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Especificações Técnicas:

ARBOFILL pine natural

*

Mechanical quality	Standard	Unit	Average*
Yield stress	DIN EN ISO 527	N/mm^2	27,89
Yield strain	DIN EN ISO 527	%	3,57
Tensile stress at break	DIN EN ISO 527	N/mm^2	26,74
Tensile strain at break	DIN EN ISO 527	%	4,48
Tensile modulus	DIN EN ISO 527	N/mm^2	2735

*Standard deviations: max. ±10% from the average

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Guidelines for ARBOFILL granules on injection moulding machines

Important information:

- Manufacture ARBOFILL granules exclusively together with suitable plastics (f. ex. Polyolefin)
- It is recommended to manufacture ARBOFILL granules together with min. 20% of a suitable plastic. The standard mixing is 30% of PP.
- Do not manufacture ARBOFILL granules together with plastics at more than 190°C, otherwise there is the danger of inflammation.
- ARBOFILL granules should be pre-dried during 2 hours at 80 °C (to avoid/decrease the formation of clouds on the surface)
- Normal stock conditions (dry, not more than 25°C).
- Bring the injection moulding machine on the manufacture temperature mentioned below with LD-PE.
- Do not leave the material longer than half an hour at manufacture temperature in the injection moulding machine; in the case of longer dwell time clean intermediately with LD-PE.
- Clean the injection moulder after the manufacture with PE-LD or cleaning granules.
- Do not leave hot plastics in connection with ARBOFILL unsupervised, but cool them off immediately f. ex. in water, otherwise there is danger of inflammation.
- A characteristic (wood-like) smell development is normal.

Screw model: Standard-3-zone screw (no mixing elements), standard non-return valve

Injection mould: open (2.5 to 5.0 mm)

Dosing rate: depending on the appearing frictional heat and the cycle time (Dosing time delay if possible)

Dynamic pressure: approx. 0 - 10 bar (hydraulic)
Injection speed: so high that the cavity is filled within 1 – 3 seconds

Follow-up pressure: approx. 5 – 30 bar (hydraulic)
Holding pressure time: approx. 0.5 – 3 sec (little decrease in size)

Mould temperature: 20°C … 70°C (according to the surface quality).
Hot runner: 180°C … 200°C
Cooling time: up to max. 20% more than with unfilled thermoplastics

Barrel temperature: (example)

- Injection mould: 160°C … 180°C
- Zone 3: 170°C … 190°C
- Zone 2: 160°C … 180°C
- Zone 1: 130°C … 160°C
- Feed section: 30°C … 60°C

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EU Safety Data Sheet
Last update: February 2004

1. Terms of material, formulation and company

- Trade name:

ARBOFILL

- Information on the manufacturer/supplier:
  Tecnaro Gesellschaft zur industriellen Anwendung nachwachsender Rohstoffe mbH
  Am Goldberg 2
  99817 Eisenach, Germany
  Tel.: +49 3691 621-320 (Fax: -329)
  E-mail: info@tecnaro.de

2. Composition/Information on ingredients

- Chemical characterisation:
  a) lignocellulose
  b) polyolefin, carboxylated polyolefin
  c) natural fatty acids

3. Possible dangers

- possibly appearing dusts could cause light irritations of
  a) Eyes b) Skin c) Breathing apparatus
- At normal industrial use there is no danger of
  d) Ingestion; all substances included seem to be not toxic.

4. First aid

a) Eyes: Rinse thoroughly with water
b) Skin: Wash thoroughly with water and soap
c) Breathing apparatus: Provide supply of fresh air
d) Ingestion: drink 2-3 glasses of water and if necessary see a doctor

- See the doctor if there are persistent irritations, esp. of the eyes

5. Measures for fire-fighting

- Suitable extinguishing mediums: water, Co_2, dry powder, foam.
- Combustion products: SO_2, CO, CO_2 and volatile organic substances
- Safety equipment for fire-fighting: inhalation protection, protective clothing

6. Measures in case of unintentional release

- clear away the material and pack it in cardboard boxes or sacks, avoid the production of dust
- See also points 8. and 13.

7. Handling and storage

- Handling: Avoid the production of dust.
- Storage: Well packed, cool and dry.

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EU Safety Data Card
Last update: February 2004

8. Exposition limit and personal safety equipment

The following protective measures should be taken for the handling of very large quantities:

a) Eyes: Wear safety goggles.
b) Skin: Wear gloves and over clothes
c) Breathing apparatus: Wear a dust mask (particle filter class P1)

9. Physical-chemical properties

- Appearance: brown pellets
- Smell: wooden
- PH-value (at 100g/l H_2O, 20°C): 6,9
- Melting point/melting range: not determinable
- Ignition temperature: not usable
- Apparent density: 0,6g/cm^3
- Dissolving power (H_2O, 20°C) not soluble

10. Stability and reactivity

The formulation is stable under normal conditions and there were neither dangerous reactions nor dangerous decomposition products observed.

11. Information on the toxicology

There are neither toxicological short-term effects nor long-term effects known. The formulation has to be seen as toxicologically safe.

12. Information on the ecology

As the formulation consists exclusively of biodegradable materials it can be seen as ecologically harmless.

13. Information on the disposal

The disposal is made most suitable by biological degradation or combustion in paying attention to the local rules.

14. Information on the transport

The formulation is no dangerous good in the sense of the transport rules.

15. Rules

No special rules.

16. Other Information

ARBOFILL may only be used for the designated professional processing. The processing company is responsible for the attention of the safety advice.

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Guidelines for ARBOFILL granules on extruders

Important information:

- Normal stock conditions (dry, not more than 25°C).
- ARBOFILL granules have to be pre-dried (during 2 hours at 80 °C) if there is no vent zone on the extruder. Otherwise an undesirable pressure build-up in the mould, resp. a development of bubbles in the profile caused by the steam pressure is possible.
- Manufacture ARBOFILL granules exclusively together with suitable plastics (f. ex. Polyolefin).
- It is recommended to manufacture ARBOFILL granules for the extrusion together with min. 10% of a suitable plastic material.
- Bring the extruder on the manufacture temperature mentioned below before manufacture, f. ex. With LD-PE.
- Do not manufacture ARBOFILL granules together with plastics at more than 190°C mass temperature.
- Do not leave the material more than half an hour with manufacture temperature in the extruder; in the case of longer dwell time use intermediately f. ex. LD-PE.
- Clean the extruder after the manufacture, f. ex. With LD-PE or cleaning granules.
- Do not keep ARBOFORM® together with another hot polymer (danger of burning), cool down immediately, e.g. using water.
- A characteristic (wood-like) fume and smell development is normal

Screw design: Double screw (preferred) or one-screw
Mass temperature: max. 190°C (if higher, fast thermal decrease of the natural Fibres).
Cylinder temperatures (example with Polyolefin):

- Mould: 140 °C ... 160 °C,
- Zone 4: 150 °C ... 170 °C,
- Zone 3/vent: 160 °C ... 180 °C,
- Zone 2: 160 °C ... 190 °C,
- Zone 1: 140 °C ... 190 °C,
- Feed section: 30 °C ... 60 °C.

Minimum thickness 1,5 mm
If necessary add PP or polyetilene – 10% - 20%

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