



Plastics reinforced by agrofibres fact sheet

Agrofibres are highly competitive with glass fibres as reinforcers of plastics due to their advantageous price-performance ratio. Agrotechnology & Food Innovations has developed an innovative processing technique for the compounding of agrofibres in plastics (patent published, EP 1 075 377 B1, US 6,565,348 B1), which can be applied on existing machinery. The 'green granules' can be processed into products for a wide range of applications.

Why Agrofibres

In plastic compounds, agrofibres can compete with glass fibres on the basis of their intrinsic mechanical properties. The strength of the agrofibres is up to 80 percent of the strength of glass fibres, whereas their stiffness can exceed it. Supplementary benefits include low cost, low density, and renewability. In addition, agrofibres are less abrasive during processing with thermoplastics and do not expose operators to potential safety or health risks.

Agrofibre compounds, facts

- ❖ materials: PP homopolymer + coupling agent, 50% by weight
annual bast fibre, 50% by weight
- ❖ processing: twin-screw extrusion compounding
injection moulding
- ❖ tests: flexural properties (ISO 178, ASTM D790M)
tensile properties (ISO 527-2, ASTM D638)
Charpy impact, unnotched (ISO 179/1f, ASTM D256)
- ❖ properties:

flexural modulus	>	6.500 MPa
flexural strength	>	100 MPa
flexural elongation	~	3 %
tensile modulus	>	5.600 MPa
tensile strength	>	55 MPa
tensile elongation	~	2.5 %
Charpy impact	>	20 kJ/m ²

For further information, please contact:

Martin H.B. Snijder, MSc.
Phone: +31.317.475.197
Fax: +31.317.475.347
E-mail: martin.snijder@wur.nl

Or visit our new website: www.agrofibrecomposites.com