

The building and construction climate challenge

Today in Europe, buildings are responsible for roughly 40% of the EU's energy consumption and greenhouse gas pollution.

Reducing energy consumption in buildings is one of the most important ways of tackling climate change and preserving resources. It is also one of the least complicated. The solutions already exist to achieve significant improvements in the environmental performance of new and existing buildings. We just need to make more effective use of them.

Plastics have a crucial role in meeting this challenge through their use in a range of energy-efficient and environmentally sustainable applications.



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Plastics

Architects of modern
and sustainable buildings



PlasticsEurope
Association of Plastics Manufacturers

Plastics
The Material for the 21st Century

Did you know?

- Combining thermal insulation with triple-glazed windows reduces energy consumption by up to 80%. Plastics are one of the few materials that can do both jobs.
- Plastic insulation products save over 200 times more energy over their lifetime than is used for their production.
- If plastic window frames were installed all over Europe, five large power stations could be eliminated.
- Plastics are a source of stored energy and, if not recycled, can be used to generate electric power or heat at the end of their useful life.

Save energy with plastic materials

The use of plastics in building and construction saves energy, reduces costs and helps to protect the environment. Plastics applications also tend to be easier to install, last longer and require less maintenance than those using alternative materials.

The versatility of plastics means that they can be produced in a variety of forms which accommodate all the needs of the construction industry and contribute to energy-efficient buildings.

Plastics are durable and corrosion-free



They are ideal for applications such as window frames and pipes which can last for over 50 years.

Plastics effectively insulate from cold, heat or sound



They save energy, offer great value for money and reduce noise pollution.

Plastics are light weight



They contribute to energy savings in transport and are easier to handle and store.

Plastics can either be recycled or their energy recovered



The overall recovery of plastic waste in the building and construction sector shows a positive trend, improving from 56.2% in 2010 to 57.6% in 2011.

Plastics are easy to maintain, easy to clean and impenetrable

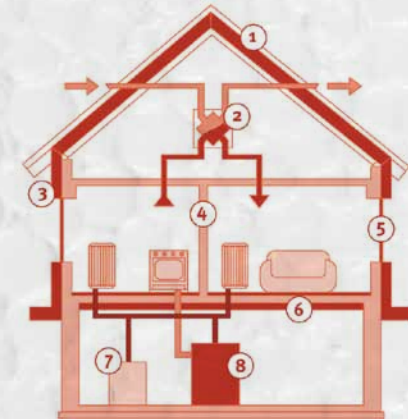


They are ideal for household and hospital surfaces or floor coverings that must remain hygienic.

Insulation

Plastics insulation is simple to install both in existing and in new buildings. It is also highly durable and cost-effective over time, and performs at the same high level over the whole life span of a building.

Plastics insulation tends to save up to 16% more energy overall than alternative options when considering the life-cycle of the products in question.



- 1 Roof insulated with plastic materials
- 2 Ventilation system/heat recovery (plastic pipes)
- 3 Exterior façade insulated with plastic materials
- 4 Interior insulated with plastic materials
- 5 Triple-glazed plastic windows
- 6 Cellar insulated with plastic materials
- 7 Heating system/heating pipes made from plastics
- 8 Fuel cell

The Kunsthaus in Graz (Austria) was built using an organic shape with a skin made of translucent, blue, acrylic-glass panels.