



Ultrafuse[®] PPSU

flame retardant | hot steam
sterilizable | high temperature
stability

Extended TDS

Complete Technical Documentation and
Testing Summary

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Are you looking for an updated TDS version? Check out the latest online version here.	

Technical Data Sheet

Outstanding thermal stability, good chemical resistance and high strength are the key features of Ultrafuse® PPSU.

Filament Properties

Filament Diameter	1.75 mm
Average diameter Tolerance	±0.050 mm
Average ovality	<0.050 mm
Available Spool size	750 g, 2.5 kg
Available colors	Natural yellow/brown

Spool Properties

Spool size	750 g	2.0 kg	4.0 kg	8.0 kg
Outer diameter	200 mm	300 mm	350 mm	355 mm
Inner diameter	50.5 mm	51.5 mm	51.7 mm	36 mm
Width	55 mm	103 mm	103 mm	167 mm

Recommended 3D-Print processing parameters

Used for test specimens

Printer	FFF printer	GEWO HTP 260
Nozzle Temperature ¹⁾	390 – 410 °C	410 °C
Build Chamber Temperature	170 – 210 °C	190 °C
Bed Temperature	200 – 220 °C	220 °C
Bed Material	Glass (Vision Miner Nano Polymer Adhesive can increase bed adhesion)	Glass
Nozzle Diameter	≥ 0.4 mm	0.4 mm
Print Speed	25 – 100 mm/s	25 mm/s

Please check your standard and/or high speed print profile availability for an easy start at www.forward-am.com.

¹ Fast printing might require an additional increase of the nozzle temperature; the stated printing speed is based on current validations. As equipment and technology continues to evolve, it is possible that even higher printing speeds may be attainable in the future.

The data contained in this publication are based on our current knowledge and experience. In view of the many factors that may affect processing and application of our product, these data do not relieve processors from

carrying out their own investigations and tests; neither do these data imply any guarantee of certain properties, nor the suitability of the product for a specific purpose. Any descriptions, drawings, photographs, data, proportions, weights etc. given herein may change without prior information and do not constitute the agreed contractual quality of the product. It is the responsibility of the recipient of our products to ensure that any proprietary rights and existing laws and legislation are observed. Values in this document are average values, measured and calculated according to the instructions in the listed standards. The used specimens are produced with the Fused Filament Fabrication method. Measured values can vary depending on used print orientation and print parameters.

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Process materials in a well-ventilated room, or use professional extraction systems.

Further Recommendations

Drying recommendations to ensure printability and best mechanical properties²⁾

Ultrafuse® PPSU can be dried in a vacuum dryer at 125 °C / 257 °F for 8 hours and should be stored in a closed box, filled with desiccant bags, during printing. High moisture content is visible by bubbles in the material after the melting process.

Support material compatibility

Single material breakaway
Intamsys SP5080 breakaway

General Properties	Standard	Average Values
Filament Density ³⁾	ISO 1183-1	1194 kg/m ³

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²⁾ Please note: To ensure constant material properties the material should always be kept dry.

³⁾ measured on filament

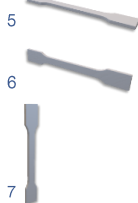
Tensile Properties ⁴⁾	Standard	Average Values		
		XY-Direction ⁵⁾	XZ-Direction ⁶⁾	ZX-Direction ⁷⁾
Tensile strength ⁸⁾	ISO 527	74.5 MPa	-	49.0 MPa
Elongation at Break ⁸⁾	ISO 527	7.3%	-	2.9%
Young's Modulus ⁹⁾	ISO 527	2221 MPa	-	2150 MPa

Flexural Properties ⁴⁾ ¹⁰⁾	Standard	Average Values		
		XY-Direction	XZ-Direction	ZX-Direction
Flexural Strength	ISO 178	105 MPa	114 MPa	88.9 MPa
Flexural Modulus	ISO 178	1940 MPa	1910 MPa	1700 MPa
Flexural Elongation at Break	ISO 178	No break	No break	6.8%

Impact Properties ⁴⁾	Standard	Average Values		
		XY-Direction	XZ-Direction	ZX-Direction
Impact Strength Charpy (notched)	ISO 179-2	21.8 kJ/m ²	15.0 kJ/m ²	5.7 kJ/m ²
Impact Strength Charpy (unnotched)	ISO 179-2	224.8 kJ/m ²	270.5 kJ/m ²	16.3 kJ/m ²
Impact Strength Izod (notched)	ISO 180	13.7 kJ/m ²	15.8 kJ/m ²	5.3 kJ/m ²
Impact Strength Izod (unnotched)	ISO 180	No break	No break	21.0 kJ/m ²

For the diagrams on mechanical properties see Chapter: [Mechanical Properties Diagrams](#)

