

PROJECT SCOTLAND, LOCHALINE

Underground mine and treatment plant for sands
with low iron content

Overview

The project, realized in the north-west of Scotland near the city of Fort Williams, consists in the valorization of a silica sand ore among the purest in the world. The sand is extracted from an underground mine, and it is treated in the nearby plant. The total renovation of the activity and the refurbishment of the old treatment plant have enabled the company to produce sands with low iron content. The use of the new facilities, together with the high level of automation, have significantly simplified the management of the entire production



Product and market

The silica sand from low to very low content of Fe_2O_3 is used for the production of glass containers, for float glass and for solar panels.

The staff, of about 10 employees, after a detailed training course acquired the necessary knowledge to manage and perform the necessary maintenance in total safety.



Design and Supply

Installation and Start-up

Automation

Mine, plant and logistic

From the underground mine we extract up to 1,000 tons per day, using the traditional method "drill & blast" rooms and pillars.

The plant has a production capacity of 100 t/h; compactness and simplicity are the strengths of the equipment used.

Starting from a dry production process, the material is firstly crushed and then screened; to achieve the requested grain size and chemical analysis, is subjected to a wet process that consists in the following treatments:

- wash with attrition cell;
- cyclone;
- separation of fines with spiral classifiers;
- separation of heavy minerals with vertical spirals.

The final product is stored on a covered draining floor to reach the final value of moisture agreed with the customer.



The entire process is automated and controlled by a computer workstation; it is also possible the check up of the plants remotely.

A modern laboratory ensures continuously the compliance with the specifications agreed.

The shipment of the final product is carried in bulk on vessel using a dedicated pier, located inside the facility.

