BEWI

TECHNICAL DATA SHEET
D.61.03.01-102
1-10-2021 rev 3

CiRCULUM®

RE-510e/p

DESCRIPTION

RE-510e and **RE-510p** are extruded expandable polystyrene grades containing pentane as a blowing agent. **RE-510e** and **RE-510p** products are produced 100 % from recycled polystyrene typically from recycled fish boxes. Colour of the **RE-510e and RE-510p** raw beads is pale brown and colour of the expanded product is off-white. Products are delivered in the form of spherical like beads with a bulk density of about 0.6 g/cm^3. **RE-510e** is available in 1050 kg octabins and **RE-510p** in 1100 kg octabins.

APPLICATIONS

The properties of **RE-510e/p** make it suitable for the production of light and heavy insulation board by block or shape moulding. A slight smell could occur during prefoaming and molding.

PROCESSING

The processing conditions of **RE-510e/p** depend 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:

Prefoaming

Prefoaming will go faster compared to regular grades . Advised is to lower the steam pressure so normal pre-foaming times are maintained. To reach densities below 15 kg/m^3, batch prefoamer is recommended and with a continuous prefoamer to prefoam twice. To reach higher densities (>20 kg/m^3) it is recommended to mix the steam with air.

Conditioning

Depends on the density. The higher the density the longer the conditioning time. Generally 24 - 48 hours is recommended. When prefoaming in two steps, a conditioning time of 4–6 hours between the first and the second step is optimal but can be a bit longer.

Moulding

The machine should be fed with saturated steam with a maximum pressure of about 1.4 bar.

The steaming time depends on the equipment used as well as the size and required strength of the final product. Therefore, all machines have to be adjusted individually. Equipment using vacuum is recommended to reduce cycle times and to increase product strength.

Cutting

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

TECHNICAL DATA SHEET
D.61.03.01-102
1-10-2021 rev 3

TECHNICAL INFORMATION

TYPICAL PHYSICAL PROPERTIES

Raw material	Value	Unit	Test method
Pentane content	4.5 – 5.5	%	Gas chromatography
Monomer level	< 0.1	%	Gas chromatography
Main bead size distribution	0.9 – 1.5	mm	Image analyser

End product	10 kg/m^3	15 kg/m^3	20 kg/m^3	30 kg/m^3
Compressive stress (10 %), (kPa), EN 826	40	80	120	200
Bending strength, (kPa), EN 12089	100	170	240	380
Heat conductivity (λ_{10}), (W/mK), EN 12667	0.041	0.037	0.034	0.032

STORAGE

RE-510e/p 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 **RE-510e/p** 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 vapor-air mixture. Use proper ventilation and keep away from any source of ignition. A Safety Data Sheet is available on request.

RECYCLING

RE-510e/p 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 RAW BV representative for more details on various aspects of safety, recovery and disposal of the product.