⁴⁾ Samples were conditioned in standard climate (23°C, 50% RH 72h)



⁸⁾ Testing speed: 5 mm/min

⁹⁾ Testing speed: 1 mm/min

¹⁰⁾ Testing speed: 2 mm/min

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Process materials in a well-ventilated room, or use professional extraction systems

Thermal Properties ⁶⁾	Standard	Average Values
HDT A at 1.8 MPa	ISO 75-2	211 °C
HDT B at 0.45 MPa	ISO 75-2	215 °C
Vicat softening point at 50 N	ISO 306	217 °C
Vicat softening point at 10 N	ISO 306	220 °C
Glass Transition Temperature	ISO 11357-2	222 °C
Melt Volume-Flow Rate (MVR)	ISO 1133	15.35 cm ³ /10 min (360 °C, 5 kg)
Melt Mass-Flow Rate (MFR)	ISO 1133	13.2 g/10 min (360 °C, 5 kg)
Coefficient of Thermal Expansion	ISO 11359-2	55 E-6/K

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Fire, Smoke, Toxicity (FST) properties ⁶⁾	Standard	Average Values
Flammability F1 60 sec. vertical	FAR 25.853 (a)	PASS (1.60 mm) PASS (6.35 mm)
Flammability F2 12 sec. vertical	FAR 25.853 (a)	PASS (1.60 mm) PASS (6.35 mm)
Fire protection on railway vehicles	EN45545-2-2016	R7 HL1-2 (1.5 mm) R7 HL1-2 (3.0 mm) R23 HL1-3 (1.5 mm) R23 HL1-3 (3.0 mm) R24 HL1-3 R26 HL1-3 (1.5 mm) R26 HL1-3 (3.0 mm)
Optical Smoke Density	FAR 25.853 (d)	PASS (1.0 mm) PASS (4.5 mm)
Smoke Toxicity	AITM 3.0005	PASS (1.0 mm) PASS (4.5 mm)
Flame class rating	UL 94	V-0 (1.5 mm) V-0 (3.0 mm)
Glow wire test (GWEPT)	IEC 60695-2-11	960 °C (1.5 mm) 960 °C (3.0 mm)
HR Total Heat Release [KW*min/m ²]	FAR 25.853 (d)	PASS (1.0 mm) PASS (4.5 mm)
HRRmax Maximum Heat Release Rate [KW/m ²]	FAR 25.853 (d)	PASS (1.0 mm)

Electrical Properties ⁶⁾	Standard	Average Values		
		XY-Direction	XZ-Direction	ZX-Direction
Dielectric Strength (orthogonal)	IEC 60243-1	18.5 kV/mm	-	-
Volume Resistivity	IEC 62631-3-1	2.6E+15 Ω cm	-	-
Specific Surface resistivity	IEC 62631-3-2	4.1E+15 Ω	-	-

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Hardness and Abrasion	Standard	Typical Values
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Shore Hardness D (15s)	DIN ISO 7619-1	77
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Biocompatibility	Standard	Typical Values
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Food Contact Certification (FCC)	The used raw materials comply with food contact regulations of the European Parliament and the Food and Drug Administration	EC 1935/2004 EU 2023/1442 FDA 21 CFR
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For the statement on Fire protection on railway vehicles, see Chapter [Fire protection on railway vehicles data](#)

