Recycling of oily sludges and mill scale from steelworks

Fact Sheet

Objective

The aim of the research is to develop a technically and economically acceptable process for recycling oily sludges and wastes from steel plants so as to avoid having to dispose of them in landfill. More especially, a specific process for the low-temperature conditioning of these oily wastes is to be developed with a view to their re-use (for example as a cooling agent in oxygen furnaces).

Disposing of oily wastes from various iron and steelmaking operations such as continuous casting, rolling, stripping and degreasing is a major problem for steelworks. It is necessary to distinguish here between three different types of disposal:
- combustion or regeneration of used oil and grease;
- disposal of oily sludges and scums containing low concentrations of solid particles;
- destruction or utilization of dense oily sludges and scalings containing large quantities of iron.
In Belgium the first two categories of wastes are generally destroyed by injection through blast furnace (five installations at present).

Naturally this method cannot be entertained for oily dense sludges and mill scale containing a high concentration of iron, so new ways of utilizing them have to be examined. The BFI in Germany is proposing to mix the oily wastes with coking coal (a method which is basically suitable for all types of residue), while the CRM is suggesting that they be used as cooling agents in oxygen converters (a method specifically suited to dense sludges and mill scale containing high concentrations of iron).

These two research proposals are coordinated.

As a first stage the CRM proposes to study, in laboratory trials, methods of chemical and physical conditioning specific to oily sludges and scale, both separately and mixed with small quantities of other waste, with a view to using them as cooling agents in converters. It is hoped that the methods of conditioning will allow the use of existing facilities for ore handling, transfer (generally conveyor belts) and storage (generally conical hoppers).

Programme(s)

Topic(s)

Coordinator

CENTRE DE RECHERCHES METALLURGIQUES

Address
Rue Ernest Solvay, 11
4000 Liege
Belgium

Last update: 14 December 1995
Record number: 29769

Permalink: https://cordis.europa.eu/project/id/7261-03-515-02/

© European Union, 2020