Infill for plastic windows
Sound insulation

FRINORM®

PVC Veka	Symbol	Test method	Unit	Value
Gross density	ρ_a	DIN EN ISO 1183	kg/m³	1400–1460
Thermal conductivity	λ_D	DIN 52612	W/mK	0.160
Modulus of elasticity		ISO 527	MPa	3000
Impact resistance		ISO 179/1eU	kJ/m²	Without break
Notch impact resistance		ISO 179/1eA	kJ/m²	9.0
Tensile strength		ISO 527	MPa	52
Bending strength		ISO 178	MPa	77.8
Shore hardness D		ISO 868		81
Surface resistance		DIN IEC 60167	ROE [Ω]	>2.00E+14
Contact resistance		DIN IEC 60093	RD [Ωcm]	1.74E+16
Dielectric strength		DIN IEC 243	[kV/mm]	16.8
Dielectric constant εr		DIN 53483		3.0–3.6
Expansion coefficient		DIN 53752	$[10^4/K]$	$7 \cdot 10^{-5}$
Compressive strength		DIN 53421	N/mm²	70
Vicat softening point		ISO 306 (B 50)	°C	72
Heat distortion temperature		ISO 75-2 (1.8 MPa)	°C	60
Water absorption		ISO 62 (after 216 hrs)	%	0.1

PVC Kömmerling	Symbol	Test method	Unit	Value
Gross density	ρ_a	DIN 53479/ISO 1183	kg/m³	~1430
Thermal conductivity	λ_D	DIN 52612	W/mK	0.160
Fire behaviour		DIN 4102 Fire index (CH)		B1 5.2
Tensile yield stress (tensile strength)		DIN 53455/ISO 527	MPa	≥45
Elongation at break		DIN 53455/ISO 527	%	≥20
Bending strength		DIN 53452/ISO 178	MPa	≥70
Compressive strength		DIN 53454/ISO 3605	MPa	≥60
Elastic modulus		DIN 53457 ISO 527-2/1A/50	MPa	≥2500
Notch impact resistance		DIN 53453 ISO 179/1ePa	kJ/m²	≥8
Impact resistance down to –40°C		DIN 53453/ISO 179	kJ/m²	Without break
Ball hardness (358 N/30 S)		DIN 53456/ISO 2039	MPa	~90
Shore hardness D		DIN 53505		78
Vicat softening point		DIN 53460/ISO 306 Method B50	°C	≥72
Heat distortion temperature		DIN 53461/ISO 75	°C	~66
Linear expansion coefficient, –30°C to +50°C		DIN 53752 Method Ae	mm/mK	0.08
Dielectric constant E (at 1 kHz)		VDE 0303 T4		3.4
Dielectric loss factor tan δ (at 1 kHz)		VDE 0303 T4		0.016
Surface resistance		DIN VDE 0303 T30 DIN IEC 93	Ω	>10^{15}
Specific contact resistance		DIN VDE 0303 T30 DIN IEC 93	Ωm	>10^{14}
Dielectric strength		DIN VDE 0303 T21 1 mm board	kV/mm	≥27
Tracking		DIN IEC 112	Level	CTI 600
Arc resistance		DIN VDE 0303 T5	Index number	2.2.2.2
Water absorption after 7 days		DIN 53495	%	<0.08
Physiological assessment				Unobjectionable

PVC Finstral	Symbol	Test method	Unit	Value
Gross density	ρ_a	DIN 53479/ISO 1183	kg/m³	~1410
Thermal conductivity	λ_D		W/mK	0.160
Fire behaviour		DIN 4102 (D)		B1
Tensile yield stress		DIN 53455/ISO 527	N/mm²	45
Elongation at break		DIN 53455/ISO 527	%	20
Elasticity modulus		DIN 53457/ISO 527-2	N/mm²	2500
Compressive strength		DIN 53454/ISO 3605	N/mm²	65
3.5% bending stress		DIN 53452/ISO 178	N/mm²	60
Impact resistance		DIN 53453/ISO 179	kJ/m²	No break at –20 °C
Notch impact resistance		DIN 53453/ISO 179	kJ/m²	8
Flexural creep modulus Time under stress: 1 year Bending stress: <5 N/mm²			N/mm²	20°C ~1700 40°C ~1100 60°C ~300
Ball hardness		DIN 53456/ISO 2039	N/mm²	~120
Vicat softening point		DIN 53460/ISO 306 Method B50	°C	75
Heat distortion temperature		DIN EN ISO 75 Method A	°C	~70
Heat distortion temperature		DIN EN ISO 75 Method B	°C	~74
Linear expansion coefficient, 20°C to 60°C		DIN 53752	K⁻¹	~70·10⁻⁶
Specific contact resistance		DIN IEC 60093 VDE 0303-30	Ωcm	>10¹⁵
Surface resistance		DIN IEC 60093 VDE 0303-30	Ω	>10¹³
Dielectric constant εr		DIN 53483 VDE 0303, part 4	At 1 kHz	~3.2
Dielectric loss factor tan δ		DIN 53483 VDE 0303, part 4	At 1 kHz	~0.02
Tracking		DIN IEC 112 VDE 0303, part 1	CTI	600
Dielectric strength		DIN 53481 VDE 0303, part 2	kV/mm Sample: 3 mm thick	≥12
Water absorption		DIN 53495/ISO 62 Method CL/100	mg/cm²	≤3
Service temperature range		Benchmark		–30°C to +60°C
Resistance to weather (Radiation dosage: 0.8 MJ/cm² in xenon 450)		DIN 53387 DIN EN 20105-A02 Grey scale		Level 4–3 (white only)
Physiological harmlessness				No

Glass wool	Symbol	Test method	Unit	Value
Gross density	ρ_a		kg/m³	70
Thermal conductivity	λ_D	DIN EN 12667	W/mK	0.036
Fire behaviour		DIN EN 13501-1		6q.3/A1
Water vapour diffusion		DIN EN 12086		MU1
Thickness tolerance category		DIN EN 13162		T2
Application temperature			°C	≤250
Airflow resistivity		DIN EN 29053	kPa·s/m²	>5 (AF5)
Compression stress CS(10)i		DIN EN 826	kPa	>10

Heavy bitumen foil	Symbol	Test method	Unit	Value
Gross density	ρ_a		kg/m^3	10
Maximum temperature resistance			°C	160
Resistance to cold			°C	−25

Plywood	Symbol	Test method	Unit	Value
Gross density	ρ_a	EN 323	kg/m^3	~420
Thermal conductivity	λ_D		W/mK	0.130
Emission category		UNI EN 717/2	mg HCHO/m²h	E1
Bending strength (longitudinal)		EN 310	N/mm^2	24
Bending strength (lateral)		EN 310	N/mm^2	30
Elasticity modulus (longitudinal)		EN 310	N/mm^2	2800
Elasticity modulus (lateral)		EN 310	N/mm^2	3800