

Product description

Partially aromatic polyamide, halogen-free flame-retardant, with good mechanical and dielectric properties in presence of humidity and at elevated temperatures. It is easily colorable and allows easy processing with low tool corrosion.

Physical form and storage

The product is supplied in the form of granules with a bulk density of approx. 0.7 g/cm³. Standard packs are bag and bulk container (octagonal IBC=intermediate bulk container made from corrugated board with a liner bag). Other packaging materials and shipping in road or rail silo wagons are possible by agreement. The containers should only be opened immediately before processing or drying. To ensure that the delivered product absorbs as little moisture as possible, the containers should be stored in dry rooms and always carefully closed again after partial quantities have been withdrawn. In principle, the product can be stored for a long period of time. Containers stored in cold rooms should be equalized to ambient temperature before opening in order to avoid condensation on the granules. Regardless of the storage conditions, the product should be pre-dried according to our recommendations and the machine should preferably be loaded using a closed conveyor system.

Product safety

In case processing is done under conditions as recommended (cf. processing data sheet) melts are thermally stable and do not generate hazards by molecular degradation or the evolution of gases and vapors. Like all thermoplastic polymers the product decomposes on exposure to excessive thermal load, e.g. when it is overheated or as a result of cleaning by burning off. Further information is available from the safety data sheet.

Note

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. In order to check the availability of products please contact us or our sales agency.

Product Information

Typical values for uncoloured product at 23 °C ¹⁾	Test method	Unit	Values ²⁾
Properties			
Polymer abbreviation	-	-	PA66/6T-GF30 FR(40)
Density	ISO 1183	kg/m ³	1410
Water absorption, saturation in water at 23°C	similar to ISO 62	%	4.3
Moisture absorption, equilibrium 23°C/50% r.h.	similar to ISO 62	%	1.3
Water absorption, 24 h in water, 23°C	ISO 62	%	0.63
Processing			
Melting temperature, DSC	ISO 11357-1/-3	°C	280
MVR 300 °C/5 kg	ISO 1133	cm ³ /10min	40
Melt temperature, injection moulding/extrusion	-	°C	285 - 320
Mould temperature, injection moulding	-	°C	90 - 110
Molding shrinkage (parallel)	ISO 294-4	%	0.45
Molding shrinkage (normal)	ISO 294-4	%	0.90
Thermal properties			
Deflection temp. under load 1.8 MPa (HDT A)	ISO 75-1/-2	°C	257
Deflection temp. under load 0.45 MPa (HDT B)	ISO 75-1/-2	°C	275
Coeff. of linear therm. expansion 23°C - 55°C (parallel)	ISO 11359-1/-2	E-6/K	19
Coeff. of linear therm. expansion 23°C - 55°C (normal)	ISO 11359-1/-2	E-6/K	65
Flammability			
UL 94 rating (thickness)	UL-94, IEC 60695	class (mm)	V-0 (0.8)
UL 94 rating (thickness)	UL-94, IEC 60695	class (mm)	V-0 (3.2)
UL 94 rating (thickness)	IEC 60695-11-20	class (mm)	5VA (0.8)
GWFI (thickness)	IEC 60695-2-12	°C (mm)	960 (0.8)
GWFI (Thickness)	IEC 60695-2-12	°C (mm)	960 (1.6)
GWFI	IEC 60695-2-12	°C	960
Thickness	IEC 60695-2-12	mm	3.2
GWIT	IEC 60695-2-13	°C	750
thickness	IEC 60695-2-13	mm	0.8
Limiting Oxygen Index (LOI)	ISO 4589-1/-2	%	45
GWIT	IEC 60695-2-13	°C	750
Thickness	IEC 60695-2-13	mm	1.6
Electrical properties			
dry / cond.			
Volume resistivity	IEC 62631-3-1	Ohm*m	1E13 / 1E12
Surface resistivity	IEC 62631-3-2	Ohm	1E16 / 1E16
CTI, solution A	IEC 60112	-	600 / -
Electric strength (d = 0,8 mm)	IEC 60243-1	kV/mm	35 / -
Electric strength K20/K20, (60*60*1 mm ³)	IEC 60243-1	kV/mm	40 / 36
Mechanical properties			
dry / cond.			
Tensile modulus	ISO 527-1/-2	MPa	11000 / 9100
Stress at break	ISO 527-1/-2	MPa	145 / 110
Strain at break	ISO 527-1/-2	%	2.5 / 3.3
Flexural modulus	ISO 178	MPa	9000 / 8000
Flexural strength	ISO 178	MPa	230 / 185
Charpy unnotched impact strength, 23°C	ISO 179/1eU	kJ/m ²	65 / 62
Charpy unnotched impact strength, -30°C	ISO 179/1eU	kJ/m ²	50 / -
Charpy notched impact strength, 23°C	ISO 179/1eA	kJ/m ²	10 / 10
Charpy notched impact strength, -30°C	ISO 179/1eA	kJ/m ²	9 / -
Izod notched impact strength ISO 180/A (23°C)	ISO 180/A	kJ/m ²	9,5 / -
Izod impact strength ISO 180/U (23°C)	ISO 180/U	kJ/m ²	55 / -

