

Comparison between properties of construction plastics

Properties	PE-HWU	PP-DWU	PVC	PVDF	PVC-C	E-CTFE	PPs
Density, g/cm ³ ISO 1183	0,955	0,915	1,44	1,78	1,54	1,68	0,95
Yield stress, MPa DIN EN ISO 527	22	32	58	55	53	31	32
Elongation at yield, % DIN EN ISO 527	9	8	3	8	4	4	8
Elongation at break, % DIN EN ISO 527	300	70	15	30	20	125	70
Tensile modulus of elasticity, MPa DIN EN ISO 527	800	1400	> 3000	1950	2300	1650	1300
Impact strength, kJ/m ² DIN EN ISO 179	without break	without break	without break	without break		without break	without break
Notched impact strength, kJ/m ² DIN EN ISO 179	12	7	4	12	7		6
Ball indentation hardness, MPa DIN EN ISO 2039-1	40	70	130	120	100	56	70
Shore hardness (D) ISO 868	63	72	82	78		74	72
Mean coefficient of linear thermal expansion, K E-1 DIN 53752	1,8 × 10 ⁻⁴	1,6 × 10 ⁻⁴	0,8 × 10 ⁻⁴	1,3 × 10 ⁻⁴	0,21 × 10 ⁻⁴	0,5 × 10 ⁻⁴	1,6 × 10 ⁻⁴
Thermal conductivity, W/m * K DIN 52612	0,38	0,22	0,159	0,14	0,021	0,15	0,22
Fire behaviour DIN 4102	normal inflammable	normal inflammable	B1 certification	B1 certification	certification FM 4910	low flammability	B1 certification
Dielectric strength, kV/mm DIN IEC 60243-1	47	52	39	25		14	22
Surface resistivity, Ohm DIN IEC 60093	10 ¹⁴	10 ¹⁴	10 ¹³	10 ¹³		10 ¹⁵	10 ¹⁴
Temperature range, °C	-50 to 0 + 80	0 to +100	0 to +60	-30 to + 140	-40 to +100	-40 to +150	0 to +100
Physiological safety in accordance with BfR	yes	yes	no	yes		yes	no

This information is, to the best of our knowledge, accurate and reliable to the date indicated. The above mentioned data have been obtained by tests we consider as reliable. We don't assure that the same results can be obtained in other laboratories, using different conditions by the preparation and evaluation of the samples.