

# Styropor® F 15 E Series



## Application

For the production of expanded foams having fire characteristics in conformity with:

- DIN 4102-B 1 (flame-retardant)
- EN ISO 13501-1-E

For additional information pertaining to the fire behavior please contact the local BASF representative.

<b>Styropor® F 215 E</b>	Production of expanded foam blocks, elastified for impact sound insulation and thick-walled moldings
<b>Styropor® F 315 E</b>	Production of expanded foam blocks and moldings of wall thickness greater than 8 mm
<b>Styropor® F 415 E</b>	Production of expanded foam moldings of wall thickness greater than 6 mm

## Product description

Expandable polystyrene (EPS) containing uniformly distributed polymeric flame retardant.

Blowing agent: pentane (~ 6.0 %).

Product	Bead size range	Typical bead size
<b>Styropor® F 215 E</b>	1.0-2.0mm	0.8-2.1 mm ≥94 % by weight
<b>Styropor® F 315 E</b>	0.7-1.0mm	0.4-1.12 mm ≥92 % by weight
<b>Styropor® F 415 E</b>	0.4-0.7 mm	0.4-0.8 mm ≥91 % by weight

## Physical form as supplied

Styropor® F 15 E is supplied in the form of rounded beads.

## Storage

Styropor® F 15 E is usually supplied in cardboard containers (octabins). It can be stored in these unopened receptacles for three months before processing.

The octabins should not be exposed to weather conditions (rain, water, snow, frost, and sunlight) and must be protected from damage. They should always be stored in a cool place (below 20 °C if possible) to minimize loss of blowing agent.

Once containers have been opened, their contents should be used as soon as possible. In the meantime the octabins should be kept tightly sealed.

It is not recommended to stack octabins more than one layer high. In case of double-stacking octabins under controlled conditions, a strong plywood board must be placed between the stacked containers.

Octabins covered with a plastic hood and/or shrink-wrapped should never be double stacked.

Product	Usual bulk density-range	Recommended intermediate aging time	Bulk density achievable in single pre-expansion
<b>Styropor® F 215 E</b>	10* - 25 kg/m³	10 - 48 h	15 kg/m³
<b>Styropor® F 315 E</b>	16 - 30 kg/m³	10 - 48 h	16 kg/m³
<b>Styropor® F 415 E</b>	20 - 30 kg/m³	10 - 24 h	18 kg/m³

\*by double pass expansion

## Processing

In order to conform with the Fire Test Certification, different materials should not be mixed.

Styropor® F 15 E products are converted to expanded foam in 3 stages.

### ■ Pre-expansion and intermediate aging:

The lowest achievable bulk density depends on the type and mode of operation of the pre-expansion equipment. The customary bulk density range for further processing to form molded parts or blocks is reliably controlled on technically sound, discontinuously operating installations. The intermediate aging period should be chosen as a function of the bulk density, the ambient temperature and the planned application.

### ■ Final expansion:

Styropor® F 15 E products are finally foamed out to expanded foam in commercial block molds and automatic molding machines. Moldings can be manufactured at relatively high mold temperatures and with short cycle times and low specific steam consumption. Even in complicated molds, good moldfilling can be achieved.

### ■ Further processing (to form footfall sound insulation boards):

Material which has been doubly preexpanded should be used for the production of footfall sound insulation boards having good dynamic stiffness. The blocks should be elastified by pressing for about 4 to 6 hours up to a maximum of 24 hours after demolding. Cutting up into boards should be done at the earliest 24 hours after elastification.

## Safety notes

It should be noted, that during the processing and storage of Styropor®, as well as of foams produced from it, explosive blowing agent/air mixtures may be formed by diffusing blowing agent (pentane, LEL 1.3 vol%).

Therefore, adequate ventilation must be provided at all times. All conceivable ignition sources (open flames, welding sparks, electrical sparks etc.) must be kept away and electrostatic charging must be avoided. Smoking must be strictly prohibited!

The contents of open containers should be processed quickly. At other times the containers are to be kept well sealed.

The transportation of Styropor® or of expanded foams freshly made from it in unventilated or closed means of conveyance is not permissible.

Further information is included in the respective product safety data sheet.

## Biological action

During the storage and in the processing of Styropor® pentane escapes. Especially when cutting the expanded foams with heated wires care is to be taken to remove the vapors arising by suction since apart from pentane they also contain small amounts of styrene.

The maximum allowable concentration values for styrene and for pentane are to be observed.

Expanded foams made from Styropor® have been manufactured and processed for several decades. In this time no effects harmful to health whatsoever have been ascertained.

## Food legislation

Foams made of Styropor® F 15 E products shall not be used in direct contact with food.

## Note

The data contained in this publication are based on our current knowledge and experience. In view of the many factors that may affect processing and application of our product, these data do not relieve processors from carrying out their own investigations and tests; neither do these data imply any guarantee of certain properties, nor the suitability of the product for a specific purpose. Any descriptions, drawings, photographs, data, proportions, weights etc. given herein may change without prior information and do not constitute the agreed contractual quality of the product. It is the responsibility of the recipient of our products to ensure that any proprietary rights and existing laws and legislation are observed.