

Physical Properties of PVC Plates

Evaluation Items		Product Types Unit		Standard PVC Plates						Standard PVC Plates				Heat-Resistant PVC Plates		Testing Methods
				Press lamination			Extrusion			Extrusion		Continuous Press		Press lamination		
				T938		TSP338	TS 608A	ET 1980		ETSP1388	ESS8800A	RTSP133PE	RTS110PE	HT928	HTL958 HTL358	
				Under 60 mm thickness	60 mm thickness or more											
Physical Properties	Specific Gravity	—	1.41	1.41	1.41	1.40	1.45		1.45	1.40	1.45	1.40	1.55	1.50 ⁻²	ISO 1183-1 and -2	
	Rockwell Hardness	M Scale	63	63	63	80	61		61	70	63	84	79	68	JIS K 7202	
		R Scale	117	117	117	120	113		113	119	117	123	121	118		
Mechanical Properties	Tensile Yield Stress	MPa	60	65	60	75	60		60	67	58	74	64	64	JIS K 7161-2-1B/50	
	Nominal Tensile Strain at Break	%	12	7	12	8	12		12	8	20	8	28	21		
	Tensile Elasticity	MPa	3000	3100	3000	3400	2800		2800	3100	3100	3200	2900	3000	JIS K 7161-2-1B/1	
	Charpy Notched Impact Strength	KJ/m ²	7.0	5.6	7.0	2.1	5.9		5.9	1.7	3.5	1.8	5.0	6.0	JIS K 7111-1 1epA	
	Flexural Stress	MPa	81	88	81	107	87		87	100	83	104	84	86	JIS K 7171	
	Flexural Elasticity	MPa	2800	3200	2800	3600	3100		3100	3300	3000	3500	2900	3000		
	Compressive Yield Stress	MPa	76	80	76	89	70		70	83	73	90	83	83	JIS K 7181-B/5	
	Compressive Elasticity	MPa	2200	2300	2200	2800	2400		2400	2500	2400	2800	2500	2400	JIS K 7181-A/1	
	Shear Fracture Stress ⁻¹	MPa	65	62	65	64	60		60	60	68	65	69	Unmeasurable	JIS K 7214	
Thermal Properties	Deflection Temperature under Load	°C	1.8MPa	74	63	74	63	72		72	65	75	62	94	86	JIS K 7191
	Vicat Softening Temperature	°C	Method B (50 N)	80	70	80	71	78		78	67	81	70	106	Unmeasurable	JIS K 7206
	Dimensional Change on Heating	%	Vertical	−3	−3	−3	−5	−2		−2	−4	−2	−2	−5	−4	JIS K 6745
			Horizontal	−2	−2	−2	−1	0		0	−1	−1	−1	−1	−1	
	Linear Thermal Expansion Coefficient	×10 ⁻⁶ ·K ⁻¹		6.5	6.9	6.5	6.6	7.1		7.1	7.5	6.1	6.5	6.5	6.7	JIS K 7197
	Thermal Conductivity	W/m·K		0.20	0.20	0.20	0.17	0.19		0.19	0.20	0.19	0.17	0.19	Unmeasurable	Laser flash method
	Specific Heat Capacity	J/g·K		1.11	1.20	1.11	1.10	1.12		1.12	1.20	1.12	1.08	1.05	Unmeasurable	JIS K 7123
Electrical Properties	Flame Resistance	—		Self-extinguishing						Self-extinguishing					JIS K 6911	
	Surface Resistivity	Ω/□		—						—					JIS K 6911	
	Volume Resistivity	Ω·m		10 ¹³ Ω or more						10 ¹³ Ω or more					JIS K 6911	
	Breakdown Strength	MV/m		17	18	17	17	16		16	19	13	17	18	Unmeasurable	JIS K 6911
	Permittivity (1 MHz)	—		3	3	3	3	3		3	3	3	3	3	Unmeasurable	JIS K 6911
	Dissipation Factor (1 MHz)	—		0.015	0.014	0.015	0.014	0.016		0.016	0.012	0.019	0.012	0.010	Unmeasurable	JIS K 6911
Optical Properties	Water Absorption	%		0.013	0.015	0.013	0.011	0.022		0.022	0.023	0.032	0.017	0.023	0.012	JIS K 7209
	Total Light Transmittance	%		—	—	—	85	—		—	75	—	86	—	—	JIS K 7361-1
	Hue (Color)	—		Gray		Ivory	Transparent	Gray		Ivory	Transparent	Ivory	Transparent	Dark gray	Gray Ivory	—

• The above data are a series of test results for a 5 mm thick specimen and given here without guarantee (values marked *1 refer to a test specimen that is 3 mm thick).

*2: For test specimens that are 5 mm or 8 mm thick, this value is 1.52, and for test specimens that are 10 mm thick, the value is 1.53.