

TECHNICAL DATA SHEET: EBM.05

By Emamou



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Language: English

Product Description

EBM.05 (PBAT/PLA) Compound is a biodegradable compound, composed primarily of PLA and PBAT- 2 types of biodegradable resin with 95% of product formulation.

Applications

EBM.05 Compound is designed for blown film processing. With low MI, EBM.05 Compound can be used to produce very thin film (minimum of 11 microns). It can also be processed on conventional blown film equipment. The material is stable in the molten state provided that proper drying procedures are followed.

Main application: Shopping bags, Garbage bags, T-shirt bags, Roll bags, and Die-cut bags.



Advantages

- ① EBM.05 Compound is printable, weldable and can be mechanically recycled
- ② Has excellent down-gauging potential (low film thickness possible)
- ③ EBM.05 Compound is cost competitive
- ④ When incinerated, it does not generate any noxious side-products and hazardous gases
- ⑤ EBM.05 Compound is easily extruded on a conventional blow machine
- ⑥ Has high wet- resistance when used for organic waste collection
- ⑦ Has a good tensile strength and therefore offers a high carrying capacity
- ⑧ Has a balanced combination of puncture and tear resistance
- ⑨ EBM.09 Compound can be supplied and tailored according to customer's requirements

Processing Information

In-line drying is recommended for EBM.09 compound. A moisture content of less than 0.25% (25 ppm) is recommended to prevent viscosity degradation. Polymer is supplied in foil lined boxes or bags dried to <0.25% when packaged.

The resin should not be exposed to atmospheric conditions after drying. Keep the package sealed until ready to use and promptly dry and reseal any unused material. The drying curves for both amorphous and crystalline resins are shown as above. It is important to consider accurate initial moisture, when calculating necessary drying time.

| Item | Unit | Value |
|-----------------|------|-----------|
| Cylinder Zone 1 | | 140 ~ 145 |
| Cylinder Zone 2 | °C | 145 ~ 150 |
| Mesh screen | | 150 ~ 160 |
| Die | | 150 ~ 160 |

Average Physical and Mechanical Properties

| Item | Test Conditions | Test Method | Unit | Value |
|------------------------|-----------------|----------------|-------------------|--------|
| Density | 25°C | ISO 1183 | g/cm ³ | 1,25 |
| Melting point | - | DSC | °C | > 165 |
| Melt Flow Rate | 190°C, 2.16kg | ASTM 1238 | g/10min | 1.96 |
| Tensile Strain (MD/TD) | 15 Micron | ISO 527- 31995 | % | 86/517 |
| Tensile Stress (MD/TD) | 15 Micron | ISO 527- 31995 | MPa | 41/17 |
| Inorganic Content | 700°C, 5h | Ash tester | % | < 4% |
| Moisture Content | 80°C, 15min | | % | < 0,25 |
| Particle Size | °C | | mm | 0,5 |
| Appearance | °C | | - | White |

Food Packaging Status

On 07 August 2020, EBM.09 Compound passed the **European Food Contact Standard - Commission Regulation (EU) No 10/2011** for a) Plastic- Overall Migration and b) Plastic-



Specific Migration of Heavy Metals. It also passed the **European Regulation (EC) No. 1907/2006 (REACH)** Annex XVII and its amendments for Polycyclic Aromatic Hydrocarbons (PAHs) content as well as the **European Directive 94/62/EC** (Pb, Cd, Hg, Cr VI).

Test report No: VNHL2007015118HG

No specific migration limit (SML) for the above referenced grade exists following the amended **Plastics Regulation 10/2011** requirements. Emamou would like to draw your attention to the fact that the European Plastics Regulation 10/2011, which applies to all European Member States, includes a limit of 10 mg/dm² of the overall migration from finished plastic articles into food. In accordance with the Plastics Regulation 10/2011 the migration should be measured on finished articles placed into contact with the foodstuff or appropriate food simulants for a period and at a temperature which are chosen by reference to the contact conditions in actual use, according to the rules laid down in Plastics Regulation 10/2011.

Composability Status

EBM.05 Compound fulfils the requirements of the **European Standard EN 13432**, the US standard ASTM D 6400 for compostable and biodegradable polymers, because it can be degraded by micro-organisms. The biodegradation process in soil depends on the specific environment (climate, soil quality, population of micro-organisms).

Bulk Storage Recommendations

The resin silos should be designed to maintain dry air in the silos and for materials to be isolated from the outside air. This design should be in contrast to an open, vented to atmosphere system that is typical for polystyrene resin silos. Key features that are added to a typical (example: polystyrene) resin silo to achieve this objective include a cyclone and rotary valve loading system and pressure vessel relief valves. The dry air put to the system is sized to the resin flow rate out of the silo. Not too much dry air would be needed and there may be excess instrument air (-30°F dew point) available in the plant to meet the needs for dry air. Our estimate is 10 scfm for a 20,000 lb/hour rate resin usage. Typically, resin manufacturers specify aluminum or stainless steel silos for their own use and avoid epoxy-lined steel.



Certification



Equivalent to EN 13432



EN 13432



EU REACH Compliance

Our services

- **Provide in-depth consultation** on how to process or use specific materials and products
- **Design and deliver products** to your specific requirements

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