kuraray

PHYSICAL PROPERTIES OF PARAPET

Property	Test Method		Condition	Unit	Standard(Heat Resistance) Grade						Optical Grade		
					GF	G	EH	HR-L	HR-G	HR-F	GH-S	GH-K	HR-S
	ISO No.	JIS No.			High Flow	General	Extruson	Heat Resistant	Heat and solvent Resistant	Heat Resistant Good Flow	Ligh Guide Plate	High Flow	Heat Resistant
Optical													
Light transmission	ISO 13468-1	JIS K7361-1	3mm	%	92≦	92≦	92≦	92≦	92≦	92≦	92≦	92≦	92≦
Haze	ISO 14782	JIS 7136	3mm	%	≦0.3	≦0.3	≦0.3	≦0.3	≦0.3	≦0.3	≦0.3	≦0.3	≦0.3
Refractive Index Nd	ISO 489	JIS K7142	nd	—	1.49	1.49	1.49	1.49	1.49	1.49	1.49	1.49	1.49
Mechanical													
Tensile modulus	ISO 527-2	JIS K7162	1A/1	MPa	3300	3300	3300	3300	3300	3300	3300	3300	3300
Tensile strength at break	ISO 527-2	JIS K7162	1A/5	MPa	67	70	75	77	78	65	62	60	77
Tensile strain at break	ISO 527-2	JIS K7162	1A/5	%	3	4	7	5	7	3	2	2	5
Flexural modulus	ISO 178	JIS K7171	—	MPa	3300	3300	3300	3300	3300	3300	3300	3300	3300
Flexural stress at break	ISO 178	JIS K7171	—	MPa	108	110	125	128	126	100	90	80	114
Charpy impact strength/unnotched	ISO 179	JIS K7111	1eU	KJ/m^2	19	20	23	22	23	20	20	19	22
/notched	ISO 179	JIS K7111	1eA	KJ/m^2	1.3	1.3	1.4	1.4	1.4	1.3	1.3	1.2	1.4
Rockwell hardness	ISO 2039-2	JIS K7202	M scale	—	94	98	99	102	99	102	100	97	103
Thermal													
Deflection temperature under load/annealed	ISO 75-2	JIS K7191	1.80MPa	℃	86	93	100	101	94	101	95	95	101
Vicat softening point	ISO 306	JIS K7206	B50	℃	92	99	101	110	103	108	104	103	110
MFR	ISO 1133	JIS K7210	230℃ 37.3N	g/10min	15	8	1.3	2	0.6	5.5	10	22	2.4
Specific heat	—	JIS K7123	—	J（g·℃）	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Coefficient of linear expansion	—	JIS K7197	—	1/℃	$6\times10_{-5}$	$6\times10_{-5}$	$6\times10_{-5}$	$6\times10_{-5}$	$6\times10_{-5}$	$6\times10_{-5}$	$6\times10_{-5}$	$6\times10_{-5}$	$6\times10_{-5}$
Thermal conductivity	—	JIS KA1412	—	W/（m·℃）	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Electrical													
Surface resistivity	—	JIS K6911	—	Ω	$>10_{16}$	$>10_{16}$	$>10_{16}$	$>10_{16}$	$>10_{16}$	$>10_{16}$	$>10_{16}$	$>10_{16}$	$>10_{16}$
Volume resistivity	—	JIS K6911	—	Ωm	$>10_{13}$	$>10_{13}$	$>10_{13}$	$>10_{13}$	$>10_{13}$	$>10_{13}$	$>10_{13}$	$>10_{13}$	$>10_{13}$
Dielectric breakdown strength	—	JIS K6911	4kV/sec	MV/m	20	20	20	20	20	20	20	20	20
Dielectric onstant	—	JIS K6911	60Hz	—	4	4	4	4	4	4	4	4	4
Other													
Density	ISO 1183	JIS K7112	—	g/m^3	1.19	1.19	1.19	1.19	1.19	1.19	1.19	1.19	1.19
Water absorption at 23℃	ISO 62,method 1	—	24hr	%	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Molding shrinkage	ISO 294-4	JIS K7152-4	—	%	0.2～0.6	0.2～0.6	0.2～0.6	0.2～0.6	0.2～0.6	0.2～0.6	0.2～0.6	0.2～0.6	0.2～0.6
Flammability	UL94	—	—	class	HB	HB	HB	HB	HB	HB	HB	HB	HB
Burning velcity	—	JIS K6911	—	cm/min	3	3	3	3	3	3	3	3	3