

# TECANYL® VH2 Black

Tough, dimensionally stable, PPE with excellent flammability characteristics



TECANYL® VH2 Black is an aerospace-grade PPE (polyphenylene ether) thermoplastic with outstanding toughness, dimensional stability, and flammability characteristics. It is often specified for aircraft applications where tight dimensional tolerances and durability are required.

TECANYL® VH2 is frequently used instead of aluminum or thermoset composite materials to achieve weight savings for aircraft interior applications with light mechanical loads. Unlike thermoset composites, TECANYL® VH2 can be recycled, resulting in more environmentally sustainable aircraft designs.

## TECANYL® VH2 Black is widely used for:

- Aircraft interior wall spacers
- Seat tracks
- Panels, guides, and mounting brackets for electrical and electronic components
- Spacers and mounting brackets for air ducting

## Performance characteristics:

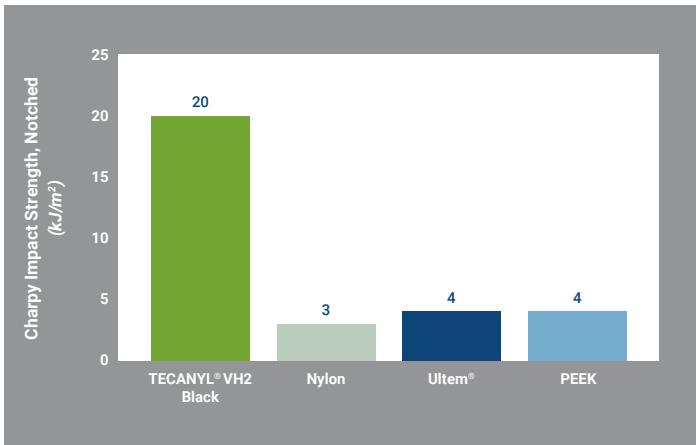
- Dimensional stability
- Toughness and durability
- Excellent flammability characteristics
- Lower cost than other high performance polymers including PEEK and Torlon® PAI
- Lightweight - less than half the density of aluminum
- Can be recycled

## Available in:

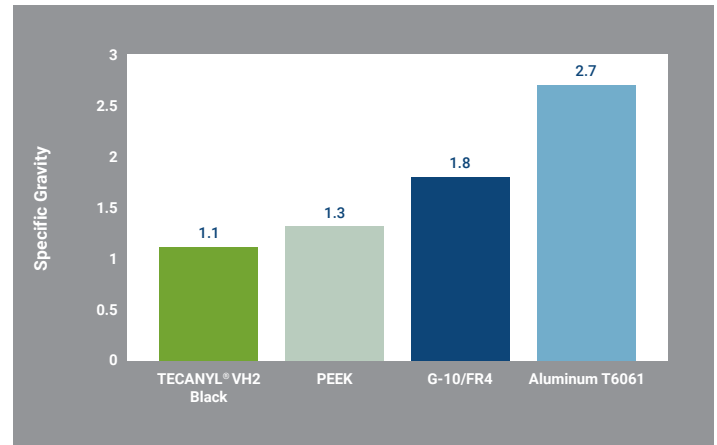


Sheet

Charpy Impact Strength (Notched) of TECANYL® VH2 Black and Other Thermoplastics



Specific Gravity of TECANYL® VH2 Black and Other Materials



## TYPICAL PROPERTIES OF TECANYL® VH2 BLACK

	UNITS	TEST METHOD	TECANYL® VH2 BLACK
<b>MECHANICAL</b>			
Tensile Strength at Yield Type I, 50 mm/min	MPa	ASTM D638	64
Tensile Strength at Break, Type I, 50 mm/min	MPa	ASTM D638	53
Tensile Elongation at Yield Type I, 50 mm/min	%	ASTM D638	4.6
Tensile Elongation at Break, Type I, 50 mm/min	%	ASTM D638	20
Tensile Modulus, 5 mm/min	MPa	ASTM D638	2220
Flexural Strength at Yield, 1.3 mm/min, 50 mm span	MPa	ASTM D790	100
Flexural Modulus, 1.3 mm/min, 50 mm span	MPa	ASTM D790	2390
Izod Impact, notched, 23°C	J/m	ASTM D256	300
<b>THERMAL</b>			
HDT, 1.82 MPa, 3.2 mm	°C	ASTM D648	122
CTE, -40°C to 40°C	1/°C	ASTM E831	6.70E-05
Relative Temp Index, Elec	°C	UL 746B	130
Relative Temp Index, Mech w/impact	°C	UL 746B	65
Relative Temp Index, Mech w/o impact	°C	UL 746B	130
<b>PHYSICAL</b>			
Specific Gravity	-	ASTM D792	1.11
Water Absorption, (23°C/saturated)	%	ISO 62-1	0.2
<b>FLAMMABILITY CHARACTERISTICS</b>			
UL Recognized, 94V-0 Flame Class Rating	mm	UL 94	≥1.5
Glow Wire Flammability Index, 1.0 mm	°C	IEC 60695-2-12	960
Glow Wire Flammability Index, 1.5 mm	°C	IEC 60695-2-12	960
Glow Wire Flammability Index, 2.0 mm	°C	IEC 60695-2-12	960
Glow Wire Flammability Index, 3.0 mm	°C	IEC 60695-2-12	960
Glow Wire Ignitability Temperature, 1.0 mm	°C	IEC 60695-2-13	775
Glow Wire Ignitability Temperature, 1.5 mm	°C	IEC 60695-2-13	775
Glow Wire Ignitability Temperature, 2.0 mm	°C	IEC 60695-2-13	775
Glow Wire Ignitability Temperature, 3.0 mm	°C	IEC 60695-2-13	800
Flame Spread Index (1.52 mm)	-	ASTM E162	15
Vertical Burn a (60s, 1.52 mm) passes at	Seconds	FAR 25.853	0
Vertical Burn b (12s, 1.52 mm) passes at	Seconds	FAR 25.853	4
NBS Smoke Density, Flaming, 4 min (1.52 mm)	-	ASTM E662	30
Draeger Tube Toxicity, Flaming (1.52 mm)	-	ASTM E662 - Modified	Pass
NBS Smoke Density, Non-Flaming, 4 min (1.52 mm)	-	ASTM E662	7
Draeger Tube Toxicity, Non-Flaming (1.52 mm)	-	ASTM E662 - Modified	Pass

TECANYL® VH2 Black typical property values based on preliminary data.