

Basic Physical Properties

Physical property values according to new JIS standards

	Item	Test method	Unit	PARAGLAS™ Standard grade	COMOGLAS™ Standard grade	COMOGLAS™ KHC2	COMOGLAS™ HI70
General physical properties	pecific gravity	JIS K7112	—	1.19	1.19	1.19	1.17
	Water absorption rate	JIS K7209	%	0.3	0.3	0.3	0.3
	Combustion quality	JIS K6911 (Method A)	—	Flammable	Flammable	Flammable	Flammable
UL94		—	HB	HB	—	HB	
Optical properties	Total light transmittance	JIS K7361-1	%	92≤	92≤	92≤	91≤
	Haze	JIS K7136	%	0.2	0.2	0.2	1.0
	Refractive index	JIS K7142	—	1.49	1.49	1.49	1.49
Mechanical properties	Tensile strength	JIS K7161	MPa	76	73	73	49
	Tensile breaking strain	JIS K7161	%	6	5	5	20
	Flexural strength	JIS K7171	MPa	120	113	113	74
	Flexural modulus	JIS K7171	MPa	3200	3200	3200	2200
	Rockwell hardness	JIS K7202-2	M scale	100	97	97	61
	Charpy impact strength (No notches)	JIS K7110	KJ/m ²	18	17	17	80
Thermal properties	Specific heat capacity	JIS K7123	J/g·°C	1.5	1.5	1.5	1.5
	Deflection temperature under load	JIS K7191-2 (Method A)	°C	105	96	96	84
	Coefficient of linear expansion	JIS K7197	°C ⁻¹	7×10 ⁻⁵	7×10 ⁻⁵	7×10 ⁻⁵	8×10 ⁻⁵
Electrical properties	Surface resistivity	JIS K6911	Ω	>10 ¹⁶	>10 ¹⁶	>10 ¹⁶	>10 ¹⁶
	Charge half time	JIS L1094	sec	∞	∞	∞	∞
Durability	Taber wear*1	JIS K7204	Haze (%)	18	20	5	—
	Falling sand wear	ASTM D673	Haze (%)	50	52	3	—

* The above values are typical and are not guaranteed values.

1 MPa = 10.2 kgf/cm²

*1: The haze value was measured after rotating a cylindrical grindstone (CS-10F) with a load of 500 g, 100 times, on the product.

Weatherability

An accelerated exposure test was conducted to represent the discoloration in the initial stage of material deterioration by Hunter color difference (ΔE). There is little discoloration of PARAGLAS™ and COMOGLAS™, as shown in the table below.

Material	Accelerated exposure period			
	200hr	400hr	1000hr	2000hr
PARAGLAS™(transparent)	0.05	0.27	0.45	1.50
COMOGLAS™(transparent)	0.05	0.21	0.40	1.42
Hard polyvinyl chloride (transparent)	0.91	1.74	2.30	—
Hard polyvinyl chloride (milky white translucent)	1.84	2.00	2.22	—
Polystyrene	1.40	1.65	1.76	—
Polycarbonate	1.77	3.16	4.89	—
Polyester	1.30	1.65	1.75	—

ΔE expression method

ΔE value	Sensory expression of visual sensitivity	ΔE value	Sensory expression of visual sensitivity
0~0.5	Almost not discolored	3.0~6.0	Noticeably discolored
0.5~1.5	Slightly discolored	6.0~12.0	Considerably discolored
1.5~3.0	Discolored	12.0以上	Extremely discolored