

Plantic® HF301 Granules

Plantic Technologies Limited develops and produces advanced bio-based materials. Plantic® is an innovative product made from corn-starch (maize) that is Australian grown and non-genetically modified. Plantic® is an Australian registered trademark of Plantic Technologies Limited.



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Physical Properties – Plantic® HF301

| Property | Test Method | Value | Units |
|-----------------------------|-------------|-------|-------------------|
| Density | ASTM D792 | 1.440 | g/cm ³ |
| Max. Tensile Stress | ASTM D638 | 19 | MPa |
| Elongation at Break | ASTM D638 | 135 | % |
| Young's Modulus | ASTM D638 | 800 | MPa |
| Izod Impact Strength | ASTM D256 | 32.4 | J/m |
| Heat Deflection Temperature | ASTM D648 | | |
| | @ 0.455 MPa | 37.1 | °C |
| Vicat Softening Point | ASTM D1525 | 45.0 | °C |
| Shore D Hardness | ASTM D2240 | 45 | Shore D |

Recommended Processing Conditions

| Parameter | Min | Max | Comment |
|--------------------------|-----|-----|---|
| Melt Temperature [°C] | 175 | 200 | |
| Feed section [°C] | 110 | 150 | |
| Compression section [°C] | 150 | 170 | |
| Metering section [°C] | 160 | 190 | |
| Nozzle [°C] | 170 | 190 | |
| Mold [°C] | 25 | 50 | |
| Screw speed [rpm] | 50 | 150 | Dependant on screw diameter, shot size and plastication rate. |
| Back Pressure [MPa] | 0 | 10 | |
| Mold shrinkage [%] | 1.2 | 1.5 | Dependant on part thickness. |

Grade

Plantic® HF301 is a thermoplastic starch (TPS) polymer formulated for injection molding. It has been designed to be used for thin walled (0.5 - 1.5 mm wall thickness), flexible injection molded applications.

Comments

Material should be dried prior to use, with a target moisture content between 2% and 3%. Material can be dried in a conventional hopper drier for 10-12 hours @ 70°C.

Material is suitable for use in food contact applications. Refer Plantic Material Safety Data Sheet for further information.

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