

Material: Polyvinylchloride (hard)

Abbreviation: PVC-U



Short description of material:

An amorphous thermoplastic without plasticizer additives. PVC-U has high hardness and stiffness and can be welded and glued to from complex components.

Application examples:

- pump parts
- fixtures
- valve bodies
- conveyor stars
- construction parts in chemical Equipment

Colors: Grey.

Mechanical values		dry	
Density	ISO 1183	1,42	g/cm ³
Yield Stress	ISO 527	58	MPa
Elongation due to tearing	ISO 527	15	%
Modulus of elasticity resulting from tensile test	ISO 527	3.000	MPa
Modulus of elasticity resulting from bending test	ISO 178	--	MPa
Flexural strength	ISO 178	82	MPa
Impact strength ¹⁾	ISO 179	o.B.	kJ/m ²
Notched –bar impact strength	ISO 179	4	kJ/m ²
Ball indentation hardness H _{358/30}	ISO 2039-1	130	MPa
Creep rate stress at 1% elongation ²⁾	DIN 53 444	--	MPa
Sliding friction coefficient against steel (dry running) ³⁾	-----	0,60	-----
Sliding wear agents steel (dry running) ³⁾	-----	56,0	µm/km
Thermal values			
Melting temperature	ISO 3146	--	°C
Thermal conductivity	DIN 52612	0, 159	W/ (K·m)
Specific thermal capacity	-----	1,05	J/ (g·k)
Coefficient of linear expansion ⁴⁾	-----	8	10 ⁻⁵ ·K ⁻¹
Operating temperature range (long-term) ⁵⁾	-----	0 / +50	°C
Operating temperature range (short-term) ⁵⁾	-----	+70	°C
Fire behavior	UL 94	V- 0	-----
Electrical values			
Dielectric constant ⁶⁾	IEC 250	3,3	-----
Dielectric loss factor ⁶⁾	IEC 250	0,025	-----
Specific volume resistance	IEC 93	10 ¹⁶	Ω· cm
Surface resistance	IEC 93	10 ¹³	Ω
Dielectric strength	IEC 243	39	KV/mm
Creep current resistance	IEC112	KA 3b	----
Miscellaneous data			
Moisture absorption in normal climate until saturated	DIN 53 715	< 0, 01	%
Water absorption until saturated	ISO 62	< 0, 01	%

1; Measured with a pendulum impact testing machine 0,1 DIN 51 222

2; Tension resulting in 1% total elongation after 1.000 h

3; against steel, hardened and ground , P = 0,05 MPa,

V=0,6 m/s, t = 60 °C near running surface

4; For a temperature range of + 23 °C to + 60 °C

5; Experience values established with finished part that are not under any stress in heated air, depending on the type and from of heat exposure, short-term = max. 1 h long term = months

6; at 10⁶ Hz

w.b. = without breakage

1 MPa = 1 N/mm²

1 g/cm³ = 1.000 kg/m³

1 kV/mm = 1 MV/m

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