

TECHNICAL DATA SHEET

POLYBATCH[®] 8850 E

POLYBATCH[®] 8850 E contains 20% of an inorganic, endothermic blowing agent.

POLYBATCH[®] 8850 E reduces the density of polymers by the creation of a cellular structure giving finished products with greater stiffness for a given weight of polymer.

PROPERTIES

- Ammonia-free }
- Odourless } ---> main advantages against nitrogen releasing agents
- White colour }
- No plate out on the mould or on the screw
- Reduced cooling time
- Smooth surface

These are typical properties only and are not to be regarded as sales specification.

APPLICATIONS

- Foamed injection moulded PP, PS and ABS parts.
- Foamed extruded PP and LDPE films: expanded polyolefin films have some of the attributes of paper, e.g. stiffness, appearance, handle and some grease retention, combined with the advantages of a plastic material, i.e. processability and heat sealability. In addition its cellular nature gives the film insulating and cushioning properties.
- Foamed blow moulded HDPE bottles: multiple layer blow moulding with a foamed inside layer is advisable.

PRINCIPLE OF THE PROCESS

The blowing agents in ***POLYBATCH[®] 8850 E*** are substances which decompose at elevated temperatures and liberate mainly CO₂. The rate at which the compound decomposes depends on temperature and thus the amount which is decomposed after a certain interval will depend on the integrated thermal history of the sample. No secondary nucleaters need to be added due to the crystalline nature of the blowing agents. The effect of this is a considerable reduction of screw and die build up. When the melt leaves the high-pressure zone in the die, the gas diffuses into discontinuities in the melt and bubbles are formed. In expanding the melt, the gas has to stretch the polymer in order to create a cell. Clearly the melt temperature, which greatly affects melt strength, must be carefully measured and controlled at this point.

PROCESSING CONDITIONS

Dosage & film quality:

- A prime consideration in extruding cellular materials is control of density. Provided full decomposition is obtained, a density of 0.7 g/cm³ is given by 2% addition of ***POLYBATCH[®] 8850E***.

Users should undertake sufficient verification and testing to determine the suitability for their own purpose of any information or products referred to herein.

Reported values pertain only to natural resins : pigmenting may vary properties.

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- Less masterbatch will give higher densities proportional to the amount used. More masterbatch will not be fully utilised and densities below 0.6 g/cm³ are difficult to obtain.
- Thickness is mainly controlled by drawdown and blow-up ratio. Increasing the ratio does not increase the density appreciably.

Recommended procedure:

Extruder : 90 mm

crew Profile : feed zone 2D, compression 13D, metering 5D.
The compression ratio (depth ratio) is 3.55, the feed depth is 2.5 mm and metering depth is 0.9 mm.

The barrel temperature profile should increase from feed zone to the compression zone and furthermore decrease from the compression zone to the die.

Z1 °C	Z2 °C	Z3 °C	Compression °C	Die °C
190	200	210	210	190

FOOD APPROVAL

POLYBATCH[®] 8850 E can be used for food packaging applications. Detailed information is available upon request.

PACKAGING & STORAGE

POLYBATCH[®] 8850 E is packed in 25 kg Polyethylene bags on shrink-wrapped pallets. **POLYBATCH**[®] 8850 E can be stored up to maximum 12 months at 25°C for optimum performance. Higher temperatures might reduce storage time considerably.

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