

Table 8: Typical properties⁽¹⁾ – SI Units

Property	Unit	Radel®		Veradel®			Acudel®	ASTM Test Method
		R-5800 R-5500 R-5100 R-5000	RG-5030	A-301A A-201A	AG-320	AG-330	22000	
Mechanical								
Tensile strength	MPa	70	120	83	105	126	77	D638
Tensile modulus	GPa	2.34	9.17	2.65	5.70	8.62	2.69	D638
Tensile elongation								
at yield	%	7.2		6.5	3.2	1.9	6.7	D638
at break	%	60–120	2.4	25–75	3.2	1.9	25–75	D638
Flexural strength	MPa	105	173	111	145	179	108	D790
Flexural modulus	GPa	2.41	8.07	2.90	5.17	8.07	2.76	D790
Compressive strength	MPa	99		100	151	177		D695
Compressive modulus	GPa			2.68	6.03	7.72		D695
Shear strength	MPa	61		55	61	65	58	D732
Izod impact strength								
notched	J/m	694	75	53	59	75	106	D256
unnotched	J/m	NB ⁽²⁾	640	NB	640	530	NB	D256
Tensile impact	kJ/m ²	400		336	65	71		D1822
Rockwell hardness		R122		R127		R121		D785
Thermal								
Heat deflection temperature ⁽³⁾								
at 0.45 MPa	°C	214		214	218	220		D648
at 1.82 MPa	°C	207	210	204	214	216	197	D648
Vicat softening point	°C			214	217	218		D1525B
Thermal expansion coefficient	µm/m·°C	56	18	49	31	31	63	E831
Thermal conductivity	W/m·K	0.30		0.24		0.30	0.24	E1530
Glass transition temperature	°C	220	220	220	220	220	220 ⁽⁶⁾	DSC
Combustion ⁽⁴⁾								
Oxygen index	%	38		39	40	40	38	D2863
UL-94 rating at 0.8 mm		V-0		V-0	V-0	V-0		UL-94
Self-ignition temperature	°C			502				D1929
Electrical								
Dielectric strength	kV/mm	15	16	15	17	17	18	D149
Volume resistivity	ohm·cm	>10 ¹⁵	>9·10 ¹⁵	1.7·10 ¹⁵	>10 ¹⁶	>10 ¹⁶	>9·10 ¹⁵	D257
Dielectric constant								
at 60 Hz		3.44		3.51	3.84	4.11		D150
at 10 ³ Hz		3.45		3.50	3.84	4.13		D150
at 10 ⁶ Hz		3.45	3.90	3.54	3.88	4.17	3.40	D150
Dissipation factor								
at 60 Hz		0.0006		0.0017	0.0015	0.0019		D150
at 10 ³ Hz				0.0022	0.0018	0.0018		D150
at 10 ⁶ Hz		0.0076	0.0090	0.0056	0.0081	0.0094	0.0080	D150
Physical								
Specific gravity		1.29	1.53	1.37	1.51	1.58	1.28	D792
Refractive index		1.672		1.651				
Water absorption ⁽⁶⁾ at 24 hr	%	0.4	0.3	0.5	0.4	0.4	0.3	D570
Water absorption ⁽⁶⁾ at 30 days	%	1.1	0.7	1.8			0.8	D570

⁽¹⁾ Typical Values – Actual properties of individual batches will vary within specification limits

⁽²⁾ NB = no break

⁽³⁾ Annealed 3.2 mm bar

⁽⁴⁾ The data regarding combustion and combustibility are the results of small-scale laboratory tests and do not reflect the hazards of these or any other material under actual fire conditions

⁽⁵⁾ Value shown is value of major component

⁽⁶⁾ Measured from completely dry

Table 9: Typical properties⁽¹⁾ – US Customary Units

Property	Unit	Radel®		Veradel®			Acudel®	ASTM Test Method
		R-5800 R-5500 R-5100 R-5000	RG-5030	A-301A A-201A	AG-320	AG-330	22000	
Mechanical								
Tensile strength	kpsi	10.1	17.4	12.0	15.2	18.3	11.2	D638
Tensile modulus	kpsi	340	1,330	385	825	1,250	390	D638
Tensile elongation								
at yield	%	7.2		6.5	3.2	1.9	6.7	D638
at break	%	60–120	2.4	25–75	3.2	1.9	25–75	D638
Flexural Strength	kpsi	15.2	25.1	16.1	21.0	26.0	15.7	D790
Flexural modulus	kpsi	350	1,170	420	750	1,170	400	D790
Compressive strength	kpsi	14.4		14.5	21.9	25.6		D695
Compressive modulus	kpsi			388	875	1,120		D695
Shear strength	kpsi	8.8		8.0	8.8	9.5	8.4	D732
Izod impact strength								
notched	ft·lb/in	13.0	1.4	1.0	1.1	1.4	2.0	D256
unnotched	ft·lb/in	NB	12	NB	12	10	NB	D256
Tensile impact	ft·lb/in ²	190		160	31	34	175	D1822
Rockwell hardness		R122		R127		R121		D785
Thermal								
Heat deflection temperature ⁽³⁾								
at 66 psi	°F	417		417	424	428		D648
at 264 psi	°F	405	410	399	417	420	387	D648
Vicat softening point	°F			418	422	424		D1525B
Thermal expansion coefficient	μin/in°F	31	10	27	17	17	35	E831
Thermal conductivity	⁽⁵⁾	2.08		1.66		2.08	1.66	E1530
Glass transition temperature	°F	428	428	428	428	428	428 ⁽⁶⁾	DSC
Combustion ⁽⁴⁾								
Oxygen index	%	38		39	40	40	38	D2863
UL-94 rating at 0.031 inch		V-0		V-0	V-0	V-0		UL-94
Self-ignition temperature	°F			936				D1929
Electrical								
Dielectric strength	volts/mil	360	400	380	440	440	470	D149
Volume resistivity	ohm·cm	>10 ¹⁵	>9·10 ¹⁵	1.7·10 ¹⁵	>10 ¹⁶	>10 ¹⁶	>9·10 ¹⁵	D257
Dielectric constant								
at 60 Hz		3.44		3.51	3.84	4.11		D150
at 10 ³ Hz		3.45		3.50	3.84	4.13		D150
at 10 ⁶ Hz		3.45	3.90	3.54	3.88	4.17	3.40	D150
Dissipation factor								
at 60 Hz		0.0006		0.0017	0.0015	0.0019		D150
at 10 ³ Hz				0.0022	0.0018	0.0018		D150
at 10 ⁶ Hz		0.0076	0.0090	0.0056	0.0081	0.0094	0.0080	D150
Physical								
Specific gravity		1.29	1.53	1.37	1.51	1.58	1.28	D792
Refractive index		1.672		1.651				
Water absorption ⁽⁷⁾ at 24 hr	%	0.4	0.3	0.5	0.4	0.4	0.3	D570
Water absorption ⁽⁷⁾ at 30 days	%	1.1	0.7	1.8			0.8	D570

⁽¹⁾ Typical Values – Actual properties of individual batches will vary within specification limits⁽²⁾ NB = no break⁽³⁾ Annealed 0.125 inch bar⁽⁴⁾ The data regarding combustion and combustibility are the results of small-scale laboratory tests and do not reflect the hazards of these or any other material under actual fire conditions.⁽⁵⁾ Units are $\frac{\text{BTU} \cdot \text{in}}{\text{hr} \cdot \text{ft}^2 \cdot ^\circ\text{F}}$ ⁽⁶⁾ Value shown is value of major component⁽⁷⁾ Measured from completely dry