

## Technical Datasheet of EPS 321HS

### Description:

HS321, is one of the TPC Performance expandable polystyrene products range. It is a free flowing expandable polystyrene grade, consisting of spherical polystyrene beads containing pentane as the expansion agent.

Expandable polystyrene (EPS) is normally expanded to achieve the low densities required for final step expansion. The typical density of this grade is around 22 kg/m<sup>3</sup>, but other densities are possible depending on applications and equipments.

HS321 is specially high strength formulated to achieve low density foam without lumps during pre-expansion. This grade is not fire retardant, so it is not suitable for building applications.

### Applications:

High Density Block, Shape Molding

HS321 is used as a multi-application packaging material for contour mouldings with a minimum wall thickness of 10 mm. Properly processed EPS foam packaging made from HS321 provides high mechanical strength also with low densities. It is not hygroscopic and does not become friable in low temperatures. Moulded EPS packaging parts have to act as shock absorbers and cushion their content against blows from outside, i.e. they have to absorb the energy released in an impact. The mainly closed cell structure of moulded foam parts made from HS321 absorbs the impact stress as "deformation work". In this process the air enclosed in the cells is first compressed, while bigger impact forces may also deform or crack the cell walls.

### Packaging and storage:

HS321 is shipped in octabins (height 176 cm) on wooden pallets (115 cm x 115 cm), containing 1000 kg net of material.

The octabins are not weather- or water-proof and must therefore not be exposed to outdoor conditions.

In order to obtain the desired properties of HS321, the raw material should be stored below 20 °C and be processed within 1 month.

### Processing:

Preexpansion:

With discontinuously operating, state-of-the-art preexpanders HS321 can be pre-expanded to densities of approx. 22 kg/m<sup>3</sup>.

Lower densities can be achieved by double preexpansion or in optimized machines.

HS321 has been treated with an antistatic agent to prevent a buildup of electro-static charge during transport.

Intermediate aging:

Intermediate aging should be between 10 and 48 hours.

### Moulding:

HS321 can be processed in industry standard moulding machines within a relatively wide range of steaming settings.

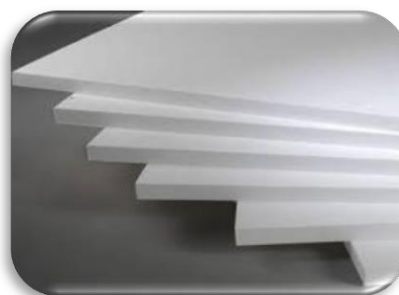
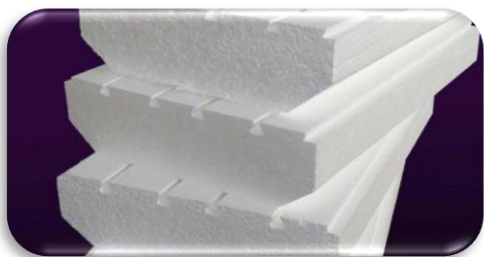
If a regenerative agent is added care has to be taken that the density of the regenerative agent equals the preexpansion density as closely as possible to prevent a segregation during production.

### Typical Properties

PROPERTY	UNIT	TEST METHOD	TYPICAL VALUE
BEAD SIZE	MM	SUNPOR 7.2.5 (MIN 90% BY WT)	(0.7-1)(>90%wt)
K-VALUE	□	SUNPOR 7.2.4	55
PENTANE CONTENT	WT%	SUNPOR 7.2.2	5.2%
EXPANDED DENSITY	KG/M3	SUNPOR 7.2.6	18-30
RESIDUAL MONOMER	PPM	SUNPOR 7.2.1	500

\*All above mentioned data are typical values and not to be construed as real specifications. Users should confirm results by their own tests. For more information about guaranteed items, please refer to S.S.S. (Standard Sales Specifications)

PROPERTY	UNIT	TEST METHOD	SPECIFICATION RANGE
BEAD SIZE	MM	SUNPOR 7.2.5 (MIN 90% BY WT)	0.7-1
K-VALUE	□	SUNPOR 7.2.4	52-57
PENTANE CONTENT	WT%	SUNPOR 7.2.2	MIN 5.2
MOISTURE CONTENT	WT%	SUNPOR 7.2.3	MAX 1
RESIDUAL MONOMER	PPM	SUNPOR 7.2.1	MAX 1000



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