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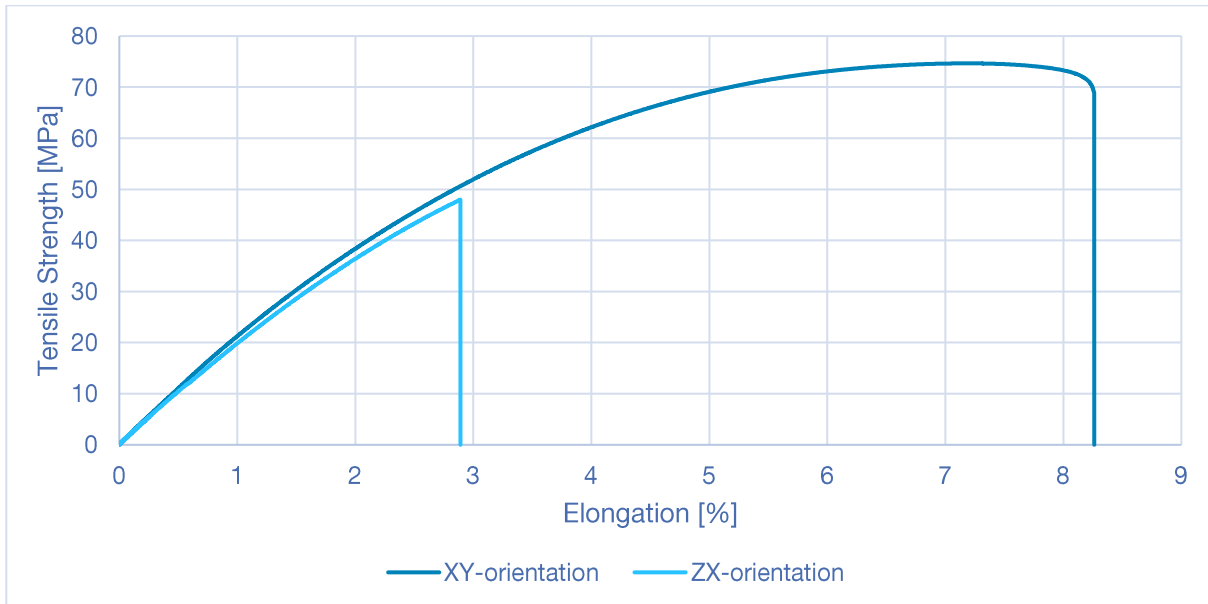
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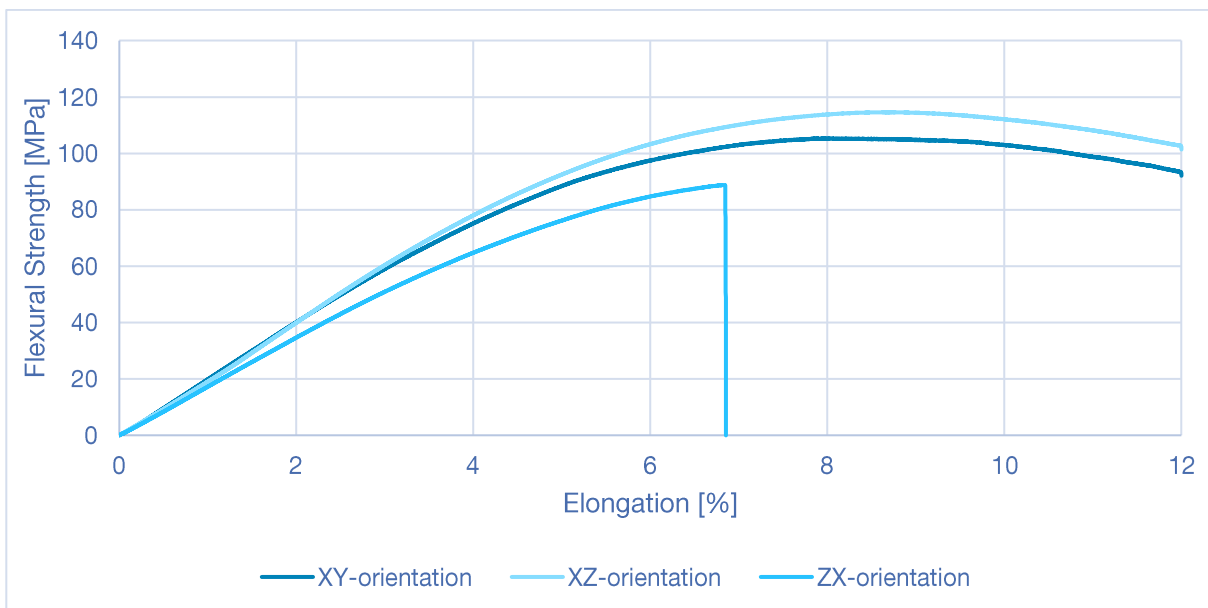
Mechanical Properties Diagrams

