5
85 870 12400	85 870 12400	85 870 12400	85 870 12400	85 870 12400	88 900 12800	88 900 12800	88 900 12800	118 1200 17100	132 1350 19200	152 1550 22000	162 1650 23400	118 1200 17100	132 1350 19200
2160 22000 313000	2160 22000 311000	2160 22000 313000	2160 22000 313000	2160 22000 313000	2260 23000 327000	2260 23000 327000	2260 23000 327000	3530 36000 512000	4410 45000 639000	5690 58000 824000	7550 77000 1090000	3530 36000 512000	4410 45000 639000
120	120	120	120	120	120	120	120	---	---	---	---	---	---
V-0 (1.5mm)	V-0 (1.5mm)	---	---	---	---	V-2 (1.6mm)	V-2 (1.6mm)	V-0 (3.0mm)	V-0 (3.0mm)	V-0 (3.0mm)	V-0 (3.0mm)	V-0 (1.7mm)	V-0 (1.7mm)
132	133	131	132	134	135	135	135	140	143	145	146	140	143
269	271	267	269	273	275	275	275	284	289	293	294	284	289
15	12	20	15	10	4	4	5	---	---	---	---	---	---

Opaque	Opaque	89	89	89	89	89	89	Translucent	Translucent	Translucent	Translucent	Translucent	Translucent
---	---	1.58	1.58	1.58	1.58	1.58	1.58	---	---	---	---	---	---
---	---	< 1	< 1	< 1	< 1	< 1	< 1	---	---	---	---	---	---
1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.27	1.30	1.35	1.43	1.27	1.30
0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
0.5 ~ 0.7	0.5 ~ 0.7	0.5 ~ 0.7	0.5 ~ 0.7	0.5 ~ 0.7	0.6 ~ 0.8	0.6 ~ 0.8	0.6 ~ 0.8	0.3 ~ 0.5	0.3 ~ 0.5	0.3 ~ 0.4	0.2 ~ 0.4	0.3 ~ 0.5	0.3 ~ 0.5
								0.3 ~ 0.5	0.3 ~ 0.5	0.3 ~ 0.5	0.3 ~ 0.5	0.3 ~ 0.5	0.3 ~ 0.5
20	20	20	20	20	20	20	20	20	20	20	20	20	20
2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	3.2	3.2	3.2	3.2	3.2
0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.008	0.008	0.008	0.008	0.008	0.008
110	110	110	110	110	110	110	110	110	110	110	110	110	110
10 <sup>16</sup>	10 <sup>16</sup>	10 <sup>16</sup>	10 <sup>16</sup>	10 <sup>16</sup>	10 <sup>16</sup>	10 <sup>16</sup>	10 <sup>16</sup>	10 <sup>16</sup>	10 <sup>16</sup>	10 <sup>16</sup>	10 <sup>16</sup>	10 <sup>16</sup>	10 <sup>16</sup>

en are typical of uncolored PC and may be affected by colorants, other additives, the design of a mold/die, molding techniques applied, the size and shape of a molded article. In view of these factors, the properties do not relieve customers from carrying out their own inve

<i>Reinforced retardant &amp; Non-chlorinated)</i>		<i>Wear Resistance + Glass Fibre Reinforced</i>	<i>Wear Resistance + Glass Fibre Reinforced</i>	<i>Wear Resistance</i>	<i>Electrically Conductive</i>
KGN- 20MRA	KGN- 30MRA	KG-20F10	KG-30F15	K-30F5	K-30CF10

90 9 1.6	100 10 1.8	78 8 1.5	118 12 2.2	150 15 2.8	80 8 1.5
108 1100 15600	127 1300 18500	118 1200 17100	120 1220 17400	62 630 9000	118 1200 17000
4	3	4	3	100	118
152 1550 22000	162 1650 23400	132 1350 19200	127 1300 18400	84 860 12200	150 1530 21800
5690 58000 824000	7550 77000 1090000	5390 55000 782000	4900 50000 708600	2100 21500 306000	5700 58200 828000
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V-0 (1.7mm)	V-0 (1.7mm)	(Equiv. V-0) (1.7mm)	(Equiv. V-0) (1.7mm)	(Equiv. V-2) (1.6mm)	(Equiv. V-2) (1.6mm)
145	146	145	145	132	147
293	294	293	293	269	296
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Translucent	Translucent	Translucent	Translucent	Translucent	Opaque
---	---	---	---	---	---
---	---	---	---	---	---
1.35	1.43	1.41	1.57	1.22	1.24
0.2	0.2	0.2	0.2	0.2	0.2
0.3 ~ 0.4	0.2 ~ 0.4	0.3 ~ 0.4	0.3 ~ 0.4	0.5 ~ 0.7	0.3 ~ 0.5
0.3 ~ 0.5	0.3 ~ 0.5	0.3 ~ 0.5	0.3 ~ 0.5		0.3 ~ 0.5
20	20	20	20	20	
3.2	3.2	3.2	3.2	2.9	
0.008	0.008	0.008	0.008	0.008	
110	110	110	110	110	110
10 <sup>16</sup>	10 <sup>16</sup>	10 <sup>16</sup>	10 <sup>16</sup>	10 <sup>16</sup>	10 <sup>5</sup>

stigations and tests. It is entirely customer's responsibility to determine the suitability of any information for any contemplated use. We