

Styropor® expandable polystyrene

BF 395 Product



The Chemical Company

Products and their uses

Styropor BF 395, high pentane product can be used in a wide variety of applications for shape molding applications requiring modified material or high density block molding applications with excellent surface quality and appearance.

Description

Modified expandable polystyrene (EPS) containing approximately 5.7 – 6.4 wt% pentane as the blowing agent. The BF 395 is supplied as spherical beads with a bulk density of approximately 40 lbs/ft³ (640 kg/m³).

Packaging and storage

Styropor BF 395 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 indoors 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 I, VIII, II, IX, XIV, XV	0.60 – 1.25	Foam panel insulation, Geofam, SIPS, ICF, ETICS, and general packaging	10 to 72 hours

Typical expanded density range*

0.90 – 3.0 lbs/ft³ (14.4 – 48.1 g/L)

*(All recommended densities are first pass through batch expanders.)

Processing

Polystyrene foam made from Styropor BF 395 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 ten (10) to seventy-two (72) 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 ten to twenty four hours prior to molding can be attempted for densities below 2.0 pcf (32.0 g/L) in shape molding applications. At densities above 2.0 pcf, or for block molding applications, a minimum age period of twenty-four (24) to seventy-two (72) 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.

Regulatory Compliance

EPS foams manufactured from Styropor BF 395 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 BF 395. EPS foams manufactured from Styropor BF 395 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.

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/srch.res.html>

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BASF Corporation
1609 Biddle Avenue
Wyandotte, MI 48192
973-907-6377

<http://www.basf.com>



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