

lambdapor[®] 753

Technical data sheet | Revision: 01

Description:

lambdapor[®] 753 is an expandable polystyrene granulate (EPS) with higher graphite content which can be converted into insulating boards with extremely low thermal conductivity and a density below 30 kg/m³.

lambdapor[®] 753 contains polymeric flame retardant and is certified to DIN 4102/B1 and EN 13501-1 class E.

Density range:	11 - 30 kg/m ³
Granulate geometry:	bead-shaped granulate
Screen limits:	0.6 - 1.5 mm
Typical granulate diameter:	0.7 - 1.3 mm (> 90 % by weight)
Pentane content (at the time of packaging):	> 5.0 % by weight
Water content (at the time of packaging):	< 0.3 % by weight

Colour:

The special infrared blocking additives cause the grey colour of the pre-foamed beads.

Packaging and storage:

lambdapor[®] 753 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.

In order to obtain the desired properties of **lambdapor[®] 753**, 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 **lambdapor[®] 753** can be pre-expanded down to densities of approx. 18 kg/m³.

To achieve lower densities, **lambdapor[®] 753** should be pre-expanded in two stages.

Approach for 2 stage expansion:

1st pre-expansion:

We recommend an initial pre-expansion of **lambdapor[®] 753** to about 1.5 times the final required density after the second expansion stage.

With batch pre-expanders it is possible that the light sensors do not recognise the material in the pre-expansion chamber because of its colour.

This may lead to a failure of the automatic steam switch-off. To prevent this occurring the steaming time should be fixed or the sensor setting modified.

The intermediate storage time before the second pre-expansion should be between 2 and 6 hours.

2nd pre-expansion:

The second pre-expansion is usually carried out with continuously operating pre-expanders. The minimum bulk density that can be achieved is approx. 11 kg/m³.

> Intermediate aging:

Intermediate storage period should be between 6 and 24 hours.

> Moulding:

lambdapor[®] 753 can be processed on commercially available block moulds and shape moulding machines.

Steaming should be reduced compared to other EPS types as the usual steaming would result in extended cycle times. **lambdapor[®] 753** yields very well fused insulating boards, even with reduced steaming.

During the processing of **lambdapor[®] 753** small amounts of dust can be created by abrasion of the beads.

As the dust is mainly originating from the pre-expansion process appropriate measures have to be taken to extract the dust in the moulders plant.

Cutting:

For hot wire cutting of the blocks the use of oscillating wires is recommended. All other settings can be the same as for white material. Prior to this operation the block should be stored for a sufficiently long period, to ensure that it is essentially free from pentane.

Shipping:

ADR-Marking:	Substance no. 2211 Polymeric beads, expandable
Class:	9
Packing Group:	III ADR

Packaging of boards/moulded parts:

We recommend that **lambdapor[®] 753** moulded parts are packed in opaque plastic film, as their exposure to direct sunlight can result in fading and distortion.

Safety instructions:

Flammable pentane-air mixtures may be generated during storage and processing of **lambdapor[®] 753**. 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.