Impressio®

versalis

E 05

Technical Data Sheet

HIPS

Impressio® HIPS E 05 is an easily processable high impact polystyrene with good mechanical and thermal properties.
The product has been optimized for the production of filaments dedicated to 3D printing (FDM).

Applications

Impressio® HIPS E 05 has been designed to produce:

- 1.75 mm and 2.85 mm filaments for 3D printing.

Typical processing data

Impressio® HIPS E 05 has a very good processability with standard filament extruders and it allows a good thickness stability.
Standard processing conditions (*) for the production of a 1.75 mm to 2.85 mm filament:

- melt temperature 210 - 240°C

(*) The processing conditions may vary depending on the extrusion line and the cooling conditions.

Certification

Impressio® HIPS E 05, as supplied in the original packaging, by composition is compliant to some existing regulations on plastic materials intended for food contact.

Storage

Store away from atmospheric agents and direct sunlight, away from sources of heat and light.
The product, if stored correctly, keeps its characteristics for at least fifteen months.

General information

Impressio® HIPS E 05 is available in natural colour.

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Property	Test Conditions	Test method	Units	Values
General				
Water absorption	24h - 23°C	ISO 62	%	< 0,1
Density	-	ISO 1183	g/cm³	1,04
Bulk density	-	ISO 60	g/cm³	0,65
Rheological				
Melt flow rate	200°C - 5kg	ISO 1133	g/10'	4
Mechanical				
Tensile strain at break	50 mm/min	ISO 527	%	70
Tensile stress at break	50 mm/min	ISO 527	MPa	28
Tensile stress at yield	50 mm/min	ISO 527	MPa	21
Flexural strength	2 mm/min	ISO 178	MPa	38
Rockwell hardness	L/M	ISO 2039/2	-	L 65
Tensile modulus	1 mm/min	ISO 527	MPa	1900
Izod impact strength, notched	-30°C - 4mm	ISO 180/1A	kJ/m²	6,5
Izod impact strength, notched	+23°C - 4mm	ISO 180/1A	kJ/m²	10
Thermal				
Coefficient of linear thermal expansion	-	ISO 11359-2	10^-5/°C	9
Thermal conductivity	-	ASTM C 177	W/(K·m)	0,17
Deflection temperature under load (annealed)	1,82 MPa - 120°C/h	ISO 75 A	°C	85
Vicat softening temperature	10 N - 50°C/h	ISO 306/A	°C	99
Vicat softening temperature	50 N - 50°C/h	ISO 306/B	°C	91
Flammability				
Glow wire test (GWT)	1,6 mm	IEC 60695-2-10	°C	650
Electrical				
Dielectric constant (relative permittivity)	1000 Hz secco/dry	IEC 60250	-	2,5
Dissipation factor	1000 Hz secco/dry	IEC 60250	-	3·10E-4
Dielectric strength	secco / dry	IEC 60243	kV/mm	65