Tensile Strength



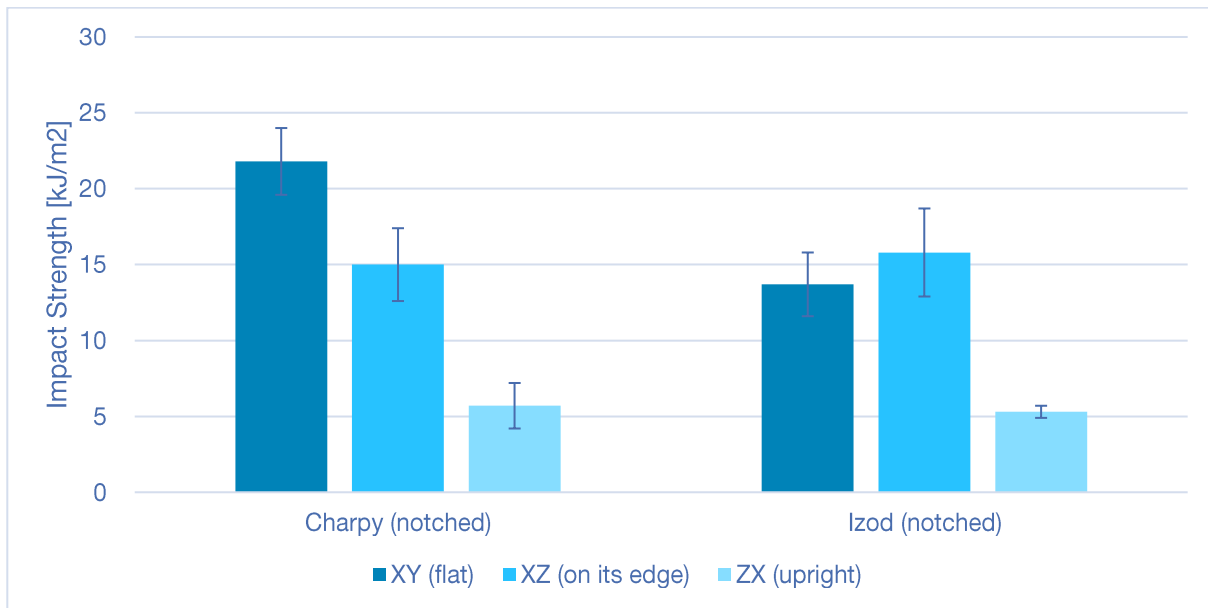
Typical Tensile Stress-Strain curves for the XY and ZX print orientation.

Flexural Strength



Typical Flexural Stress-Strain curves for the XY and ZX print orientation.

Impact Strength



Impact Strength data for the XY, XZ and ZX print orientation.

Industrial Chemical Resistance

The resistance of materials against chemicals, solvents and other contact substances is an important criterion of selection for many industrial applications. General chemical resistance depends on the period of exposure, the temperature, the quantity, the concentration and the type of the chemical substance. When exposed to industrial chemicals, the chemical bonds of polymers can break or degrade, causing a change in the mechanical properties.

Test Method and Specimens

Ultrafuse® PPSU has an outstanding stability against a brought variety of chemicals. The following tables show results of chemical ageing tests, based on injection molded tensile bars which were clamped on a bending block with a diameter of 265mm. With the applied bending stress, the specimens have been brought into contact with different media to assess the influence of these substances on the stress crack formation (damage).

The rating was done in 5 categories:

0: no cracks

4: broken test bar

The performed tests are separated into the categories

- Chemical resistance at room temperature.
- Resistance against adhesives and sealants.
- Resistance against animal and vegetable fats.
- Resistance against dishwasher detergents

Chemical Resistance (based on raw material information)			
Media	Conc. [wt-%]	Time	Rating
Acetic Acid	10	1 min	0
	10	24 h	0
	100	1 min	1
Acetone	100	1 min	4
AdBlue (Urea solution)	100	1 min	0
Building foam: Hornbach Universal B2 (Polyurethane foam)	100	1 min	0
	100	24 h	0

Chemical Resistance (based on raw material information)			
Media	Conc. [wt-%]	Time	Rating
Calcium chloride	20	1 min	0
	sat.	24 h	0
Citric acid	10	1 min	0
	10	24 h	0
	50	1 min	0
	50	24 h	0
Cleaning agent: Deconex HT 1169, HT 1170 (2-Amino-Ethanol, Polyethyleneglycol-5-Cocosamide, nonionic tenside)	100	1 min	0
	100	24 h	0
Cleaning agent: Deconex HT 1201 (Polyethylenglycole-5 Cocosamide, Triethanolamine, nonionic tenside)	100	1 min	0
	100	24 h	0
Cleaning agent: Deconex HT 1511 (Triethanolamine, Fatty Amine, nonionic tenside)	100	1 min	0
	100	24 h	0
Cleaning agent: Deconex 1401 (Potassium hydroxide, nonionic, amorphous, anionic tenside)	100	1 min	0
	100	24 h	0
Degreaser: Tangit (based on: Acetone, Butanone)	100	1 min	4
Degreaser: Kempt LO	100	1 min	0
	100	24 h	3
Degreaser: Lusin Clean 51	100	1 min	0
Demolding agent: Lusin Alro OL 151 (silicone-free)	100	1 min	0
Demolding agent: Lusin Alro OL 153 S (contains silicone)	100	1 min	0
Demolding agent: Lusin Alro OL 401 (silicone-free, high temp.)	100	1 min	0
Demolding agent: Lusin Alro 261 (silicone-free, based on Toluol, Ethylacetate)	100	1 min	4
Diethyl carbonate	100	1 min	2

