



## Ultramid® A3X2G5 BK23187

BASF Corporation - Polyamide 66

Monday, November 4, 2019

### General Information

#### Product Description

Ultramid A3X2G5 BK23187 is a 25% glass fiber reinforced, pigmented black injection molding PA66 grade with improved flame retardance and enhanced long-term performance. Flame retardant based on red phosphorus; outstanding mechanical and electrical properties.

#### General

|                        |                                                                |
|------------------------|----------------------------------------------------------------|
| Material Status        | • Commercial: Active                                           |
| Availability           | • North America                                                |
| Filler / Reinforcement | • Glass Fiber, 25% Filler by Weight                            |
| Additive               | • Flame Retardant [Red phosphorus]                             |
| Features               | • Flame Retardant • Good Electrical Properties • Oil Resistant |
| Agency Ratings         | • EC 1907/2006 (REACH)                                         |
| RoHS Compliance        | • RoHS Compliant                                               |
| Appearance             | • Black                                                        |
| Forms                  | • Pellets                                                      |
| Processing Method      | • Injection Molding                                            |

### ASTM & ISO Properties <sup>1</sup>

| Physical                                           | Dry     | Conditioned | Unit                   | Test Method |
|----------------------------------------------------|---------|-------------|------------------------|-------------|
| Density                                            | 1.34    | --          | g/cm <sup>3</sup>      | ISO 1183    |
| Melt Volume-Flow Rate (MVR)<br>275°C/5.0 kg        | 40      | --          | cm <sup>3</sup> /10min | ISO 1133    |
| Water Absorption<br>Saturation, 73°F               | 6.0     | --          | %                      | ISO 62      |
| Water Absorption<br>Equilibrium, 73°F, 50% RH      | 1.4     | --          | %                      | ISO 62      |
| Mechanical                                         | Dry     | Conditioned | Unit                   | Test Method |
| Tensile Stress (Break, 73°F)                       | 19600   | --          | psi                    | ISO 527-2   |
| Tensile Strain (Break, 73°F)                       | 3.0     | --          | %                      | ISO 527-2   |
| Flexural Modulus (73°F)                            | 1.00E+6 | --          | psi                    | ISO 178     |
| Impact                                             | Dry     | Conditioned | Unit                   | Test Method |
| Charpy Notched Impact Strength<br>73°F             | 3.8     | --          | ft-lb/in <sup>2</sup>  | ISO 179     |
| Notched Izod Impact Strength<br>73°F               | 3.3     | --          | ft-lb/in <sup>2</sup>  | ISO 180     |
| Thermal                                            | Dry     | Conditioned | Unit                   | Test Method |
| Heat Deflection Temperature<br>264 psi, Unannealed | 464     | --          | °F                     | ISO 75-2/A  |
| Melting Temperature (DSC)                          | 500     | --          | °F                     | ISO 3146    |
| RTI Elec                                           |         |             |                        | UL 746      |
| 0.024 in                                           | 230     | --          | °F                     |             |
| 0.03 in                                            | 248     | --          | °F                     |             |
| 0.06 in                                            | 248     | --          | °F                     |             |
| 0.12 in                                            | 248     | --          | °F                     |             |

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| Thermal                    | Dry     | Conditioned | Unit    | Test Method |
|----------------------------|---------|-------------|---------|-------------|
| RTI Imp                    |         |             |         | UL 746      |
| 0.024 in                   | 239     | --          | °F      |             |
| 0.03 in                    | 239     | --          | °F      |             |
| 0.06 in                    | 239     | --          | °F      |             |
| 0.12 in                    | 239     | --          | °F      |             |
| RTI Str                    |         |             |         | UL 746      |
| 0.03 in                    | 266     | --          | °F      |             |
| 0.06 in                    | 266     | --          | °F      |             |
| 0.12 in                    | 266     | --          | °F      |             |
| Electrical                 | Dry     | Conditioned | Unit    | Test Method |
| Volume Resistivity         | 1.0E+15 | 1.0E+12     | ohms·cm | IEC 60093   |
| Electric Strength          | 840     | 760         | V/mil   | IEC 60243-1 |
| Dissipation Factor (1 MHz) | 0.020   | 0.10        |         | IEC 60250   |
| Comparative Tracking Index | 550     | 550         | V       | IEC 60112   |
| Flammability               | Dry     | Conditioned | Unit    | Test Method |
| Flame Rating               |         |             |         | UL 94       |
| 0.024 in                   | HB      | --          |         |             |
| 0.03 in                    | V-0     | --          |         |             |
| 0.06 in                    | V-0     | --          |         |             |
| 0.12 in                    | V-0     | --          |         |             |

## **Processing Information**

| Injection              | Dry         | Unit |
|------------------------|-------------|------|
| Drying Temperature     | 176         | °F   |
| Drying Time            | 2.0 to 4.0  | hr   |
| Suggested Max Moisture | 0.050       | %    |
| Processing (Melt) Temp | 545 to 572  | °F   |
| Mold Temperature       | 176 to 194  | °F   |
| Injection Pressure     | 508 to 1810 | psi  |
| Injection Rate         | Fast        |      |

## **Notes**

<sup>1</sup> Typical properties: these are not to be construed as specifications.