

**Ineos ABS Triax® 3050 ABS/Nylon Alloy, Injection Molding Grade (DAM) (discontinued \*\*)**



**Categories:** [Polymer](#); [Thermoplastic](#); [ABS Polymer](#); [Acrylonitrile Butadiene Styrene \(ABS\)/Nylon Blend](#); [Nylon \(Polyamide PA\)](#)

**Material** Triax® 3050 resin is an ABS (Acrylonitrile Butadiene Styrene)/Nylon 6 alloy for injection molding. It is a semicrystalline thermoplastic with improved stability to light exposure, excellent processability, good chemical resistance, good fatigue performance, and excellent abrasion characteristics. Triax® 3050 resin exhibits a good balance of impact strength and flow properties. Typical applications include interior automotive applications.

**Notes:**

Triax® is now a INEOS Styrolution trade name; this grade is discontinued. Information provided by the manufacturer.

**Vendors:** No vendors are listed for this material. Please [click here](#) if you are a supplier and would like information on how to add your listing to this material.

| Physical Properties                                                                                                            | Metric                                                                    | English                                                                       | Comments                                                    |
|--------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|-------------------------------------------------------------------------------|-------------------------------------------------------------|
| Specific Gravity                                                                                                               | <a href="#">1.06</a> g/cc                                                 | <a href="#">1.06</a> g/cc                                                     | ASTM-D792                                                   |
| Density                                                                                                                        | <a href="#">1.05</a> g/cc                                                 | <a href="#">0.0380</a> lb/in <sup>3</sup>                                     | ASTM-D792                                                   |
| Water Absorption                                                                                                               | 1.1 %<br>@Time 86400 sec                                                  | 1.1 %<br>@Time 24.0 hour                                                      | ASTM-D570                                                   |
| Water Absorption at Saturation                                                                                                 | 4.3 %                                                                     | 4.3 %                                                                         | ASTM-D570                                                   |
| Linear Mold Shrinkage                                                                                                          | <a href="#">0.0090</a> cm/cm                                              | <a href="#">0.0090</a> in/in                                                  | ASTM-D955                                                   |
| Linear Mold Shrinkage, Transverse                                                                                              | <a href="#">0.010</a> cm/cm                                               | <a href="#">0.010</a> in/in                                                   | ASTM-D955                                                   |
| Melt Flow                                                                                                                      | <a href="#">6.0</a> g/10 min<br>@Load 5.00 kg,<br>Temperature 260 °C      | <a href="#">6.0</a> g/10 min<br>@Load 11.0 lb,<br>Temperature 500 °F          | ASTM-D1238                                                  |
| Mechanical Properties                                                                                                          | Metric                                                                    | English                                                                       | Comments                                                    |
| Hardness, Rockwell R                                                                                                           | 105                                                                       | 105                                                                           | ASTM-D785                                                   |
| Tensile Strength, Yield                                                                                                        | <a href="#">43.4</a> MPa                                                  | <a href="#">6300</a> psi                                                      | ASTM-D638                                                   |
| Elongation at Break                                                                                                            | >= 50 %                                                                   | >= 50 %                                                                       | ASTM-D638                                                   |
| Tensile Modulus                                                                                                                | <a href="#">2.17</a> GPa                                                  | <a href="#">315</a> ksi                                                       | ASTM-D638                                                   |
| Flexural Yield Strength                                                                                                        | <a href="#">75.2</a> MPa                                                  | <a href="#">10900</a> psi                                                     | ASTM-D790                                                   |
| Flexural Modulus                                                                                                               | <a href="#">2.07</a> GPa                                                  | <a href="#">300</a> ksi                                                       | ASTM-D790                                                   |
| Izod Impact, Notched                        | <a href="#">0.694</a> J/cm<br>@Thickness 6.35 mm,<br>Temperature -40.0 °C | <a href="#">1.30</a> ft-lb/in<br>@Thickness 0.250 in,<br>Temperature -40.0 °F | ASTM-D256                                                   |
|                                                                                                                                | <a href="#">0.801</a> J/cm<br>@Thickness 3.17 mm,<br>Temperature -40.0 °C | <a href="#">1.50</a> ft-lb/in<br>@Thickness 0.125 in,<br>Temperature -40.0 °F | ASTM-D256                                                   |
|                                                                                                                                | <a href="#">7.47</a> J/cm<br>@Thickness 6.35 mm,<br>Temperature 22.8 °C   | <a href="#">14.0</a> ft-lb/in<br>@Thickness 0.250 in,<br>Temperature 73.0 °F  | ASTM-D256                                                   |
|                                                                                                                                | <a href="#">8.01</a> J/cm<br>@Thickness 3.17 mm,<br>Temperature 22.8 °C   | <a href="#">15.0</a> ft-lb/in<br>@Thickness 0.125 in,<br>Temperature 73.0 °F  | ASTM-D256                                                   |
|                                                                                                                                | <a href="#">47.5</a> J<br>@Temperature -40.0 °C                           | <a href="#">35.0</a> ft-lb<br>@Temperature -40.0 °F                           | 0.100-in.; 0.5-in. dart; 1.6-in. clamp; 7.6 mph; ASTM-D3763 |
|                                                                                                                                |                                                                           |                                                                               |                                                             |
| Electrical Properties                                                                                                          | Metric                                                                    | English                                                                       | Comments                                                    |
| Surface Resistance                                                                                                             | <a href="#">8.30e+15</a> ohm                                              | <a href="#">8.30e+15</a> ohm                                                  | ASTM-D257                                                   |
| Dielectric Constant                                                                                                            | 3.5<br>@Frequency 1.00e+6 Hz                                              | 3.5<br>@Frequency 1.00e+6 Hz                                                  | Tinfoil Electrodes; ASTM-D150                               |
| Dielectric Strength                                                                                                            | <a href="#">16.7</a> kV/mm<br>@Thickness 1.57 mm                          | <a href="#">425</a> kV/in<br>@Thickness 0.0620 in                             | Short time under oil; ASTM-D149                             |
| Dissipation Factor                                                                                                             | 0.024<br>@Frequency 1.00e+6 Hz                                            | 0.024<br>@Frequency 1.00e+6 Hz                                                | Tinfoil Electrodes; ASTM-D150                               |
| Thermal Properties                                                                                                             | Metric                                                                    | English                                                                       | Comments                                                    |
| Deflection Temperature at 0.46 MPa (66 psi)  | <a href="#">90.0</a> °C<br>@Thickness 3.17 mm                             | <a href="#">194</a> °F<br>@Thickness 0.125 in                                 | Unannealed; ASTM-D648                                       |
|                                                                                                                                | <a href="#">97.2</a> °C<br>@Thickness 6.35 mm                             | <a href="#">207</a> °F<br>@Thickness 0.250 in                                 | Unannealed; ASTM-D648                                       |