Chemical Resistance (based on raw material information)			
Media	Conc. [wt-%]	Time	Rating
Diisopropanol amine	80	1 min	0
	80	24 h	0
Dimethyl carbonate	100	1 min	3
Dioctylphthalate	100	1 min	0
	100	24 h	0
Disinfectant: BIB Forte (tert. Alkylamine; Trialkylethoxyammoniumpropionate; tensides)	4	1 min	0
	4	24 h	0
	4	96 h	0
Disinfectant: Gigasept FF (Succindialdehyde; Dimethoxy tetrahydrofurane; tensides)	5	1 min	0
	5	24 h	0
	5	96 h	0
Disinfectant: Gigasept PAA (Peracetic acid; Hydrogen peroxide; Acetic acid; caustic potash)	2	1 min	0
	2	24 h	0
	2	96 h	0
Disinfectant: Korsolex basic Clutaraldehyde; (Ethylenedioxy)-dimethanol; tensides	5	1 min	0
	5	24 h	0
	5	96 h	0
Ethanol	100	1 min	0
	100	24 h	0
Ethanolamine	100	1 min	0
	100	24 h	0
Ethyl acetate	100	1 min	3
Ethylene glycols: Ethylene glycol	50	1 min	0

Chemical Resistance (based on raw material information)			
Media	Conc. [wt-%]	Time	Rating
Ethylene glycols: Glysantin G 48 (Ethylene glycol, inhibitor)	100	1 min	0
	100	24 h	
Formaldehyde	37	1 min	0
Formic acid	98	1 min	0
	98	24 h	0
Fuel: Petrol	100	1 min	0
	100	24 h	1
Fuel: Petrol E 10	100	1 min	0
	100	24 h	0
Fuel: Biodiesel (Rapeseed oil methyl ester)	100	1 min	0
	100	24 h	0
Fuel: Diesel RF 06-03	100	1 min	0
	100	24 h	0
Fuel: FAM B [(DIN 51604) Testing fuel]	100	1 min	0
	100	24 h	0
Glycerol	100	1 min	0
	100	24 h	0
Heat transfer medium: Glythermin P82 (i-Propylene glycol)	100	1 min	0
	100	24 h	0
Heat transfer medium: Glythermin P44 (1,2-Propylene glycol)	100	1 min	0
	100	24 h	0
Heat transfer medium: H Galden ZT 130 (Hydrofluoropolyether)	100	1 min	0
	100	24 h	0
Hydraulic fluid: Brake Fluid DOT 4 (Polyglycolcompounds)	100	1 min	1

Chemical Resistance (based on raw material information)			
Media	Conc. [wt-%]	Time	Rating
Hydraulic fluid: Pentosin CHF 202	100	1 min	0
	100	24 h	0
Hydraulic fluid [Skydrol LD 4 (aviation, fire resistant)]	100	1 min	0
	100	24 h	4
Hydraulic fluid [Skydrol PE 5 (aviation, fire resistant)]	100	1 min	0
	100	24 h	0
Hydraulic fluid (Tributyl phosphate)	100	1 min	0
	100	24 h	4
Hydrochloric acid	10	1 min	0
	10	24 h	0
Isopropanol	100	1 min	0
	100	24 h	0
Lubricant: Gear oil (Shell Donax TX)	100	1 min	0
	100	24 h	0
Lubricant: Motor oil (Shell Helix 5 W 40)	100	1 min	0
	100	24 h	0
Lubricant: Motor oil (OS 206 304)	100	1 min	0
	100	24 h	0
Methanol	100	1 min	0
	100	24 h	0
Methyl ethyl ketone	100	1 min	4
Mold cleaner (Lusin Clean L 21)	100	1 min	4

Chemical Resistance (based on raw material information)			
Media	Conc. [wt-%]	Time	Rating
n-Octane	97	1 min	0
	97	24 h	0
Olive oil	100	1 min	0
	100	24 h	0
Petroleum ether	100	1 min	0
	100	24 h	0
Phosphoric acid	85	1 min	0
	85	24 h	0
Rapeseed oil	100	1 min	0
	100	24 h	0
Soldering fluid: Soldering Flux (Zinc chloride, Ammonium chloride)	100	1 min	0
	100	24 h	0
Sodium carbonate	2	24 h	0
	20	24 h	0
Sodium chloride	10	24 h	0
Sodium hydroxide	1	1 min	0
	1	24 h	0
	35	1 min	0
	35	24 h	0
Sodium hypochlorite	10	1 min	0
	10	24 h	0

Chemical Resistance (based on raw material information)			
Media	Conc. [wt-%]	Time	Rating
Sulfuric acid	20	1 min	0
	20	24 h	0
	96	> 48 h	partially soluble
Tenside [Lutensol A7N (fatty alcohol ethoxylate)]	20	24 h	0
Tenside: Sodium dodecylbenzene sulphonate	12.5	24 h	0
tert. Butylethylether	100	1 min	0
Tetrahydrofurane	100	1 min	3
	100	24 h	partially soluble
Triacetine	100	1 min	0
Tributyl phosphate	100	1 min	0
	100	24 h	4
Trichloro ethylene	100	1 min	4 ¹¹
	100	> 24 h	un-soluble
Triethanolamine	100	1 min	0
	100	24 h	0
Water (demineralized)	100	1 min	0
	100	24 h	0
Xylene	100	1 min	1
	100	24 h	3

