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# Ultramid® B27 HM 01

## Product description

Ultramid® B27 HM 01 is a low viscosity, heat stabilized, nylon 6 universal wire jacketing resin offering excellent performance through the range of THHN, THWN, and TFFN constructions. It possesses a balance of performance properties including flexibility, toughness and abrasion resistance combined with excellent chemical resistance to gasoline, oil and other hydrocarbons. It is a preferred resin for wire conductor jacketing, including shipboard cable, and non-metallic-sheathed cable primary jacketing.

| Specification   | Test method   | Unit    | Value       |
|---|---|---------|-------------|
| Relative Viscosity (RV) 1% [m/v] in 96% [m/m] sulfuric acid | According to ISO 307 (calculated by Huggins method) |         | 2.55 - 2.80 |
| Viscosity Number (VN) 0,5% [m/v] in 96% [m/m] sulfuric acid | According to ISO 307                                | ml/g    | 136 - 156   |
| Moisture content  | According to ISO 15512                              | % [m/m] | max. 0.17   |
| Extractables  | According to ISO 6427-chips not ground/16h          | % [m/m] | 2.5 - 5.5   |

## General properties

|  | Test method           | Unit                                   | Typical value |
|--|-----------------------|--|---------------|
| Density                                    | According to ISO 1183 | g/cm <sup>3</sup> / lb/in <sup>3</sup> | 1.13 / 0.0408 |
| Melting Point                              | According to ISO 3146 | °C / °F                                | 220 / 428     |
| Bulk density                               |                       | kg/m <sup>3</sup>                      | 660           |
| Pellet size                                |                       | mm                                     | 2 - 2.5       |
| Pellet shape                               |                       |  | cylindrical   |
| Water absorption, 23°C/50% rh              |                       | %                                      | 2.7           |
| Water absorption, saturation in water 23°C |                       | %                                      | 9.5           |

**Typical properties**  
(dry as molded)

|   | <b>Test method</b> | <b>Unit</b>       | <b>Typ. value</b> | <b>Unit</b> | <b>Typ. value</b> |
|---|--------------------|-------------------|-------------------|-------------|-------------------|
| Tensile stress at yield                       | ISO 527            | MPa               | 80                | psi         | 11,600            |
| Elongation at yield                           | ISO 527            | %                 | 4.25              | %           | 4.25              |
| Tensile Modulus                               | ISO 527            | MPa               | 2800              | psi         | 406,000           |
| Flexural Modulus<br>(23°C, 73F)               | ISO 178            | MPa               | 2600              | psi         | 377,000           |
| Izod notched impact strength<br>(23°C, 73F)   | ISO 180/A          | kJ/m <sup>2</sup> | 3.6               |             |                   |
| Izod notched impact strength<br>(-40°C, -40F) | ISO 180/A          | kJ/m <sup>2</sup> | 2.1               |             |                   |
| ISO Rockwell Hardness<br>(R-scale)            | ISO 2039-2         | na                | 118               | na          | 118               |

**Processing**

Ultramid® B27 HM 01 may be processed on standard extrusion equipment. Recommendations for extruder screws include an L:D of 24 to 30 and a minimum compression ratio of 3.5:1 for metering screws and 3.0:1 for barrier screws. Typical extruder settings are: rear: 240-255°C / 464-491F, middle: 250-270°C / 482-518F, front: 260-290°C / 500-554F.

**Supply form and storage**

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 °C (149 F) is recommended. Drying time is dependent on moisture level. Further information concerning safe handling procedures can be obtained from the Material Safety Data Sheet. Alternatively, please contact your BASF representative.

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**Further information**

|         |  |                        |
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