Foamed polystyrene thermal insulation sheets

TENAPORS EPS

GENERAL DESCRIPTION

Foamed polystyrene is a lightweight and rigid organic material made of polystyrene beads. It is mainly used as a thermal insulation and packaging material. Foamed polystyrene material is abbreviated as EPS (*Expanded PolyStyrene*).
Foamed polystyrene products used in the construction industry serve as an efficient thermal insulation material with multiple uses. To ensure qualitaty and efficient insulation of foundations, walls, floors or roofs, EPS materials are the best choice for any type of buildings, be it a residential house, an industrial, a public or an educational institution building.
Foamed polystyrene is a porous material with closed pores and flame retardant additives (substances that suppress combustion).

MAIN PROPERTIES

- The physical and mechanical properties of the foamed polystyrene material largely depend on its volume mass. With the higher volume mass, values of the strength parameters also increase, such as compressive, flexural and shear strength, which also determines the usage of the material
- The good insulating properties of the foamed polystyrene material arise from the high content of air pores. The foamed polystyrene material is made of approximately 98% air and 2% polystyrene. The efficiency of thermal insulation materials is characterized by thermal conductivity coefficient "lambda" λ (W/mK), which is one of the lowest in foamed polystyrene materials and ensures the lowest level of heat loss.
- Polystyrene - the formative element of the foamed polystyrene is not a hygroscopic material, and even in direct contact with water it absorbs only a tiny amount of water! Since pore walls are waterproof, the water can merely run through the material or penetrate inside only through the channels between the pores
- They may be continuously used as a thermal insulation material at ambient temperatures of up to +80°C.
- Foamed polystyrene does not rot, does not serve as a medium for bacteria and is eco-friendly. It is resistant to weak acidic, alkaline and saline solutions but non-resistant to aromatic and halogen containing solvents, esters, ketones, oils or lubricants

TECHNICAL DATA

Parameters	TENAPORS							
EPS types	EPS 50	EPS 60	EPS 70	EPS 80	EPS 100	EPS 120	EPS 150	EPS 200
Compressive stress at 10% deformation (kPa)	50	60	70	80	100	120	150	200
Sustained load stability at 2% deformation, projected for 50 years (kPa)	—	18	21	24	30	36	45	60
Flexural strength (kPa)	75	100	115	125	150	170	200	200
Thermal conductivity coefficient at 10°C, λd (W/mK)	0.043	0.040	0.039	0.038	0.036	0.036	0.034	0.034
Sustained water absorption (volume %) when completely immersed in water	5	5	5	5	5	3	5	5
Reaction to fire	E							
Water vapour diffusion resistance factor μ	20–40	20–40	20–40	20–40	30–70	30–70	30–70	40–100
Density (kg/m^3)	12 ± 1	13.5 ± 1	14 ± 1	18 ± 1	19 ± 1	22 ± 1	25 ± 1	31 ± 1
Sheet dimensions (mm)	500 × 1000; 1000 × 1000; 1000 × 1200; 1000 × 2000; 1200 × 2000; 1000 × 4000; 1200 × 4000							
Sheet thickness (mm)	From 20 mm to 1200 mm in 10 mm increments							
Type of sheet edges	Straight edge and half-lap joint							
Sheet colour	White							

Upon request, sheets with non-standard dimensions can be produced (maximum possible dimensions 4 m × 1.2 m × 1 m).
The use of foamed polystyrene sheets with a half-lap joint helps to considerably reduce heat loss through the joints of thermal insulation.

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ISO 9001 - ISO 14001
OHSAS 18001
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2015/2015 Nr.1

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USAGE

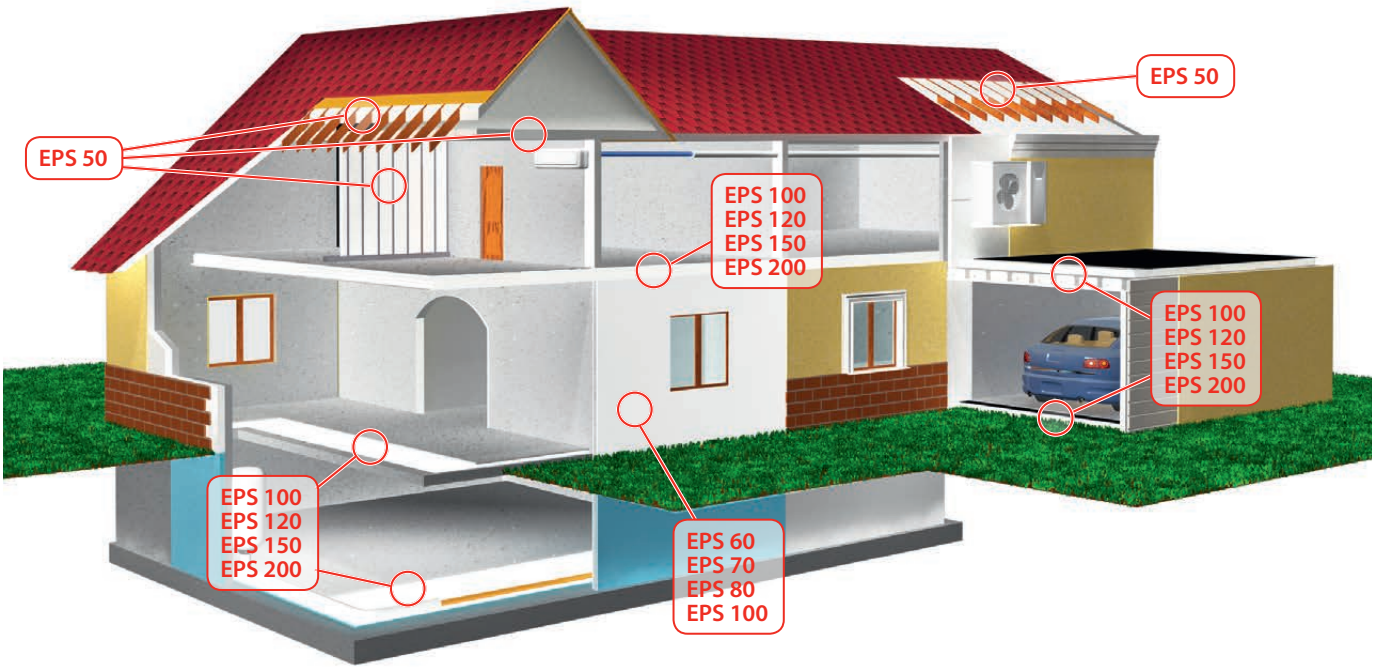
Usage in construction / Product types and name	TENAPORS							
	EPS 50	EPS 60	EPS 70	EPS 80	EPS 100	EPS 120	EPS 150	EPS 200
Thermal insulation in stress-free structures • In roofs between rafters • In external framework walls • In partition walls • In wooden interfloor decks	*							
External wall insulation, with a plaster finish		*	*	*	*			
Thermal insulation for concrete floors					*	*	*	*
Flat roof insulation					*	*	*	*
Insulation of the overground base section of the building							*	*

The sheets are used as a thermal insulation material in construction of:

- Walls
- Floors
- Roofs
- Other enclosing structures

The thickness and type of sheets shall be determined during the design process in compliance with the construction design regulations stipulated in the construction standards and other regulatory documents. The use of foamed polystyrene sheets with a half-lap joint helps to considerably reduce heat loss through the joints of thermal insulation.
It is advisable to choose ETAG 004 certified plastering systems for external wall insulation.

EXAMPLES OF USAGE OF TENAPORS EPS



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