

CIRCULUM®

X-HT

DESCRIPTION

X-HT is a EPS/PPO blend containing pentane as a blowing agent. The products are delivered in the form of spherical beads with a bulk density of about 0.6 g/cm³. X-GWW is available in 1050 kg octabins.

APPLICATIONS

The properties of **X-HT** make it suitable for the production of shape moulded products which need a higher dimensional stability at higher temperatures.

All our HT grades are made in cooperation with downstream companies.

Main questions to be answered to select a HT grade are the temperature exposure in the application and the density needed.

Other properties like mechanical properties are comparable with normal EPS.

Temperature resistance:

HT-grades	HT200	HT400	HT600
Short term resistance*	85-90°C	100-104°C	105-108°C

* short term = 1 hour exposure without significant deformation (< 1%)

Long term resistance	90-100°C	100-108°C	110-115°C
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The temperature resistance is depending on residual pentane, load and duration and has to be tested in practice for the specific application

X-HT is available on request. EPS/PPO ratio's up to X-HT1000 (50% EPS and 50% PPO).

PPO is increasing the Tg of the product and pentane is decreasing the Tg. So the pentane level of the HT-grade could be important for processing. Residual pentane in the moulded products could result into a decreased temperature resistance when moulded products are used shortly after production. So contact your BEWI representative to be sure that the product will fulfil the expectation.

PROCESSING

The processing conditions of **X-HT** depend on the combination of the product and processing equipment that has been used. Optimal settings have to be adjusted for each combination. Some general processing conditions are given below:

Prefoaming

Pre-expanding X-HT materials can best be done on a pressure pre-expander, because of the higher softening temperatures.

Conditioning Depends on the density. The higher the density the longer the conditioning time. Generally 12-48 hours is recommended.

Moulding Moulding of X-HT200 and X-HT400 series can be done on a standard moulding machines (max. pressure 1.6bar). Moulding pressure X-HT400R 1.4 bar recommended. Depending on pentane content, EPS/PPO ratio and density an EPP moulding machine could be required

TECHNICAL INFORMATION

TYPICAL PHYSICAL PROPERTIES

Raw material	Value	Unit	Test method
Pentane content	3-6 *	%	Gas chromatography
Monomer level	< 0.1	%	Gas chromatography
Main bead size distribution	0.8 – 1.4 *	mm	Image analyser

*Depending on the application

End product

	<u>20 kg/m³</u>	<u>40 kg/m³</u>	<u>60 kg/m³</u>	<u>80 kg/m³</u>
Compressive stress (10 %), (kPa), EN 826	100	250	500	850
Heat conductivity (λ_{10}), (W/mK), EN 12667	0.033	0.032	0.035	0.036

STORAGE

X-HT 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 **X-HT** 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

X-HT 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.