

Home compostable FibrQ compound (20-40% wood fibers)

Description:

Compounded formulations with FibrQ content of 20, 30 and 40wt% mixed via a Twin-screw extruder. The composites are fully biodegradable (based on i) a polymer resin based on sugar cane and ii) FibrQ), and home compostable (HC) so they can be disposed together with organic waste.



The samples also include 2% coupling agent. No further additives such as impact modifier or flowability aids were used, though they could be added to further improve some of the properties.

FibrQ is Biofiber Tech's product, consisting of surface-modified wood fibers with enhanced hydrophobicity, low moisture absorption and high flowability within polymer matrices.

General:

Processing Method	Injection molding
Forms	Pellets
Filler	Surface modified wood fiber, 20-40% filler by weight
Density	Ca. 1.24 g/cm ³
Renewable carbon content	48.8-61.6% (depending on % wood fibers)
Recommended Processing temperature	140-160°C
Melting temperature	84°C (ISO3146)
Shrinkage rate	0.34%

Typical properties:

Home compostable FibrQ formulations containing 20% wood fibers.

Feature	Method	Unit	HC01-20
Tensile strength	ISO 527-2:2012	MPa	20.3
Tensile modulus	ISO 527-2:2012	MPa	809
Elongation at Break	ISO 527-2:2012	%	7.75
Impact strength (Charpy unnotched; 23°C)	ISO 179-1:2010	kJ/m ²	20.7

Home compostable FibraQ formulations containing 30% wood fibers.

Feature	Method	Unit	HC01-30
Tensile strength	ISO 527-2:	MPa	22.3
Tensile modulus	ISO 527-2:2012	MPa	1135
Elongation at Break	ISO 527-2:2012	%	4.39

Home compostable FibraQ formulations containing 40% wood fibers.

Feature	Method	Unit	HC01-40
Tensile strength	ISO 527-2:	MPa	33.93
Tensile modulus	ISO 527-2:2012	MPa	2334
Elongation at Break	ISO 527-2:2012	%	2.59
MFI (190°C)	ISO 1133-1:2012	(g/10 min)	2.59

The values were measured on standardized test specimens and can be affected by pigmentation, mould design and processing conditions. Biofiber Tech is therefore not responsible for the accuracy of the provided values and cannot give any warranty with regard to the correctness.

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