Product Information **Ultramid®**

D3EG10 FC Aqua bk 23285

PA-GF50

BASF
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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)

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air the containers must be stored in dry rooms and always carefully sealed again after portions of material have been withdrawn.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.

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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/m³	**1580**
Viscosity number (0.5% in 96 % H2SO4)	ISO 307, 1157, 1628	cm³/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/m²	**95 / 85**
Charpy unnotched impact strength (-30°C)	ISO 179/1eU	kJ/m²	**90 / -**
Charpy notched impact strength (23°C)	ISO 179/1eA	kJ/m²	**12 / 11**
Charpy notched impact strength (-30°C)	ISO 179/1eA	kJ/m²	**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**