Technical Leaflet S-2
BFL 397

March 2013

Styropor® expandable polystyrene

BFL 397 Product

The Chemical Company

Products and their uses
Styropor BFL 397 product can be used in a wide variety of applications for shape molding requiring modified material or high density block molding applications with excellent surface cut appearance.

Description
Modified expandable polystyrene (EPS) containing approximately 3.45 – 3.65 wt% pentane as the blowing agent. The BFL 397 is supplied as spherical beads with a bulk density of approximately 40 lbs/ft^3 (640 kg/m^3).

Packaging and storage
Styropor BFL 397 product is packaged in Flexible Intermediate Bulk Containers of 1,763 lbs (800 kgs). Plastic liners are used to maintain product shelf life by retaining the blowing agent. Styropor products should be stored in a cool place (maximum temperature 80°F). In the unopened bulk containers, the typical shelf life after receipt is 30-60 days. The containers should be protected from rain, snow, frost, direct sunlight and mechanical damage..

Product Specifications			
Material Type	Bead Size (mm)	Applications	Pre-puff Age (dependent on density)
Type II, VIII, IX, XIV, XV	0.60 – 1.25	General modified packaging, panel insulation, ICF	4 to 48 hours

Typical expanded density range*
1.15 – 5.0 lbs/ft^{-3} (18.4– 80.1 g/l) *(Typical densities are first and/or double pass pre-expansion. Results depend on equipment type and processing conditions.)

Processing
Polystyrene foam made from Styropor BFL 397 product is produced in three stages: Pre-expansion, intermediate aging and molding. Full details are given in the brochure *Processing Styropor*.

Pre-expansion
The minimum achievable density is partly dependent on the pre-expansion equipment and technique used. For example, a state-of-the-art batch expander is capable to pre-expand 10 to 15% lower versus a continuous expander. Care should be taken during expansion as prolonged steam times will result in excessive loss of pentane, damage to the pre-puff and ultimate difficulty in achieving acceptable bead fusion during molding.

Intermediate aging
The minimum recommended pre-puff aging period for this product (dependent on density) is four (4) to forty-eight (48) hours. Age at which the product is ready to mold is dependent on ambient temperature, environmental conditions, design of storage silos and molding equipment. A minimum age period of four (4) to ten (10) hours prior to molding can be attempted for densities below 2.0 pcf (32.0 g/L) in shape molding applications. At densities above this, or for block molding applications, a minimum age period of ten (10) to forty-eight (48) hours is recommended. Consideration of bead capabilities should be taken when aging products in excess of forty-eight (48) hours.

Molding
This product is intended for molding on automatic molding machines. Molding can be accomplished under a wide range of conditions and densities.

Useful links:

http://www.StyroporEPS.com

ICC-ES
http://www.icc-es.org/reports/pdf_files/ICC-ES/ESR-1498.pdf

Intertek
http://whdirectory.intertek.com/Pages/DLP_Search.aspx

UL
http://database.ul.com/cgi-bin/XYV/cgifind.new/LISEXT/1FRAME/srchres.html

Regulatory Compliance
EPS foams manufactured from Styropor BFL 397 comply with surface burning characteristics (ASTM E-84), (CAN/ULC S102.2) UL, ULC Building Products classification BRYX, BRYX2, QORW & BTLIC under listing R-5817, in addition to NFPA 286-11 *Methods of Fire Test for Evaluating contribution of Wall and Ceiling Interior Finish to Room Fire Growth.* Physical property (ASTM C-578), (CAN/ULC S701-11) requirements of U.S. and Canada model building codes. ICC Evaluation Service report ER 1498 contains specific code compliance criteria for Styropor BFL 397. EPS foams manufactured from Styropor BFL 397 product meets Packaging UL 94, QMFZ, QMFZ2 classification requirements and have obtained a HF1 rating as described in UL listing E-54675.

Safety
Styropor products and the finished foam products should not be exposed to ignition sources (including open flame, sparks, or electrostatic charges) during storage, processing, shipment and application. Adequate ventilation in all processing areas must be provided to prevent hazardous accumulations of hydrocarbon vapors.
For complete safety precautions and recommendations, refer to the Styropor bulletin S-6 *Fire Safety Precautions in Styropor Processing Plants* and appropriate Material Safety Data Sheets.

Important: While the descriptions, designs, data and information contained herein are presented in good faith and believed to be accurate, it is provided for your guidance only. Because many factors may affect processing or application/use, we recommend that you make tests to determine the suitability of a product for your particular purpose prior to use. NO WARRANTIES OF ANY KNID, EITHER EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANT ABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE MADE REGARDING PRODUCT DESCRIBED OR DESIGNS, DATA OR INFORMATION SET FORTH, OR THAT THE PRODUCTS DESIGNS, DATA OR INFORMATION MAY BE USED WITHOUT INFRINGING THE INTELLECTUAL PROPERTY RIGHTS OF OTHERS. IN NO CASE SHALL THE DESCRIPTIONS, INFORMATION, DATA OR DESIGNS PROVIDED BE CONSIDERED A PROT OF OUR TERMS AND CONDITIONS OF SALE. Further, you expressly understand and agree that the descriptions, designs data and information furnished by BASF hereunder are given gratis and BASF assumes no obligation or liability for the descriptions, designs, data , and information given or results obtained, all such being given and accepted at your risk.

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