

# Styropor® expandable polystyrene BF 95 Product Series



## Products and their uses

Styropor BF 95 products include BF 295, BF 295M, BF 395, BF395S and BF 495. Styropor BF products can be used in a wide variety of applications including blocks for panels, general insulation, below grade use, fabrication, flotation, and general packaging. Additional applications include insulated concrete forms, thin walled custom molding, and other general protective packaging. The intended uses of each product grade are outlined in Table 1.

## Description

Modified expandable polystyrene (EPS) containing approximately 6 wt% pentane as the blowing agent.

All products are supplied as spherical beads with a bulk density of approximately 40 lbs.ft<sup>-3</sup> (640 kg.m<sup>-3</sup>). The bead size range for each product is shown in Table 2.

Styropor BF 95 products are compatible with many anti-stat, mineral oil and color additives added during processing.

## Application Compliance

EPS foams manufactured from Styropor BF 95 comply with surface burning characteristics (ASTM E-84) and physical property (ASTM C- 578) requirements of U.S. model building codes. National Evaluation Service report NER-479 and ICC Evaluation Service report ER 1498 contain specific code compliance criteria for Styropor BF 95. EPS foams manufactured from Styropor BF95 meet UL 94 classification requirements and have obtained a HF-1 rating as described in UL listing E54675. Technical specifications for the BF products are listed in Table 2.

## Packaging and storage

Styropor BF 95 products are 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.

**Table 1**

Product	Intended uses
Styropor BF 295	Block molding applications, low and high densities requiring excellent fusion with fast molding cycles
Styropor BF 395	Block molding applications requiring modified material or high density block molding applications with excellent surface appearance
Styropor BF 395S	Fast cycle, short age shape molding, thick parts and ICF applications requiring modified material or high density block molding applications with excellent surface appearance
Styropor BF 495	Shape molding for thin walled applications with fast cycles requiring modified material

**Table 2: Technical Product Specifications**

Product	Pentane Content	Moisture Content	Bead Size (mm)	
Styropor BF 295	5.7 – 6.4%	1.2% max	0.85 – 1.70	≥ 97%
Styropor BF 395	5.7 – 6.4%	1.2% max	0.60 – 1.25	≥ 97%
Styropor BF 395S	5.7 – 6.4%	1.2% max	0.60 – 1.25	≥ 97%
Styropor BF 495	5.7 – 6.4%	1.2% max	0.35 – 0.85 2% max < 0.35	≥ 97%

**Processing**

Polystyrene foams made from Styropor BF 95 products are produced in three stages: pre-expansion, intermediate aging and molding. Full details are given in the brochure *Processing Styropor*.

**Pre-expansion**

The minimum density achievable depends on the pre-expansion equipment and technique used. Styropor BF 95 products can be typically processed to bulk densities shown in Table 3. A state-of-the-art batch expander is capable of pre-expansion densities 10 to 15% lower than typical values. Care should be taken during expansion, as prolonged steam times will result in excessive loss of pentane and difficulty in achieving acceptable fusion during molding.

**Table 3**

Product	Typical expanded density range
Styropor BF 295	0.90-3.0 lbs·ft <sup>-3</sup> (14.1-48.1 kg·m <sup>-3</sup> )
Styropor BF 395	.0.90-3.0 lbs·ft <sup>-3</sup> (14.4-48.1 kg·m <sup>-3</sup> )
Styropor BF 395S	1.0-3.0 lbs·ft <sup>-3</sup> (16.0-48.0 kg·m <sup>-3</sup> )
Styropor BF 495	1.1-3.0 lbs·ft <sup>-3</sup> (17.6-48.1 kg·m <sup>-3</sup> )

**Intermediate aging**

For information please refer to the specific S-2 data sheet.

**Molding**

These products are intended for molding on automatic molding machines. Molding can be accomplished under a wide range of conditions and densities.

**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.

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