¹¹ tested with a bending block diameter of 400mm

Resistance against adhesives and sealants (based on raw material information)				
Media	Hardening	Conc. [wt-%]	Time	Rating
Single-component adhesive: Loctite 401 (Ethyl-cyanoacrylat)	moisture	100	1 min	3
Single-component adhesive: Loctite 431 (Ethyl cyanoacrylate)	moisture	100	1 min	2
Single-component adhesive: Loctite 572 (Dimethacrylate ester)	anaerobic	100	1 min	0
		100	24 h	3
Single-component adhesive: Loctite 3211 (Acrylated urethane)	UV/visible light	100	1 min	0
		100	24 h	0
Contact adhesive: Armaflex adhesive 520 (Polychloroprene-based)	At 20 °C 36 h bonding time	100	1 min	2
Thread sealant: Loctite 5331 (Acetoxy silicone)	moisture	100	1 min	0
		100	24 h	0
Thread sealant, secure: Loctite 243 (Dimethacrylat ester)	anaerobic	100	1 min	0
		100	24 h	4
Pipe thread sealant: Loctite 55 (Polyamide fiber with chemically inert paste)		100	1 min	0
		100	24 h	0

Resistance against animal and vegetable fats (based on raw material information)

Media	Conc. [wt-%]	Time [h]	Temperature [°C]	Rating
Butter	100	24	150	0
Clarified butter	100	24	150	0
Peanut Oil	100	24	150	0
Vinegar	5	24	RT	0
Coconut fat	100	24	150	0
Margarine	100	24	150	0
Olive oil	100	24	95	0
Vegetable Oil	100	24	150	0
Beef Tallow	100	24	150	0
Bacon	100	4	170	0

Resistance against dishwasher detergents (based on raw material information)

Media	Conc. [wt-%]	Time [h]	Temperature [°C]	Rating
Rinse aid (Somat, Domol)	100	1	65	0
Dishwasher cleaner (finish)	100	1	65	0
Dishwasher salt (finish)	100	1	65	0
Dishwasher Tabs (finish Powerball All in 1)	7.5	1	80	0
	7.5	24	80	0
Dishwasher Tabs (finish Quantum)	7.5	1	80	0
	7.5	24	80	0

Sterilization

Sterilization is an essential requirement in many applications especially when used in the medical field. Testing not only ensures the material quality but also determines how effectively the chosen sterilization process is eliminating potential microorganisms.

The mechanical properties of Ultrafuse® PPSU show no significant deviation after 50 autoclaving cycles (hot steam sterilization) at a temperature of up to 134°C. The following diagrams present the mechanical properties after 50 autoclaving cycles at 134°C . “Untreated” specimens are manufactured in the same batch than the autoclaved specimens. As an additionally reference, the values from the technical data sheet (TDS) are added to the overview.

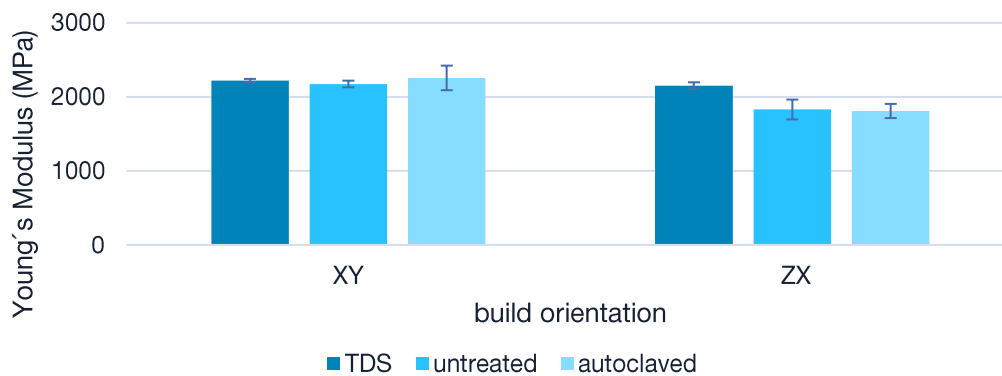
Test Method and Specimens

Hot Steam Sterilization (Autoclaving)

