TECHNICAL DATA-SHEET
Mater-Bi® EE53C2

AVERAGE PHYSICAL AND MECHANICAL PROPERTIES[1]

Property	Unit	Test	Value	Note
THERMAL				
Melting temperature	°C	ASTM D3418-15	145	raw pellets
RHEOLOGICAL				
Melt Flow Rate (MFR)	g/10'	ISO 1133-1:2011	3.5	raw pellets; 190°C; 2.16kg
MECHANICAL				
Tensile strength at break	MPa	ASTM D638-14	43	type I injection moulded specimen
Elongation at break	%	ASTM D638-14	2.5	type I injection moulded specimen
Young modulus	MPa	ASTM D638-14	3190	type I injection moulded specimen
OTHER				
Density	g/cm^3	ASTM D792-13	1.31	raw pellets at 23°C

[1] *typical properties; not to be construed as product specifications*

APPLICATIONS

Mater-Bi® EE53C2 is a biodegradable thermoplastic material for extrusion of tubular profiles. It is mainly used for the production of straws.

TYPICAL EQUIPMENT & EXTRUSION CONDITIONS

1. **EXTRUDER:** Preferably: single screw, L/D > 25
2. **SCREW:** Screws for PP, PS and PE extrusion are generally suitable
3. **TEMPERATURE PROFILE:** Hopper: water cooled as much as possible (5÷10°C); Feeding section = 160÷180°C; Barrel zones = 170÷190°C; Filter = 180÷200°C; Die head = 180÷200°C

GENERAL SUGGESTIONS

HANDLING: Mater-Bi® EE53C2, as supplied by Novamont, is ready to use.
Mater-Bi® EE53C2 is moisture sensitive; the original packaging must be opened just before production.
When production is finished, reseal hermetically remaining quantities of Mater-Bi® EE53C2 in its original packaging or other barrier containers. Novamont anyhow recommends to convert all the material, once the original packaging has been opened.
When switching from PS, cleaning the barrel with LDPE before introducing Mater-Bi® EE53C2 is recommended.
Purge barrel after production, eventually with LDPE.
Please, refer to the Safety Data Sheet for a correct handling of the molten material and for a safe processing.
STORAGE: store Mater-Bi® EE53C2 in a cool and dry warehouse, sealed in its original packaging, away from heat and light. Novamont recommends to convert Mater-Bi® EE53C2 within 6 (six) months from the delivery date.

CERTIFICATES

COMPOSTABILITY: Mater-Bi® EE53C2 has got following certificates:

Ok Compost® Cert. No. TA8011903613

FOOD CONTACT APPROVAL: for Mater-Bi® EE53C2 the declaration of compliance to the Commission Regulation (EU) 10/2011 (PIM), on plastic materials and articles intended to come into contact with food, is available.
Substances subject to specific migration limit (SML) are present in the material and specific use conditions apply.
Please refer to the Declaration of Conformity according to 10/2011 Regulation and to DM 21/03/73:
- to check if the herein material is suitable for your intended application
- to plan adequate testing to check compliance to the relevant food contact legislation

BIO-BASED CONTENT: Mater-Bi® EE53C2 contains renewable raw materials.
The bio-based content (the renewable material content) is ≥ **60%** (bio-based carbon content by total carbon content, expressed as a percentage of the total carbon content as per ISO 16620-2:2015 or CEN/TS 16640:2014 or EN 16640:2017).
For the purpose of demonstrating compliance to regulatory or voluntary bio-based specifications, the recipient must verify the bio-based content on his finished products and issue his own documentation.
The use of masterbatches, additives and mixing with other materials may affect the bio-based content.