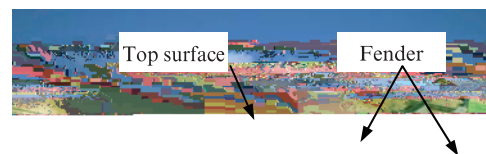

Construction Technology of Artificial Ground for Huge Tsunamis

Learning from the Great East Japan Earthquake and Tsunami, which caused catastrophic damage to Japan's northeastern coast in March 2011, it is essential to be able to evacuate to safe high locations immediately after an earthquake occurs. For this, nearby high ground or high structures which are not overtopped or destroyed by a tsunami are necessary. Fishing ports are particularly vulnerable areas with a high concentration of human life and property, as many people work and enjoy leisure in areas directly fronting the sea. Therefore, structures which function as both production/everyday life facilities under normal conditions and as evacuation facilities in case of disaster are required.

One solution to this problem is construction of artificial ground with spacing between columns to secure working areas at the existing coastline. In other words, the lower level under the structure is used as an area for handling marine products and processing facilities, while the upper level provides an evacuation area. In case of disaster, forklifts and other equipment/materials that are normally used in handling products can be

construction of amenity facilities such as sports centers that can be used as indoor shelter in a disaster, and the like. However, compatibility with the disaster prevention/disaster mitigation plans of the region as a whole is necessary.

Although various modes of using artificial ground



Leg

Photo 1 Jacket type quay



Photo 2 Metal Road

Group companies have constructed steel structures such as the jacket type quay shown in Photo 1 and the Metal Road¹⁾ in Photo 2. This report introduces these construction technologies, which can be used in artificial ground and elevated roads for evacuation as countermeasures against huge tsunamis.

Photo 1 shows a conceptual drawing of artificial ground for a fishing port. Assuming a huge tsunami with a height of 15 m or more, the lower level is used as a space for handling marine products, and under normal

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