

CIRCULUM®

GFS-514o

DESCRIPTION

GFS-514o is a flame retardant (FR) grey expandable polystyrene grade with reduced thermal conductivity containing graphite. Pentane is used as blowing agent and a brominated polymeric flame retardant (PFR) as flame retardant additive. The product is delivered in the form of spherical beads with a bulk density of about 0.6 g/cm³ and is available in 1100 kg octabins.

APPLICATIONS

GFS-514o can be used for insulation foam boards produced by block moulding and thick-walled, shape moulded products.

PROCESSING

The processing conditions of GFS-514o depends on the combination of the product and processing equipment used. Optimal settings have to be adjusted for each combination. Some general processing conditions are given below:

- **Pré-expansion:**

Circulum® GFS can be pré-expanded using common continuous and discontinuous pré-expanders. Grey EPS needs to be processed at lower steam pressure compared to white EPS. The minimum achievable density depends on the grade type, processing parameters and pré-expansion equipment.

For Circulum® GFS-514o, the typical density range in a one-step pré-foaming process is 15–25 kg/m³. In a two-step pré-foaming process, densities of 10–12 kg/m³ can be achieved, provided that in the first step the beads are pré-expanded to a density of 16–18 kg/m³.

- **Silo storage (ageing):**

Silo storage time depends on density of the pré-foamed beads and ambient conditions. Typical silo time is 10–48 hours for one-step pré-foaming and 2–4 hours between the first and second step in a two-step pré-foaming process.

- **Moulding:**

Circulum® GFS can be moulded with standard steam chest moulding machines. The steaming time and the steaming pressure will depend on the equipment used as well as on the size of the final product.

- **Cutting:**

Hot wire cutting (oscillating or stationary wires) is recommended. Temperature of the wires should be about 200–300 °C.

TECHNICAL INFORMATION

TYPICAL PHYSICAL PROPERTIES

Raw material

	<u>Value</u>	<u>Unit</u>	<u>Test method</u>
Pentane content	5.0 – 6.0	%	Gas chromatography
Monomer level	< 0.1	%	Gas chromatography
Main bead size distribution	0.9 -1.8	mm	Image analyser

STORAGE AND HANDLING

GFS-514o should be stored at below 20 °C. Protect from direct sunlight and other weather conditions (rain, wind, frost etc.). Keep away from any source of ignition. The storage time should not exceed three months. After opening of the packaging, it should be used as soon as possible.

SAFETY

In transport GFS-514o is classified according to European regulations for product transport: Substance number UN2211, Class 9.

In processing avoid generating dust. All equipment should be properly earthen. Releases pentane during processing which might form a flammable/explosive vapour-air mixture. Use proper ventilation and keep away from any source of ignition. A Safety Data Sheet is available on request.

RECYCLING

GFS-514o is suitable for recycling using modern methods of grinding, cleaning and regranulation. In-house production waste should be kept clean to facilitate direct recycling.

Please contact your BEWI representative for more details on various aspects of safety, recovery and disposal of the product.

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