BEHIND THE CONSTRUCTION FENCE | SUSTAINABILITY

How to protect the environment with construction waste

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Concrete is the world's most popular construction material. Popular but not sustainable. Unless it happens to be recycled. And unless construction waste is used to make something new.

Many tonnes of construction waste and rubble are created when buildings are dismantled or demolished; these can be processed and reused. This means buildings earmarked for demolition are actually huge warehouses containing precious raw materials. This approach is perfectly in line with a circular economy. And it allows every project to make a sustainable contribution to a cleaner environment.

Highly promising advances

Many experts have long been searching for sustainable solutions that minimise CO2 emissions and the use of resources in producing concrete. And this means that new technologies and methods for concrete production are constantly evolving. One especially promising advance is RC concrete. It can be handled and used just like conventional concrete but is far more sustainable.

Sophisticated preparation

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In essence, concrete consists of water, cement and aggregate, i.e. particulate material of different sizes. Concrete rubble, that results from building demolition for example, is processed appropriately for the recycled concrete. This can be done with mobile equipment, directly on site. In addition, **PORR Umwelttechnik** has a recycling facility for construction waste in Pirka, Austria. And the **Himberg Recycling Center,** a subsidiary of PORR Umwelttechnik, has an innovative processing plant. Construction rubble and demolition waste arrives at the plant, is treated using different processes and yields high-quality construction material. This allows natural resources to be conserved and avoids mineral construction waste being sent to landfill. This in turn leads to a drastic reduction in land and resource consumption.

Here is more detailed info on the project Concrete as a sustainable construction material.

Sustainability challenge

As part of the **Sustainability Challenge,** students of various disciplines set themselves the goal of making concrete use more sustainable, together with PORR Umwelttechnik. This challenge creates new learning spaces in which students can proactively implement the UN's **Sustainable Development Goals, SDGs for short,** and gain experience for their future careers and vocations.

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Did you know ...

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- ... that in Ancient Rome, some two millennia ago, they were already using concrete to build water pipes and jetties? Large parts of the Colosseum and the Pantheon in Roman are made of opus caementicium, or Roman concrete. It is a blend of volcanic ash from Vesuvius and water.
- ... the spires of the renowned Sagrada Família in Barcelona with their extensive detailing are actually made of concrete?
- ... that concrete construction parts can be cut, drilled and sawed like glass with the use of diamonds?
- ... that concrete is such a popular construction material because its components – gravel, sand, water and cement – are available in ample quantities practically anywhere?