Properties of UNILATE™ 1

Item		Test method	Test condition	Unit	UNILATE PC standard type	UNILATE GC Ultra Thick type	UNILATE NC flame resisting type	UNILATE SC antistatic type	UNILATE CV Conductive type	UNILATE PR Rod type
Density		ASTM D792	-	-	1.63	1.61	1.74	1.6	1.56	1.54
Water absorption		ASTM D570	-	%	0.1	0.1	0.22	0.3	under 0.01	0.1
Weather resistance		-	-	-	O	O	O	O	O	O
Breaking strength	Vertical	ASTM D638	-	MPa	110	125	95	95	180	-
	Horizontal				65	60	55	55	65	-
Elongation	Vertical	ASTM D638	-	%	2.4	3	2	2.6	1.8	-
	Horizontal				1.9	2.3	1.4	2.3	1.7	-
Bending strength	Vertical	ASTM D790	-	MPa	220	230	190	205	330	160
	Horizontal				125	125	95	120	135	110
Bending modulus	Vertical	ASTM D790	-	GPa	11	11	9	9.5	16	6
	Horizontal				7	6	6	5.5	6	4.5
Compressive strength		ASTM D695	-	MPa	135	-	130	-	-	-
Shearing strength		ASTM D732	-	MPa	64	-	49	-	-	-
Impact strength (Izod)		ASTM D256	-	J/m	64	60	54	64	37	60
Rockwell hardness		ASTM D785	-	R scale	120	110	80	110	120	-
Deflection temperature under load		ASTM D648	0.45MPa	(°C)	235	215	235	235	220	210
Linear expansion coefficient	Vertical	ASTM D696	25-100(°C)	10^{-5}/(°C)	4	3.6	5	4.6	0.5	-
	Horizontal				7.4	9.6	8	10.6	8.5	-
Heat conductivity		ASTM C177	-	W/mk	0.51	0.34	0.31	0.35	0.53	-
Combustibility		UL-94	-	-	HB(0.6mm~)	HB equivalent	V-0 (0.6mm~)	HB equivalent	HB equivalent	HB equivalent
Long-term heat resistance		-	-	(°C)	120	120	120	-	120	-
Combustion calorie		-	-	J/kg	15,500	15,100	-	-	20,170	-
Ignition temperature		DSC-TG methods	-	(°C)	471	450	460	-	460	-
Dielectric breakdown strength		ASTM D149 Short-term method	Under ambient atmosphere	MV/m	37	40	34	35	-	-
			After water absorption		37	-	34	35	-	-
Surface resistivity		ASTM D257	-	Ω	1015	1015	1015	$10^{10\sim13}$	$10^{4\sim8}$	1015
Volume resistivity		ASTM D257	-	Ω•m	1013	1013	1013	$10^{10\sim13}$	$10^{3\sim7}$	1013
Insulation resistance		ASTM D257	-	Ω	8.8×10^{14}	3.5×10^{14}	3.8×10^{14}	2.3×10^{14}	1.5×10^{4}	-
Dielectric constant		ASTM D150	1MHz	-	3.8	4	3.6	3.7	-	-
Dielectric dissipation factor		ASTM D150	1MHz	-	0.025	0.03	0.019	-	-	-
Ark resistance		ASTM D495	-	sec	120	70	80	83	-	-
Tracking resistance		IEC112	-	V	275	225	200	200	-	-
Weak acid resistance		-	-	-	O	O	O	O	O	O
Strong acid resistance		-	-	-	Δ	Δ	Δ	Δ	Δ	Δ
Weak alkali resistance		-	-	-	Δ	Δ	Δ	Δ	Δ	Δ
NaOH resistance		-	-	-	X	X	X	X	X	X
Organic solvent resistance		-	-	-	O	Δ~O	O	Δ	Δ~O	O
Transparency			-	-	Opaque	Opaque	Opaque	Opaque	Opaque	Opaque