

The Material. Manufacturing process

Expanded polystyrene (EPS) is a rigid cellular plastic, which is derived from petroleum distillation. There are three stages in its manufacturing process:

Pre-expansion:

The compact beads of the raw material are placed in the pre-expander, water vapour is added at 100-105°C and they are converted into cellular plastic beads.

Stabilization:

By leaving the material to cool down a vacuum is produced, which is compensated by diffused air penetration; at the same time, the humidity produced is eliminated.

Expansion and moulding:

The stabilized beads are placed into moulds, which can be prismatic or have special shapes, once again, using water vapour; they are expanded again and welded to each other. The material that comes out of the moulds can be subjected to cutting and finishing processes.

Ageing:

As it comes from a synthetic origin it is rot-proof and it does not present appreciable ageing with time. It is not a base for the growth and development of fungi and parasites, as it contains no broth culture for them to survive.

Chemical resistance:

Expanded Polystyrene is not attacked by any of the materials commonly used in construction, such as cements, lime, plasters, fresh or salt water, etc. It shows a bad chemical resistance to organic solvents and hydrocarbons, and therefore, it should be protected from these elements or their derivatives, such as adhesives and paints, and only products compatible with EPS should be used with it.

Working temperatures:

The thermo-elastic nature of Expanded Polystyrene, which is used for possible moulding, limits its use to temperatures between -150 and +90°C. At this limit temperature it starts to soften.

Fire behaviour: As regards the reaction to fire classification two kinds of Expanded Polystyrene are presented, "Normal" and "Self-extinguishing", the latter develops this characteristic 30 days after manufacture.

Whilst **Normal EPS** has a reaction to fire classification of M4, the other type called Self-extinguishable EPS has a classification of M1 in accordance with the UNE 23727/90 standard.

Grupo Santamaría

 Aislantes de Valladolid, S.A.



 AISLASAN, S.L.

 EMBALAJES
de Pamplona, S.L.

It is produced for use in construction and civil construction work, as insulation in roofs, walls, rafters, etc., as well as for fillings in road construction, vibration insulation on railway lines, production of earth banks, etc.

Its special technical qualities lead to maximum insulation in all kinds of construction.

This characteristic, together with the fact that it is lightweight, highly resistant, easy to assemble and can be made in various different measurements that can be adapted to all needs, makes our products ideal for use by construction professionals who want to offer a very high quality finish in their work.

Grupo Santamaría