Bay Plastics Datasheet

Polyvinyl Chloride - PVC

PVC is polyvinyl chloride and comes in many different forms. In general, PVC is light, water resistant, offers a long life cycle and does not require much maintenance. These excellent qualities makes PVC one of the most commonly used plastics today. General properties include fast fusion and good property flow with high heat stability. Excellent transparency, good surface of finished products and easy colouring.

Physical Properties	Test Method	Units	U-PVC	C-PVC
Specific Gravity (p)	DIN 53479	g/cm³	1.36	1.55
Water Absorption	DIN 53495	%	0.2	0.2
Chemical Resistance	DIN 53476	-	DIN 8061	DIN 8061
Max Permissible Service Temperature				
Upper Temperature Limit	-	°C	60	85
Lower Temperature Limit	-	°C	-5	-5

Mechanical Properties	Test Method	Units	U-PVC	C-PVC
Tensile Stress at Yield	DIN 53455	MPa	55	57
Elongation at Yield	DIN 53455	%	3	3
Tensile Strength at Break	DIN 53455	MPa	30	80
Elongation at Break	DIN 53455	%	33	15
Impact Strength	DIN 53453	kJ/m²	o.B.	o.B.
Notch Impact Strength	DIN 53453	kJ/m²	3	3
Ball Indentation / Rockwell Hardness	DIN 53456	MPa	120	150
Modulus of Elasticity	DIN 53457	MPa	3000	3000

Thermal Properties	Test Method	Units	U-PVC	C-PVC
Vicat Softening Temperature				
VST/B/50 VST/A/50 °C	DIN 53460	°C	75[2]	105
Heat Deflection Temperature				
HDT/B/HDT/A °C	DIN 53461	°C	72	102
Coefficient of Linear Thermal Expansion	DIN 53752	$k^{-1} \times 10^{-4}$	0.8	0.6
Thermal Conductivity at 20°C	DIN 52612	W/(m*k)	0.14	0.14

Electrical Properties	Test Method	Units	U-PVC	C-PVC
Volume Resistivity	DIN 53482	Ωx cm	$>10^{15}$	$>10^{15}$
Surface Resistivity	DIN 53482	Ω	$\geq 10^{13}$	$\geq 10^{13}$
Dielectric Constant at 1MHZ	DIN 53483	-	3	3
Dielectric Loss Factor at 1 MHZ	DIN 53483	-	0.01	0.01
Dielectric Strength	DIN 53481	kV/mm	20 - 40	20 – 40
Tracking Resistance	DIN 53480	-	KB 600	KB 600

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