

# Ultramid® 8233G HS

## Polyamide 6



### Product Description

Ultramid 8233G HS is a heat stabilized, 33% glass fiber reinforced PA6 injection molding compound offering excellent strength, stiffness, high temperature performance and dimensional stability. It is also available in non-heat stabilized (Ultramid 8233G) and/or pigmented versions.

### Applications

Ultramid 8233G HS is generally recommended for applications such as power tool housings, weed trimmer components, gears, automotive housings and under hood applications.

| PHYSICAL                             | ASTM Test Method | Property Value    |                    |
|--------------------------------------|------------------|-------------------|--------------------|
| Specific Gravity                     | D-792            | 1.39              |                    |
| Mold Shrinkage (1/8" bar, in/in)     |                  | 0.003             |                    |
| Moisture, %                          | D-570            |                   |                    |
| (24 Hour)                            |                  | 1.1               |                    |
| (50% RH)                             |                  | 1.8               |                    |
| (Saturation)                         |                  | 6.4               |                    |
| MECHANICAL                           | ASTM Test Method | Dry               | Conditioned        |
| Tensile Strength, Break, MPa (psi)   | D-638            |                   |                    |
| -40C (-40F)                          |                  | 283 (41,000)      | 255 (37,000)       |
| 23C (73F)                            |                  | 195 (28,300)      | 125 (18,100)       |
| 80C (176F)                           |                  | 110 (16,000)      | 80 (11,600)        |
| 121C (250F)                          |                  | 83 (12,000)       | 60 (8,700)         |
| Elongation, Break, %                 | D-638            |                   |                    |
| -40C (-40F)                          |                  | 3.6               | 3.5                |
| 23C (73F)                            |                  | 3.5               | 6                  |
| 80C (176F)                           |                  | 7                 | 6                  |
| 121C (250F)                          |                  | 7                 | 6                  |
| Flexural Modulus, MPa (psi)          | D-790            |                   |                    |
| -40C (-40F)                          |                  | 9,830 (1,430,000) | 10,200 (1,480,000) |
| 23C (73F)                            |                  | 9,040 (1,310,000) | 5,130 (744,000)    |
| 65C (149F)                           |                  | 4,020 (583,000)   | -                  |
| 90C (194F)                           |                  | 3,750 (544,000)   | -                  |
| 121C (250F)                          |                  | 3,320 (481,000)   | -                  |
| Flexural Strength, MPa (psi)         | D-790            |                   |                    |
| -40C (-40F)                          |                  | 380 (55,100)      | 361 (52,300)       |
| 23C (73F)                            |                  | 297 (43,100)      | 179 (26,000)       |
| 65C (149F)                           |                  | 160 (23,200)      | -                  |
| 90C (194F)                           |                  | 140 (20,300)      | -                  |
| 121C (250F)                          |                  | 112 (16,200)      | -                  |
| Rockwell Hardness, R Scale           | D-785            | 121               | -                  |
| IMPACT                               | ASTM Test Method | Dry               | Conditioned        |
| Notched Izod Impact, J/M (ft-lbs/in) | D-256            |                   |                    |
| -40C (-40F)                          |                  | 107 (2.0)         | 107 (2.0)          |



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|                                                      |                              |                       |                    |
|------------------------------------------------------|------------------------------|-----------------------|--------------------|
| 23C (73F)                                            |                              | 148 (2.8)             | 235 (4.4)          |
| Drop Weight Impact, ft-lbs, 23C                      | BASF Drop Weight Impact Test | 3                     | 5                  |
| <b>THERMAL</b>                                       | <b>ASTM Test Method</b>      | <b>Dry</b>            | <b>Conditioned</b> |
| Melting Point, C(F)                                  | D-3418                       | 220 (428)             | -                  |
| Heat Deflection @ 264 psi (1.8 MPa) C(F)             | D-648                        | 210 (410)             | -                  |
| Heat Deflection @ 66 psi (.45 MPa) C(F)              | D-648                        | 218 (424)             | -                  |
| Coef. of Linear Thermal Expansion, mm/mm C (in/in F) | E-831                        | 0.38 X10-4            | -                  |
| <b>UL RATINGS</b>                                    | <b>UL Test Method</b>        | <b>Property Value</b> |                    |
| Flammability Rating, 1.5mm                           | UL94                         | HB                    |                    |
| Relative Temperature Index, 1.5mm                    | UL746B                       |                       |                    |
| Mechanical w/o Impact, C                             |                              | 140                   |                    |
| Mechanical w/ Impact, C                              |                              | 115                   |                    |
| Electrical, C                                        |                              | 140                   |                    |
| <b>ELECTRICAL</b>                                    | <b>ASTM Test Method</b>      | <b>Dry</b>            | <b>Conditioned</b> |
| Volume Resistivity, 1.5 mm                           | D-257                        | >1E13                 | -                  |

