

Product description

Ultramid® D3EG10 FC Aqua SCHWARZ 23285 is applicable for plastic parts, where the approvals of material for drinking water contact and direct food contact is a mandatory requirement.

The product is approved according to

- 21 CFR FDA § 177.1500 "Nylon resins". and the coloration complies with 21 CFR FDA § 178.3297 "Colorants for polymers. (for repeated use applications only) The finished article may not be used in contact with alcohol.
 - European Food Contact European Food Contact Commission Regulation (EU) 10/2011
 - GMP (EC) n°2023/2006
- and has the approvals for drinking water regulations of
- KTW
 - DVGW W270
 - WRAS
 - ACS (disclosure of ingredients)
 - NSF (disclosure of ingredients)

For questions regarding the compliance with further regulations, and certificates, please contact your local BASF representative or Plastics Safety (E-Mail: plastics.safety@basf.com, Fax +49 621-60-93253).

Physical form and storage

The product is supplied extensively dry in moisture-proof packaging in the form of cylindrical or flat pellets. Its bulk density is about 0,7 g/cm³. Standard packs are the special 25 kg bag and the 1000 kg bulk container (octagonal IBC= intermediate bulk container made from corrugated board with a liner bag). Subject to agreement other forms of packaging and shipment in tankers by road or rail are also possible. All containers are tightly sealed and should be opened only immediately prior to processing. To ensure that the material delivered cannot absorb moisture from the air the containers must be stored in dry rooms and always carefully sealed again after portions of material have been withdrawn. The product can be kept indefinitely in the undamaged bags. Experience has shown that product supplied in IBCs can be stored for about 3 months without any adverse effects on processing properties due to moisture absorption. Containers stored in cold rooms should be allowed to equilibrate to normal temperature so that no condensation forms on the pellets.

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	-	-	PA-GF50
Density	ISO 1183	kg/m ³	1580
Viscosity number (0.5% in 96 % H ₂ SO ₄)	ISO 307, 1157, 1628	cm ³ /g	120
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	%	1.20
Colour; black (bk), uncoloured (un), coloured (co), transparent (tr)	-		bk
Processing			
Melting temperature, DSC	ISO 11357-1/-3	°C	250
Melt temperature, injection moulding/extrusion	-	°C	280 - 310
Mould temperature, injection moulding	-	°C	80 - 120
Moulding shrinkage, constrained ³⁾	-	%	0.1
Molding shrinkage (parallel)	ISO 2577, 294-4	%	0.25
Molding shrinkage (normal)	ISO 2577, 294-4	%	0.65
Mechanical properties			dry / cond.
Tensile modulus	ISO 527-1/-2	MPa	16000 / 16000
Stress at break	ISO 527-1/-2	MPa	245 / 210
Strain at break	ISO 527-1/-2	%	2.5 / 2.5
Tensile creep modulus, 1000 h, strain <= 0.5%, 23°C	ISO 899-1	MPa	* / 10300
Flexural modulus	ISO 178	MPa	15700 / -
Flexural strength	ISO 178	MPa	350 / -
Charpy unnotched impact strength (23°C)	ISO 179/1eU	kJ/m ²	95 / 85
Charpy unnotched impact strength (-30°C)	ISO 179/1eU	kJ/m ²	90 / -
Charpy notched impact strength (23°C)	ISO 179/1eA	kJ/m ²	12 / 11
Charpy notched impact strength (-30°C)	ISO 179/1eA	kJ/m ²	12 / -
Thermal properties			
HDT A (1.80 MPa)	ISO 75-1/-2	°C	225
Coefficient of linear thermal expansion, longitudinal (23-55)°C	ISO 11359-1/-2	E-6/K	14.7
Thermal conductivity	DIN 52612-1	W/(m K)	0.34
Specific heat capacity	-	J/(kg*K)	1100