Product Information

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Ultramid® 8255 HS
Polyamide 6

BASF The Chemical Company

Product Description

Ultramid 8255 HS is a heat stabilized, impact modified type 6 nylon graft copolymer developed for both injection molding and extrusion applications. It exhibits varying levels of toughness and flexibility combined with excellent thermal and chemical resistance properties provided by the nylon backbone. It maintains its inherent chemical resistance to greases, oils and hydrocarbons.

Applications

Ultramid 8255 HS is generally recommended for applications such as clips and fasteners, bowling pin bases and flexible connectors.

PHYSICAL	ISO Test Method	Property Value	
Density, g/cm	1183	1.08	
Moisture, %	62		
(24 Hour)		1.2	
(50% RH)		2	
(Saturation)		7.1	
MECHANICAL	**ISO Test Method**	**Dry**	**Conditioned**
Tensile Modulus, MPa	527		
23C		780	-
Tensile stress at yield, MPa	527		
23C		36	-
Tensile strain at yield, %	527		
23C		7	-
Nominal strain at break, %	527		
23C		>50	-
IMPACT	**ISO Test Method**	**Dry**	**Conditioned**
Charpy Notched, kJ/m^2	179		
23C		50	-
THERMAL	**ISO Test Method**	**Dry**	**Conditioned**
Melting Point, C	3146	220	-
HDT A, C	75	42	-

Processing Guidelines

Material Handling
Max. Water content: 0.1%
Product is supplied in sealed containers and drying prior to molding is not required. If drying becomes necessary, a dehumidifying or desiccant dryer operating at 65 degC (149 degF) is recommended. Drying time is dependent on moisture level, but 2-4 hours is generally sufficient. Further information concerning safe handling procedures can be obtained from the Material Safety Data Sheet. Alternatively, please contact your BASF representative.

Typical Profile
Melt Temperature 240-250 degC (464-482 degF)

Typical Barrel Profile (degC):

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Rear 245-255 degC (473-491 degF)
Middle 245-260 degC (473-500 degF)
Front 240-250 degC (464-482 degF)

Head 230-245 degC (446-473 degF)
Flange 230-245 degC (446-473 degF)
Die 230-245 degC (446-473 degF)

Screw Parameters

Metering Section	40%
Transition Section	3 to 4 flights
Feed Section	balance of screw length
Compression Ratio	3.5:1 to 4.0:1
L/D Ratio	20:1 to 24:1

Tooling & Sizing
Die to Finished Tube dia. 1.5-2.0:1

Selection of pin and die size will be dependent on the material viscosity. In general, the ratio of die size to finished tube diameter is about 1.5-2.0:1. The mandrel (pin) size is determined the same way in relation to the inner tube diameter.

Free (open tank) extrusion is recommended when producing tube diameters 9.5mm and below. For larger diameters, a differential pressure vacuum tank is recommended.

Tooling draw ratio is generally higher with free extrusion versus sizing, but will depend on melt viscosity. The vacuum sizer entrance should be about 3-9% larger than the finished tube outer diameter. Selection will depend on melt viscosity and die swell of the extrudate.

Quenching
For diameters less than or equal to 9.5mm (.37") O.D., open tank quenching with normal tap water is suggested. Depending upon line speed, quenching distance can vary from 7.5 to 12 meters (24.6 -39.4 feet). A short air gap (die to quench water) is recommended for both tubing and cable jacketing for best flexibility.

Note

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