Footnotes

- 1) If product name or properties don't state otherwise.
- 2) The asterisk symbol "*" signifies inapplicable properties.

UL - Yellow Card

Component - Plastics

E507491

BASF Engineering Plastics (Shanghai) Co., Ltd.

3966 Jin Du Road, Industrial Zone, Xin Zhuang Shanghai 201108, XIN ZHUANG 201108 CN

T6340G6

Polyamide (PA) "Ultramid", furnished as pellets

Color	Min. Thk (mm)	Flame Class	HWI	HAI	RTI Elec (°C)	RTI Imp (°C)	RTI Str (°C)
ALL	0.40	V-0	1	0	150	120	140
	0.75	V-0, 5VA	0	0	150	120	140
	1.0	V-0, 5VA	0	0	150	120	140
	1.5	V-0, 5VA	0	0	150	130	150
	3.0	V-0, 5VA	0	0	150	130	150

Comparative Tracking Index (CTI): 0

Inclined Plane Tracking (IPT) kV: 1

Dielectric Strength (kV/mm): 24

Volume Resistivity (10^xohm-cm): -

High-Voltage Arc Tracking Rate (HVTR): -

Surface Resistivity (10^xohms/square): -

Dimensional Change (%): -

High Volt, Low Current Arc Resis (D495): -

ANSI/UL 94 small-scale test data does not pertain to building materials, furnishings and related contents. ANSI/UL 94 small-scale test data is intended solely for determining the flammability of plastic materials used in the components and parts of end-product devices and appliances, where the acceptability of the combination is determined by UL.

Report Date: 2012-02-02

© 2024 UL Solutions



Last Revised: 2024-09-16

IEC and ISO Test Methods

Test Name	Test Method	Units	Thk (mm)	Value
Flammability	IEC 60695-11-10, IEC 60695-11-20	Class (color)	0.40	V-0 (ALL)
			0.75	V-0, 5VA (ALL)
			1.0	V-0, 5VA (ALL)
			1.5	V-0, 5VA (ALL)
			3.0	V-0, 5VA (ALL)
Glow-Wire Flammability (GWFI)	IEC 60695-2-12	°C	0.40	960
			0.75	960
			1.0	960
			3.0	960
Glow-Wire Ignition (GWIT)	IEC 60695-2-13	°C	0.40	800
			0.75	800
			1.0	800
			3.0	800
IEC Comparative Tracking Index	IEC 60112	Volts (Max)	-	-
IEC AC Dielectric Strength (AC DS)	IEC 60243-1	kV/mm	-	-
IEC DC Dielectric Strength (DC DS)	IEC 60243-2	kV/mm	-	-

Ultramid® T6340G6



We create chemistry

UL - Yellow Card

IEC Volume Resistivity (VR)	IEC 62631-3-1	10x ohm-m	-	-
IEC Surface Resistivity (SR)	IEC 62631-3-2	10x ohms	-	-
IEC Inclined Plane Tracking (IPT)	IEC 60587	kV	-	-
IEC Ball Pressure	IEC 60695-10-2	°C	-	250
ISO Heat Deflection (1.80 MPa)	ISO 75-2	°C	4.0	255
ISO Tensile Strength	ISO 527-2	MPa	-	-
ISO Flexural Strength	ISO 178	MPa	-	-
ISO Tensile Impact	ISO 8256	kJ/m ²	-	-
ISO Izod Impact	ISO 180	kJ/m ²	-	-
ISO Charpy Impact	ISO 179-1	kJ/m ²	-	-