

TECANYL VH2 grey - Stock Shapes (rods, plates, tubes)

Chemical Designation

PPE (Polyphenylene ether)

Colour

grey opaque

Density

1.1 g/cm³

Fillers

flame retardant (halogen free)

Main features

- flame retardant as per FAR 25.853
- excellent dimensional stability
- very good chemical resistance
- flame retardant according to UL94 V-0
- low smoke emissions
- low moisture absorption
- good electrically insulating

Target Industries

- aircraft and aerospace interiors
- aircraft and aerospace technology
- Railway Interiors
- transportation

Mechanical properties	parameter	value	unit	norm	comment
Tensile strength	50 mm/min	57	MPa	DIN EN ISO 527-2	(1) For tensile test: specimen type 1b
Modulus of elasticity (tensile test)	1mm/min	2300	MPa	DIN EN ISO 527-2	(1) (2) For flexural test: support span 64mm, norm specimen.
Tensile strength at yield	50mm/min	57	MPa	DIN EN ISO 527-2	(3) Specimen 10x10x10mm
Elongation at yield (tensile test)	50mm/min	14	%	DIN EN ISO 527-2	(4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.
Elongation at break (tensile test)	50mm/min	22	%	DIN EN ISO 527-2	(5) For Charpy test: support span 64mm, norm specimen.
Flexural strength	2mm/min, 10 N	95	MPa	DIN EN ISO 178	(2) (6) Specimen in 4mm thickness
Modulus of elasticity (flexural test)	2mm/min, 10 N	2070	MPa	DIN EN ISO 178	
Compression strength	1% / 2% / 5%	19/34/78	MPa	EN ISO 604	3)
Compression modulus	5mm/min	1300	MPa	EN ISO 604	4)
Impact strength (Charpy)	max. 7.5J	96	kJ/m ²	DIN EN ISO 179-1eU	5)
Notched impact strength (Charpy)	max. 7.5J	11	kJ/m ²	DIN EN ISO 179-1eA	
Ball indentation hardness		141	MPa	ISO 2039-1	6)
Thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		151	°C	DIN EN ISO 11357	(1) Found in public sources.
Service temperature	long term	85	°C	-	Individual testing regarding application conditions is mandatory.
Service temperature	short term	110	°C	-	1)
Thermal expansion (CLTE)	23-60°C, longitudinal	8,1	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	23-100°C, longitudinal	8,1	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Other properties	parameter	value	unit	norm	comment
Water absorption	24h / 96h (23°C)	0.09/0.15	%	DIN EN ISO 62	(1) passed, 3 mm specimen
Flammability	60 sec. Vertical Bunsen Burner test FAR 25.853 Appx F, Prt 1, (a), 1, (Air)	+		FAR 25.853	(1) (2) Units: 1.5 mm
Flammability (UL94)		V0		-	(3) ASTM Test Method 60695-2
Flammability	Glow Wire Flammability Index 960°C passes @	1.0	mm	-	(4) ASTM Test Method 60695-2
Flammability	Glow Wire Ignitability Temp, 1.0 mm	775	°C	-	(5) ASTM Test Method 60695-2
Flammability	Glow Wire Ignitability Temp, 1.5 mm	775	°C	-	(7) ASTM Test Method 60695-2
Flammability	Glow Wire Ignitability Temp, 2.0 mm	775	°C	-	(8) passed, FAA Smoke Density Test (resin data)
Flammability	Glow Wire Ignitability Temp, 3.0 mm	800	°C	-	(9) passed, Toxicity - Draeger Tube (resin data)
Flammability	FAR 25.853 Appx F, Prt 1, (a), 1, (Air)	+		FAR 25.853	(10) Flame Spread Index
Flammability	FAR 25.853 Appx F, Prt 1, (a), 1, (Air)	+		-	(11) passed, FAR 25.853
Flammability	ASTM E 162 (rail)	~15		-	(12) passed, FAR 25.853
Flammability	ASTM E 662 (Air/Rail) Ds @ 1.5 min	11-13		-	
Flammability	ASTM E 662 (Air/Rail) Ds @ 4.0 min	20-40		-	

Our information and statements reflect the current state of our knowledge and shall inform about our products and their applications. They do not assure or guarantee chemical resistance, quality of products and their merchantability in a legally binding way. Our products are not defined for use in medical or dental implants. Existing commercial patents have to be observed. The corresponding values and information are no minimum or maximum values, but guideline values that can be used primarily for comparison purposes for material selection. These values are within the normal tolerance range of product properties and do not represent guaranteed property values. Therefore they shall not be used for specification purposes. As the properties depend on the dimensions of the semi-finished products and the orientation in the component (esp. in reinforced grades), the material may not be used without a separate testing under individual circumstances. The customer is solely responsible for the quality and suitability of products for the application and has to test usage and processing prior to use. Data sheet values are subject to periodic review, the most recent update can be found at www.ensingerplastics.com. Technical changes reserved.