

Product Information

Ultramid® B Nylon Film Grades (PA6)

Product description

Ultramid® B nylon film grades are medium and high viscosity polyamide 6 products specially developed for film applications. These materials are well-suited for oriented and non-oriented, cast or blown film applications.

Supply form and storage

Ultramid® B nylon film grades are supplied pre-dried and ready for processing in a variety of moisture proof containers, such as boxes, bigbags (Asia) and bulk containers.

Food legislation

Ultramid® film grades (Ultramid® A, B, C, Flex F) comply with the current legislation on plastics in contact with food in several regions. If you would like details on the food approval status of a particular Ultramid® grade, please visit us at our website (nylon.basf.us) or contact your BASF representative directly or through this [link](#).

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Properties of pellets

Property Description	Test Method	Unit	Ultramid® B nylon film grades						
			B33 01	B33 LN 01	B36 01	B36 LN 01	B40 01	B40L 01	B40 LN 01
Viscosity Number (0.5% in 96% H ₂ SO ₄)	ISO 307	—	195	195	217	217	250	250	250
Relative Viscosity (0.5% in 96% H ₂ SO ₄)	ISO 307	—	3.3	3.3	3.6	3.6	4.0	4.0	4.0
Melting point (DSC)	ISO 3146 ASTM D3418	°C	220	220	220	220	220	220	220
		°F	428	428	428	428	428	428	428
Recrystallization Temperature (DSC)	ISO 3146 ASTM D3418	°C	176	183	176	183	175	175	183
		°F	349	361	349	361	347	347	361
Density	ISO 1183 ASTM D792	g/cm ³	1.12	1.12	1.12	1.12	1.12	1.12	1.12
Moisture content as shipped	ISO 15512	%	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Bulk density	—	kg/m ³	700	730	700	730	700	730	730
Pellet shape	—	—	cylindrical	cylindrical	cylindrical	cylindrical	cylindrical	cylindrical	cylindrical
Pellet size	—	mm	2 - 2.5	2 - 2.5	2 - 2.5	2 - 2.5	2 - 2.5	2 - 2.5	2 - 2.5
Lubricant	—	—	—	✓	—	✓	—	✓	✓
Nucleating agent	—	—	—	✓	—	✓	—	—	✓

Typical Properties of 1 mil (25 um) Blown Film

Property Description	Test Method	Unit	Ultramid® B nylon film grades							
			B33 01	B33LN 01	B36 01	B36LN 01	B40 01	B40L 01	B40LN 01	
Tensile strength	ISO 527	psi	MD	15680	15680	16000	16000	16680	16680	16680
			TD	14900	14900	15500	15500	15900	15900	15900
Elongation at break	ISO 527	%	MD	440	400	440	400	440	440	400
			TD	420	410	420	410	420	420	410
Puncture resistance, 2in/min 0.8mm needle probe	BASF	N	10	10	10	10	10	10	10	
Elmendorf Tear	ASTM D1922	mN	MD	450	430	450	430	450	450	430
			TD	450	430	450	430	450	450	430
Haze values	ASTM D1003	%	11	8	11	8	11	11	8	
O ₂ Transmission (OTR)	ASTM D3985-05	(cm ³ *25µm)/ (m ² *day)	0 %RH	40	35	40	35	40	40	35
			50 %RH	25	20	25	20	25	25	20
			85 %RH	75	70	75	70	75	75	70
			100 %RH	140	135	140	135	140	140	135

Values shown are based on limited testing of unmodified, uncolored material at 23C and 50%RH (unless otherwise noted) and are not intended to be used in establishing maximum or minimum ranges for specification purposes. Please note that film properties depend heavily on type of processing, process conditions, film construction, thickness variation, and environmental conditions.

Drying

Ultramid® B nylons, like all polyamides, absorb moisture. Excess moisture is the leading cause of processing problems. Ultramid® B nylons are pre-dried before packing in sealed containers; however, once these seals are broken, care should be taken that the material be dried before processing. Generally, Ultramid® B nylons can be dried in a desiccant dryer with a dew point of -20F to -40F at 180°F for 2 hours or longer, depending on actual moisture conditions.

Processing

Ultramid® B nylons may be processed on standard extrusion equipment. Extruder screws of L:D 24-30 and compression ratio 3.0-3.5 are recommended. Typical extruder settings are: zone 1 (feeding zone): 450-520°C, zone 2-4: 460-520°C, adapter: 460-520°C, die: 460-500°C

Further information

<https://nylon-polyamides.basf.us/>

Contact us

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