TAIHEIYO CEMENT NEWS LETTER

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Advancements in DACCUS*1 technology: Calcium carbonate concrete moves closer to the practical application

Taiheiyo Cement Corporation (Headquarters: Bunkyo-ku, Tokyo; President: Yoshifumi Taura) has announced that technology of calcium carbonate concrete produced from CO_2 in the air, water and waste concrete is moving closer to the practical application for the construction of buildings and civil engineering structures, as a member of the "C^4S*2 Research and Development Project" led by Professor Takafumi Noguchi of the University of Tokyo under the Moonshot Program supported by the New Energy and Industrial Technology Development Organization (NEDO).

Taiheiyo Cement Corporation is leading the research and development of the “hardening process” of calcium carbonate concrete in this project, utilizing the material technology it has developed over the years.

As a result of the research and development conducted over the past four years, the project has now reached a stage where has prospects for the practical application of calcium carbonate concrete for the construction of buildings and civil engineering structures, having achieved faster CO_2 capture using waste concrete, increasing the size and strength of calcium carbonate concrete, confirming for the seismic resistance of structural members, and evaluating carbon neutrality through the life cycle assessment. In the future, a significant contribution to the reduction of global warming is expected to be made through certification by the Minister of Land, Infrastructure, Transport and Tourism, as well as the widespread use of calcium carbonate concrete, which captures CO_2 from the air, in actual buildings.

This achievement was also presented at the University of Tokyo on September 30th, and detailed information can be found at the following URL.

＜Press Release by The University of Tokyo＞
https://www.t.u-tokyo.ac.jp/press/pr2024-09-30-001

On March 24, 2022, Taiheiyo Cement Corporation announced the technology development roadmap and the 2030 interim targets for the Group’s "Carbon Neutral Strategy 2050," and has been actively promoting technology development to achieve carbon neutrality by 2050. The newly developed calcium carbonate concrete technology is part of the strategy, which aimed to create "CO_2 absorption sources" in addition to cement manufacturing technology. This technology is expected to support the transition to circularity of building materials while fixing CO_2, thereby supporting a sustainable society.

Taiheiyo Cement Corporation will continue to leverage its technological development capabilities to contribute to the success of C^4S project and advance the realization of carbon neutrality.

[Note] *1 DACCUS: Direct Air CO_2 Capture, Utilization and Storage
*2 C^4S: Calcium Carbonate Circulation System for Construction

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