

Development of Artificial Reefs Using Steel Slag



Seaweed growing on slag breakwater, with fish visiting area (Iwaya Port, Awaji Island)

Kobe Steel continues to develop new technologies for the recycling of steel slag and dust as well as new uses for recycled material. As a result, in fiscal 2014 Kobe Works, Kakogawa Works and Takasago Works limited waste consigned to landfills to approximately 80,000 tons.

Through operation of a newly established hot-metal treatment plant, Kakogawa Works has reduced the amount of slag produced per unit.

In fiscal 2014, 2.47 million tons of blast furnace slag¹ and 1.08 million tons of steelmaking slag¹ were produced at Kakogawa Works and Kobe Works.

As one new use for recycled slag, a submerged breakwater² utilizing approximately 1,000 tons of slag was constructed at Awaji Island in Hyogo Prefecture in fiscal 2014, beginning a scheduled three-year demonstration test on the validity of slag as a harbor material and its safety for oceans. Currently, tests have confirmed that sargassum (seaweed) is growing well and that fish are inhabiting the area.

http://www.kobelco.co.jp/english/about_kobelco/csr/environment/2015/14.html

Kobe Steel

In order to utilize steel slag produced during steelmaking as a material to help conserve and restore the environment, Kobe Steel, in cooperation with Shinko Slag Co., Ltd., Shinko Kenzai Ltd., and Kobelco Research Institute Inc., created steel reefs for seaweed and fish at the Ieshima Islands (off Himeji, Hyogo Prefecture), at the north bank of Kobe Airport Island, and in the waters off the town of Yonabaru in Okinawa Prefecture. Kobe Steel participates in collaborative research between industry, government and academia to improve seaweed and fishery cultivation.

Currently a lush diversity of seaweed and aquatic life has been confirmed in the environment surrounding the steel reefs. The enriched iron and mineral content of the water, due to the use of steel slag, is thought to be a contributing factor.



Steel reef



Lush seaweed growth on reef