

# Technical Data Sheet

CEBICO HDPE20 22RID026



## Description

CEBICO HDPE20 22RID026 is a natural fibre composite, primarily consisting of high-density polyethylene mixed with TMP, or thermo-mechanical pulp. The composite has minimal additives, but rather well processed fibres to enhance mechanical performance and moldability. The composite is natural light brown and has moderate number of visible agglomerates.

## Other product names/terms

Bio Composite (BC), Natural Fibre Composite (NFC)

## Key features

High strength, high stiffness, low shrinkage, very low carbon footprint.

## Typical characteristics

<b>Physical properties</b>	<b>Value</b>	<b>Unit</b>	<b>Test method</b>
Specific density	980	kg/m <sup>3</sup>	ISO 1183
Shrinkage	0.9	%	ISO 294
Moisture content	< 0.2	%	Saugbrugs
Fibre content	20	%	Saugbrugs
Melt flow rate	8.6	g/10 min	ISO 1133, 5 kg @190 °C
Oxidation induction time	9	min	ISO 11357-7, 200 °C

<b>Mechanical property</b>	<b>Value</b>	<b>Unit</b>	<b>Test method</b>
Tensile modulus	1650	MPa	ISO 527-2
Tensile stress at yield	25	MPa	ISO 527-2
Tensile strain at yield	1.0	%	ISO 527-2
Tensile stress at break	29	MPa	ISO 527-2
Tensile strain at break	3.0	%	ISO 527-2
Flexural modulus	1800	MPa	ISO 178
Flexural strength	36	MPa	ISO 178
Charpy impact strength	2.8	kJ/m <sup>2</sup>	ISO 179-2, 1eA @ 23 °C

## Processing

Before use the material should be dried at 80 °C for minimum 1 hours. It is recommended to process the material at 190 °C or lower. It is important that the composite is not processed at temperatures above 190 °C. Injection speed and pressure should be at a moderate level to minimize generated shear heat in the material to maintain correct melt temperature. Processing above recommended temperature will affect negatively on mechanical properties and colour.

## Chemical composition

Primary component in CEBICO HDPE20 22RID026 is virgin high-density polyethylene. 20% of the total weight is substituted with thermo-mechanical pulp. Dispersed into the plastic polymer, the TMP reinforces the polymer matrix for improved mechanical properties.

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## *Packaging*

Big bags (< 1% m.c) or 25 kg bags (< 1% m.c), or in bulk.

## *Recycling*

CEBICO rPP30 22RID001 can be grinded, melted and remoulded like standard polypropylene.

## *Environment*

Comparing CEBICO HDPE20 22RID026 to average virgin material, the carbon footprint is reduced by up to 20%. CEBICO is fit for recycling and can replace normal plastic and glass fibre reinforced plastic as a more environmentally friendly alternative. The TMP fibres are produced from renewable and certificated raw materials and has very low carbon footprint additional to being processed using clean electric energy.

Contact us for more in-depth information about environmental impact of CEBICO natural fibre composites.

## *Storage*

Avoid prolonged exposure to UV-light, extreme temperatures and high humidity. Store in ambient room temperature. Improper storage can have negative effects on physical, visual and mechanical properties.

## *Shelf life*

Follow CEBICO storage instructions will maximize the shelf life of the material, maintain optimal properties and minimize degradation.

## *Disclaimer*

The information in this document is provided in good faith and to the best of our knowledge accurate and reliable as of the date of publication. We do not assume any liability, direct or indirect with respect to shelf life, performance, suitability or fitness for intended use in any application. Each customer must determine the suitability of the material for their particular use through appropriate testing and analysis. The customer is responsible for the appropriate, safe and legal use, processing and handling of our products.

## *Contact:*

For any inquires, technical or sales, please contact by sending email to [cebico@norskeskog.com](mailto:cebico@norskeskog.com)



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