

BIBM

Contributing to Sustainable Europe

Key elements on the role of precast concrete

1) Reducing our carbon footprint: Precast concrete optimises CO2 emissions over the whole lifecycle of a building

Reducing our emissions of CO2 and other greenhouse gases in a considerable way is a challenge for everyone. The buildings sector, which accounts for a large part of emissions, must play an important role in achieving and going beyond the 20% reduction in CO2 emissions set by the European Union for 2020. The constructions sector can in many ways influence the quantity of emissions produced by a given building during its whole lifetime.

In the production phase, one of the advantages of precast concrete is the single location of the process in the factory, with the later delivery of concrete blocks already formed, thus reducing the need for transport of materials and consequently preventing unnecessary CO2 emissions. In the use phase, precast concrete limits the amount of CO2 emissions resulting from heating and cooling generation, due to its very good thermal properties. In the demolition phase too, the complete recycling of precast concrete waste ensures minimum CO2 emissions.

Over the whole lifecycle of the building, precast concrete has a clear beneficial impact on CO2 emissions, compared with other materials.

2) Promoting energy savings: Precast concrete is best suited for low energy buildings

The greener type of energy is in fact the energy saved. The EU has set itself the ambitious target of 20% savings in its total energy consumption by 2020. A comprehensive action plan to promote energy efficiency is also under implementation. As the housing sector represents a huge potential for energy efficiency gains, the EU will in particular focus its efforts on improving energy performances of buildings and developing low energy houses.

Precast concrete contributes actively to combating climate change through more energy efficient and low-emission buildings. Thanks to its thermal mass, precast concrete reduces the losses of energy to the outside. It is therefore best suited for use in very low energy or passive buildings and actively contributes to meeting the EU's energy savings target.

3) Anticipating climate change: Precast concrete guarantees comfortable and safe buildings

Besides combating and preventing climate change, the adaptation to the foreseeable consequences of climate change is a priority of the EU. The European Commission has launched a public debate on this important issue, and the construction product manufacturers have a decisive role to play in this context. Climate change will affect the average temperature in different directions according to the regions. An increase in the demand for cooling is particularly expected in Southern European countries. To address such evolutions, the thermal inertia properties of precast concrete ensure a more constant and appropriate temperature in the buildings, both in cold and hot climates, with a minimum demand for heating and cooling.

Precast concrete is a strong material and resists to fire and other possible natural catastrophes which may occur more frequently in European regions, such as floods or droughts.



- Summer overheating: a serious threat to the achievement of carbon reduction
- Precast concrete: the solution for summer overheating
- Thermal mass building: the solution for summer overheating
- Thermal mass building: reducing the EU carbon footprint
- Thermal mass building: a significant contribution to lowering the EU carbon footprint
- Thermal mass building in an overheating climate
- Precast concrete building in an overheating climate: a significant contribution to reducing carbon emissions