

sunpor® A452

Technical data sheet | Revision 08 | February 2026

Description:

sunpor® A452 is expandable polystyrene granulate (EPS) which can be processed into shape mouldings.

sunpor® A452 contains polymeric flame retardant and is certified to DIN 4102/B1 and EN 13501-1 class E.

Applications:

Because of its small bead size **sunpor® A452** is also used for contour mouldings with a wall thickness of less than 10 mm. Mouldings with greater wall thicknesses permit short cooling periods.

Properly processed EPS foam packaging made from **sunpor® A452** provides good mould filling properties and high mechanical strength. It is not hygroscopic, and it 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 **sunpor® A452** 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.

Strength requirements, as well as testing and dimensioning, of EPS packaging are described in DIN 55471.

Packaging and storage:

sunpor® A452 is shipped in octabins (height max. 192 cm) on wooden pallets (114 x 114 cm) containing 1,150 kg net of material.

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

It is not recommended to stack octabins more than one layer high. In case of double-stacking octabins under controlled conditions, the recommendations laid out in the document „**Instructions for stacking sunpor octabins**“ must be followed.

In order to obtain the desired properties of **sunpor® A452**, the raw material should be stored below 20 °C and be processed within one month.

Processing:

> Pre-expansion:

With discontinuously operating, state-of-the-art pre-expanders **sunpor® A452** can be pre-expanded to densities of approx. 20 kg/m³. Lower densities can be reached by a second pre-expansion pass or in optimized pre-expanders.

sunpor® A452 has been treated with an antistatic agent to prevent a build-up of electrostatic charge during transport.

> Intermediate aging:

Intermediate aging should be between 10 and 48 hours.

> Moulding:

sunpor® A452 can be processed in industry-standard shape moulding machines.

The material allows the production of a wide range of moulded parts and, by varying the steaming and filling gap parameters, the degree of fusion and the surface structure can be optimized for specific applications.

Density range:	18 - 30 kg/m ³
Granulate geometry:	bead-shaped granulate
Typical granulate diameter:	0.3 - 0.8 mm (> 95 % by weight)
Pentane content (at the time of packaging):	≈ 5.8 % by weight
Water content (at the time of packaging):	< 0.4 % by weight

Shipping:

Un-Number:	2211
Designation:	Polymeric beads, expandable
Class:	9
Packing Group:	III ADR

Safety instructions:

Flammable pentane-air mixtures may be generated during storage and processing of **sunpor® A452**. For this reason, adequate ventilation must be ensured (LEL pentane 1.3 % by volume).

The blowing agent pentane escapes relatively slowly from EPS foam blocks. Thus, when cutting recently moulded blocks, the formation of a flammable pentane-air mixture has to be anticipated.

In addition, all conceivable sources of ignition must be kept away, and the build-up of electric charges has to be prevented.