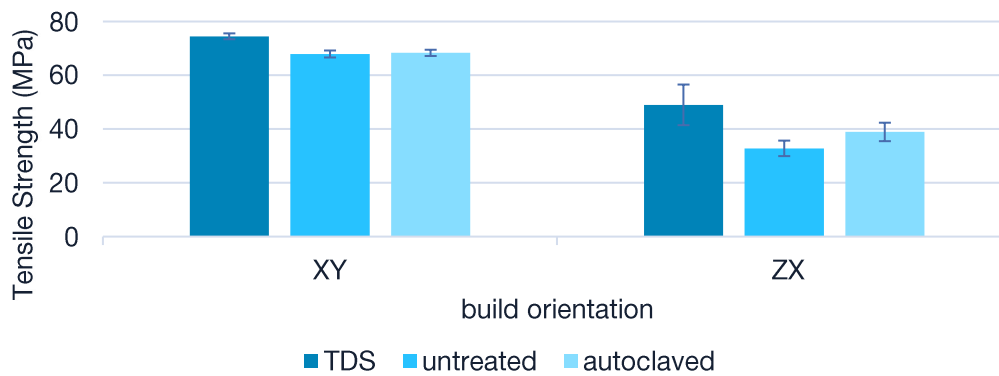
Steam sterilization parameters	Settings
Temperature	134 °C
Holding time	4 minutes
Drying time	15 minutes
Used Test Specimens	DIN EN ISO 527 Type 1A Tensile Bars

Testing conditions hot steam sterilization

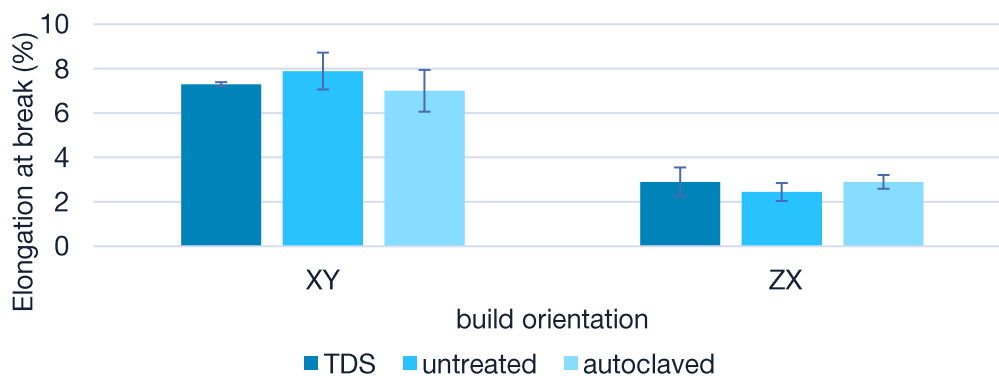
Mechanical Testing: Outstanding resistance to Autoclaving



Young's Modulus comparison after 50 autoclaving cycles at 134°C.



Tensile Strength comparison after 50 autoclaving cycles at 134°C.



Elongation at break comparison after 50 autoclaving cycles at 134°C.

Fire protection on railway vehicles

Data

Classification Report EN45545-2 R7

BASF – Fire Safety Technology

Classification report according to DIN EN 45545 Part 2 : 2016-02
Railway applications - Fire protection of railway vehicles - Part 2: Requirements for fire behaviour of materials and components

Classification Report No.: 14672 / 54369

Receipt of order: 01.10.2021

1. **Material:** (Information supplied by client)

Ultrafuse PPSU printing direction ZX
Order number: ATLaS-2021-3387 + ATLaS-2021-3143 + ATLaS-2022-3626

End use application: interior covering train

2. **Summary of results and classification:**

Standard: DIN EN 45545-2:2016-02		Set of requirements: R7			
14672 / 54263 Thickness 1,5 mm	ISO 5660-1 50 kW/m²	MARHE	73	[kW/m²]	HL2
14672 / 54264 Thickness 3 mm	ISO 5660-1 50 kW/m²	MARHE	57	[kW/m²]	HL3
14672 / 53879 Thickness 1,5 mm	EN ISO 5659-2 50 kW/m²	Ds (max)	88		HL3
14672 / 53879 Thickness 1,5 mm	EN ISO 5659-2 50 kW/m²	CIT (G)	0,14		HL3
14672 / 53880 Thickness 3 mm	EN ISO 5659-2 50 kW/m²	Ds (max)	104		HL3
14672 / 53880 Thickness 3 mm	EN ISO 5659-2 50 kW/m²	CIT (G)	0,17		HL3
14672 / 54281 Thickness 1,5 mm	ISO 5658-2	CFE	50,7	[kW/m²]	HL3
14672 / 54282 Thickness 3 mm	ISO 5658-2	CFE	48,6	[kW/m²]	HL3
Final classification:		HL2			

Remarks:

Valid for thickness range from 1,5 mm to 3 mm

Any conclusions we draw about the fire safety of the materials we test are based exclusively on the results of the test under the conditions described. The extent to which such conclusions can be applied to non-tested material under non-standard conditions is the sole responsibility of the customer and is done so at his own risk. - Decision rule acc. to DIN EN ISO/IEC 17025: Wherever statements of conformity are made, no measurement uncertainty is taken into account.

