

suncolor[®] PPE

Technical data sheet | Revision 06 | May 2021

Description:

suncolor[®] PPE is an expandable EPS/PPE granulate, which can be processed into foams with increased requirements on thermal properties.

Density range:	25 - 150 kg/m ³
Granulate geometry:	bead-shaped granulate
Typical granulate diameter:	0.6 - 1.2 mm (> 90 % by weight)
Pentane content (at the time of packaging):	> 4.5 % by weight
Water content (at the time of packaging):	< 0.3 % by weight
Color:	grey

Packaging and storage:

suncolor[®] PPE is shipped in octabins (height max. 192 cm) on wooden pallets (114 x 114 cm) containing 1,100 kg or in corrugated metal drums containing 125 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 **suncolor[®] PPE**, the raw material should be stored below 20 °C and be processed within one month.

Processing:

> Pre-expansion:

Through the higher softening temperature, **suncolor[®] PPE** can only be expanded in discontinuous pre-expanders. In order to achieve comparable foam densities, higher steam pressures than for EPS are required. The minimum volumetric weight of **suncolor[®] PPE** is around 25 kg/m³.

Setting the desired pre-expansion density can only be performed experimentally, because it mainly depends on the pre-expander used and the steam quality.

> Intermediate aging:

Depending on the density, intermediate storage should be between 12 hours and 4 days.

> Moulding:

suncolor[®] PPE can be processed on commercially available moulding machines.

Compared with EPS, steaming should be increased because optimum fusion is only achieved at higher temperatures and steam pressures due to increased heat distortion temperature. Steam pressures in the range of 1.0 bar are generally recommended.

Thermal characteristics:

The heat distortion temperature of **suncolor[®] PPE** foams has been improved by approximately 10 °C compared with EPS. The maximum operating temperature of foams made of **suncolor[®] PPE** depends on the load and the duration of the load. Contact without load of up to 104 °C is possible for a short time, 95 °C without mechanical load long time, while loads up to 20 kPa at 90 °C are possible over long periods. The thermal properties specified above, will only be achieved, when the foam has been stored for appropriate time so that the material is almost free of residual pentane.

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 **suncolor**[®] **PPE**. 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.