|                                             |                         |                        |                                |
|---------------------------------------------|-------------------------|------------------------|--------------------------------|
| Deflection Temperature at 1.8 MPa (264 psi) | @Thickness 0.55 mm      | @Thickness 0.250 in    | Unannealed; ASTM-D648          |
|                                             | <a href="#">65.0</a> °C | <a href="#">149</a> °F |                                |
| Vicat Softening Point                       | @Thickness 3.17 mm      | @Thickness 0.125 in    | Unannealed; ASTM-D648          |
|                                             | <a href="#">73.9</a> °C | <a href="#">165</a> °F |                                |
|                                             | @Thickness 6.35 mm      | @Thickness 0.250 in    |                                |
|                                             | <a href="#">185</a> °C  | <a href="#">365</a> °F | Rate B, 120°C/hour; ASTM-D1525 |
|                                             | @Load 1.00 kg           | @Load 2.20 lb          |                                |

| Processing Properties     | Metric                                            | English                                          | Comments          |
|---------------------------|---------------------------------------------------|--------------------------------------------------|-------------------|
| Rear Barrel Temperature   | <a href="#">232</a> - <a href="#">266</a> °C      | <a href="#">450</a> - <a href="#">511</a> °F     | Injection Molding |
| Middle Barrel Temperature | <a href="#">232</a> - <a href="#">266</a> °C      | <a href="#">450</a> - <a href="#">511</a> °F     | Injection Molding |
| Front Barrel Temperature  | <a href="#">232</a> - <a href="#">266</a> °C      | <a href="#">450</a> - <a href="#">511</a> °F     | Injection Molding |
| Nozzle Temperature        | <a href="#">249</a> - <a href="#">260</a> °C      | <a href="#">480</a> - <a href="#">500</a> °F     | Injection Molding |
| Melt Temperature          | <a href="#">238</a> - <a href="#">271</a> °C      | <a href="#">460</a> - <a href="#">520</a> °F     | Injection Molding |
| Mold Temperature          | <a href="#">38.0</a> - <a href="#">66.0</a> °C    | <a href="#">100</a> - <a href="#">151</a> °F     | Injection Molding |
| Drying Temperature        | <a href="#">88.0</a> °C                           | <a href="#">190</a> °F                           |                   |
|                           | @Time 7200 - 14400 sec                            | @Time 2.00 - 4.00 hour                           |                   |
| Moisture Content          | 0.15 - 0.35 %                                     | 0.15 - 0.35 %                                    |                   |
| Dew Point                 | <= <a href="#">-29.0</a> °C                       | <= <a href="#">-20.2</a> °F                      | inlet air         |
| Injection Pressure        | <a href="#">41.4</a> - <a href="#">82.7</a> MPa   | <a href="#">6000</a> - <a href="#">12000</a> psi | Injection Molding |
| Back Pressure             | <a href="#">0.345</a> - <a href="#">0.689</a> MPa | <a href="#">50.0</a> - <a href="#">100</a> psi   | Injection Molding |
| Clamp Pressure            | <a href="#">46.2</a> - <a href="#">77.0</a> MPa   | <a href="#">6700</a> - <a href="#">11200</a> psi | Injection Molding |
| Cushion                   | <= <a href="#">0.317</a> cm                       | <= <a href="#">0.125</a> in                      | Injection Molding |

#### Descriptive Properties

|                                       |                                                 |                   |
|---------------------------------------|-------------------------------------------------|-------------------|
| Hold Pressure                         | 30-50% of Injection Pressure, Injection Molding |                   |
| Injection Speed                       | Fast                                            | Injection Molding |
| Screw Compression Ratio               | 2.5:1                                           | Injection Molding |
| Screw Length-to-Diameter Ratio        | >= 20:1                                         | Injection Molding |
| Screw Speed                           | Moderate, Injection Molding                     |                   |
| Shot Weight-to-Machine Capacity Ratio | 0.5-0.7                                         | Injection Molding |

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Materials flagged as discontinued (  ) are no longer part of the manufacturer's standard product line according to our latest information. These materials may be available by special order, in distribution inventory, or reinstated as an active product. Data sheets from materials that are no longer available remain in MatWeb to assist users in finding replacement materials.

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