BASF-Fire Safety Technology

Ludwigshafen, 31.05.2022

Head of Laboratory

Technician

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Classification Report EN45545-2 R22-23

BASF – Fire Safety Technology

Classification report according to DIN EN 45545 Part 2 : 2016-02
Railway applications - Fire protection of railway vehicles - Part 2: Requirements for fire behaviour of materials and components

Classification Report No.: 14672 / 53882 Rev. 1

Receipt of order: 01.10.2021

1. Material: (information supplied by client)

Ultrafuse PPSU
printing direction ZX
Order number: ATLaS-2021-3387 + ATLaS-2021-3143 + ATLaS-2022-3566 + ATLaS-2021-3089
Colour:
End use application: interior covering train

2. Summary of results and classification:

Standard: DIN EN 45545-2:2016-02 Set of requirements:					R23	R24
14672 / 53878	EN ISO 4589-2	LOI	≥ 32,0	[% O ₂]	HL3	HL3
14672 / 54283 Thickness 1,5 mm	EN ISO 5659-2 25 kW/m ² (pilot flame)	Ds (max)	2		HL3	
14672 / 54284 Thickness 3 mm	EN ISO 5659-2 25 kW/m ² (pilot flame)	Ds (max)	2		HL3	
14672 / 53881	NF X 70-100-1/-2 (600°C)	CIT (NLP)	1,30		HL3	
Final classification R23:		HL3*				
Final classification R24:		HL3				

Remarks:

* Valid for thickness range from 1,5 mm to 3 mm
Revised version of the test report from March 28th, 2022 (Sets of requirements have been changed).

Any conclusions we draw about the fire safety of the materials we test are based exclusively on the results of the test under the conditions described. The extent to which such conclusions can be applied to non-tested material under non-standard conditions is the sole responsibility of the customer and is done so at his own risk. - Decision rule acc. to DIN EN ISO/IEC 17025: Wherever statements of conformity are made, no measurement uncertainty is taken into account.

BASF-Fire Safety Technology

Ludwigshafen, 20.05.2022

Head of Laboratory

Technician

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Classification Report EN45545-2 R26

Formblatt MA4.5_F003, Revision: 3.4, gültig ab: 05.01.2021



TEST REPORT according to ISO/IEC 17025 No. AVS: 2006115 Date: 2022-04-14 File: 2006115B_V_EN.DOCX	
Testing laboratory BASF SE RBU Performance Materials Europe Materials and Parts Testing PMD/EX-H201 67056 Ludwigshafen Deutschland	Contact at laboratory Name: [REDACTED] Phone: [REDACTED] E-Mail: [REDACTED] Position: [REDACTED] Signature: [REDACTED]
Client Company: BASF 3D Printing Solutions GmbH Speyerer Strasse 4 69115 Heidelberg Germany	Contact at client Name: [REDACTED] Phone: [REDACTED] E-Mail: [REDACTED]
Test specimen / Material A2020-2247 PPSU uncolored	Test methods (Standard and publication date) - IEC 60695-11-10:2014 vertical (equivalent to UL94:2020)
Order received on: 2020-12-08 Specimen received on: 2020-12-08 Tests conducted on: 2020-12-16	This report contains: Pages: 3 Diagrams: 0 Tables: 2 Photos: 0 Attachments: 2

Decision rule

EN45545-2:2016, R26 (EL 10): HL1-3 (V0)

Result

Test specimen of nominal thickness 1.5 and 3 mm were subjected to vertical flammability testing according to DIN EN 60695-11-10:2014 (equivalent to UL94:2018). The test result is V-0. This result provides evidence for conformity with EN45545-2:2016, R26 for HL1, HL2 and HL3.

The test results of this report are only valid for the specimens tested and only describe the results achieved by the application of the particular tests methods to these specimens. They do not imply any guarantee nor any agreement on a contractual quality or a suitability of the product for a specific purpose. In view of the many factors that may affect processing and application of the product, the test results do not relieve processor from carrying out own investigations and tests. The report does not imply any recommendation for a product. The report shall only be reproduced and passed on in full.

The testing laboratory is accredited by DAkkS Deutsche Akkreditierungsstelle GmbH (German Accreditation Body) according to ISO 17025 for mechanical, thermal, physical-chemical and flammability tests. The accreditation is valid only for the scope of accreditation listed in the Annex to the accreditation certificate (Registration No. D-PL-14121-04-00).

The original test reports are available on request.