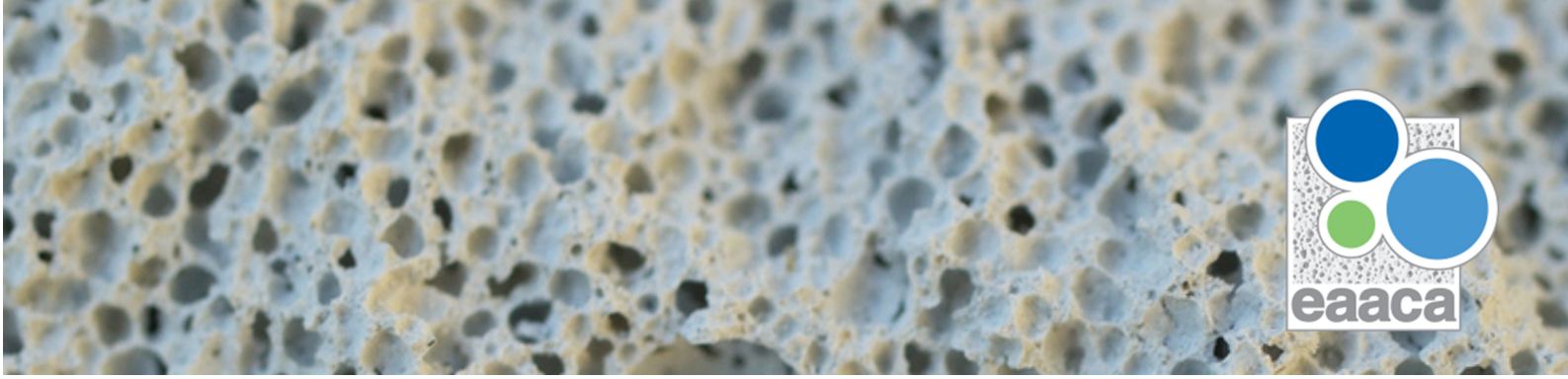

LIGHTWEIGHT-CONSTRUCTION MATERIALS IMPROVE EARTHQUAKE RESISTANCE IN BUILDINGS

Brussels, November 2016

In 2016, a series of devastating earthquakes in Italy led to the harrowing loss of life. This tragedy was partially the result of the buildings and infrastructure being severely damaged in the process. Following such a shocking event, one of the most prominent questions which arises is what could be done to prevent similar catastrophes in the future? While it is difficult to predict when the next earthquake will hit, experts such as those seated at the Seismic Hazard Harmonisation in Europe (SHARE) are aware of which regions are at risk – which, in Europe, includes its central regions, most of the Mediterranean but also areas adjacent to the Black Sea– and what level of force could be expected.

Effective preparation can go a long way towards helping buildings and infrastructure withstand structural disintegration in the event of an earthquake. In fact, the technology is readily available to allow for constructing buildings which are highly-resistant to earthquakes, and yet uncompromising with their design or functionality, including listed or heritage structures.

Admittedly, rapidly converting existing buildings is often difficult due to time and investment restrictions. The authorities could therefore benefit the most from implementing earthquake-resistant, design requirements within the planning and construction process when it comes to new or modernised buildings.

As such, the quintessential pillar of structural resistance is the type of construction material. Using lightweight materials such as autoclaved aerated concrete, so as to lower a building's mass, has the proven ability to reduce an earthquake's impact and help protect its integrity.

Experience from other regions

In 1999, Turkey experienced one of the most destructive earthquakes, entitled Marmara, which caused more than 52,000 buildings to collapse, of which 45% had to be demolished.

The Turkish Ministry's investigations into affected buildings, in the aftermath of the earthquake, revealed that the monolayer or two-storey ones made of autoclaved aerated concrete endured the earthquake without any damage. As a result, many national and international humanitarian organisations recommend using autoclaved aerated concrete products for buildings located in areas which are at a high-risk of earthquakes.

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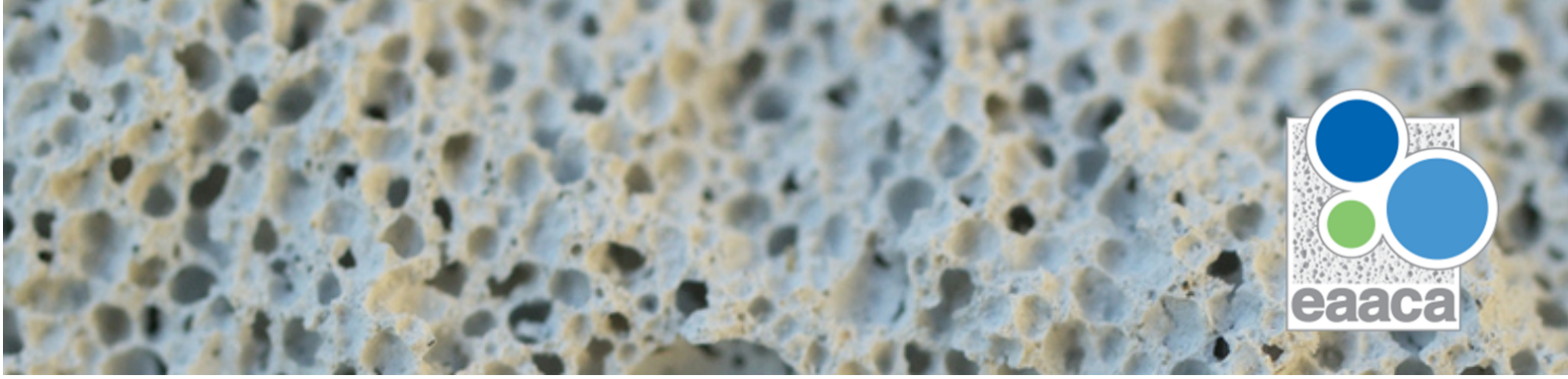

EAACA's member, the Turkish Autoclaved Aerated Concrete Union (TGÜB), together with the internationally-renowned Department of Civil Engineering at the Istanbul Technical University, has conducted in-depth research and development in order to produce design rules, for earthquake-resistant buildings, using autoclaved aerated concrete. The project started in 2014, and is expected to significantly contribute to improving earthquake-resistant buildings.

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