

Plantic® WR700 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® WR700 Granules

Property	Test Method	Value	Units
Density	ASTM D792	1.348	g/cm ³
Max. Tensile Stress	ASTM D638	7.5	MPa
Elongation at Break	ASTM D638	2	%
Young's Modulus	ASTM D638	630	MPa
Izod Impact Strength	ASTM D256	31.1	J/m
Heat Deflection Temperature	ASTM D648		
	@ 0.455 MPa	44.9	°C
Vicat Softening Point	ASTM D1525	70.2	°C
Shore D Hardness	ASTM D2240	52.4	

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	180	
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 [%]	0.6	0.9	Dependant on part thickness.

Grade

Plantic® WR700 is a thermoplastic starch (TPS) polymer formulated for injection molding. It has been designed to be used in applications requiring water resistance for periods of up to 12 weeks. It is suitable for molding parts with a wall thickness between 0.5 - 3.0 mm.

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 3-4 hours @ 70°C.

Refer Plantic Material Safety Data Sheet for further information.

Values quoted reflect tests on samples with 2–3% moisture content. The product may not conform in all respects. Plantic does not guarantee this information and makes no representation or warranty, express or implied, regarding this information or its completeness or fitness for any purpose. You must determine the most suitable formulation, production method and control tests to ensure your product complies with all laws and meets your purposes. Subject to rights or remedies which cannot be excluded, restricted or modified arising under the Trade Practices Act (Australia) 1974 or other laws, Plantic will not be liable (including in negligence) for any damage, loss, liability or expense (whether direct or indirect, consequential or incidental) suffered or incurred by anyone in connection with this information. Plantic's liability under such laws is limited, where permissible by law, to replacement of relevant goods or re-supply of relevant services. Plantic may change the product composition without changing the product code or name so please ensure this document is current.