

Ultramid® 8270 HS

Polyamide 6



Product Description

Ultramid 8270 HS is a thermally modified PA6 blow molding compound exhibiting exceptional toughness and melt strength ideally suited for blow molding, profile extrusion, and other applications requiring extra high melt viscosity. It exhibits excellent permeability and chemical resistance to oils, hydrocarbons and most solvents.

Applications

Ultramid 8270 HS is generally recommended for applications such as industrial containers, small gasoline tanks, and automotive under hood reservoirs.

| PHYSICAL | ASTM Test Method | Property Value | |
|--------------------------------------|------------------|-----------------|-----------------|
| Specific Gravity | D-792 | 1.13 | |
| Moisture, % | D-570 | | |
| (24 Hour) | | 1.6 | |
| (50% RH) | | 2.6 | |
| (Saturation) | | 9.2 | |
| MECHANICAL | ASTM Test Method | Dry | Conditioned |
| Tensile Strength, Yield, MPa (psi) | D-638 | | |
| -40C (-40F) | | 138 (20,000) | 119 (17,300) |
| 23C (73F) | | 84 (12,200) | 46 (6,670) |
| 121C (250F) | | 24 (3,480) | - |
| Elongation, Yield, % | D-638 | 4 | |
| 23C (73F) | | | |
| Elongation, Break, % | D-638 | >100 | - |
| 23C (73F) | | | |
| Flexural Modulus, MPa (psi) | D-790 | | |
| -40C (-40F) | | 3,160 (458,000) | 3,900 (566,000) |
| 23C (73F) | | 2,900 (420,000) | 760 (110,000) |
| 65C (149F) | | 435 (63,100) | - |
| 90C (194F) | | 310 (45,000) | - |
| 121C (250F) | | 260 (37,700) | - |
| Flexural Strength, MPa (psi) | D-790 | | |
| -40C (-40F) | | 179 (26,000) | 176 (25,500) |
| 23C (73F) | | 114 (16,500) | 37 (5,360) |
| 65C (149F) | | 30 (4,350) | - |
| 90C (194F) | | 20 (2,900) | - |
| 121C (250F) | | 17 (2,460) | - |
| Rockwell Hardness, R Scale | D-785 | 99 | - |
| IMPACT | ASTM Test Method | Dry | Conditioned |
| Notched Izod Impact, J/M (ft-lbs/in) | D-256 | | |
| -40C (-40F) | | 53 (1.0) | 48 (0.9) |
| 23C (73F) | | 53 (1.0) | NB |
| THERMAL | ASTM Test Method | Dry | Conditioned |



BASF Corporation
Engineering Plastics
609 Biddle Avenue
Ypsilanti, MI 48192



| | | | |
|---|--------|------------|---|
| Melting Point, C(F) | D-3418 | 220 (428) | - |
| Heat Deflection @ 264 psi (1.8 MPa) C(F) | D-648 | 63 (145) | - |
| Heat Deflection @ 66 psi (.45 MPa) C(F) | D-648 | 169 (336) | - |
| Coef. of Linear Thermal Expansion, mm/mm C (in/in F) | E-831 | 1.35 X10-4 | - |

Processing Guidelines

Material Handling

Max. Water content: 0.15%

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 80 degC (176 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 245-260 degC (473-500 degF)

Mold Temperature 60 degC (140 degF)

Blow Ratio 2:1

Mold Temperatures

Mold temperatures of 60 degC (140 degF) are generally recommended; however, surface temperatures of 10-95 degC (50-203 degF) can be used where applicable. The degree of crystallinity of thin polyamide wall sections, 0.6mm (.023") or less, may be controlled by the temperature of the mold. A cold mold, 5-30 degC (41-86 degF), will rapidly quench the section producing a clear, relatively flexible part, while a hot mold, over 40 degC (104 degF), will produce an opaque part with increased stiffness.

Blow Ratio

A diametrical blow ratio of 2:1 is generally recommended for plain symmetrical parts. As part complexity increases, lower blow ratios should be utilized to prevent thin wall cross sections, especially in corners.

Note

Although all statements and information in this publication are believed to be accurate and reliable, they are presented gratis and for guidance only, and risks and liability for results obtained by use of the products or application of the suggestions described are assumed by the user. NO WARRANTIES OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE MADE REGARDING PRODUCTS DESCRIBED OR DESIGNS, DATA OR INFORMATION SET FORTH. Statements or suggestions concerning possible use of the products are made without representation or warranty that any such use is free of patent infringement and are not recommendations to infringe any patent. The user should not assume that toxicity data and safety measures are indicated or that other measures may not be required.



BASF Corporation
Engineering Plastics
609 Biddle Avenue
Ypsilanti, MI 48192

