



REMOVAL POLICY STAKEHOLDERS' WORKSHOP

TOWARDS AN EU REGULATORY FRAMEWORK

BOOSTING USE OF SLAGS AND RESIDUES

OF THE METAL SECTOR

CIRCULAR ECONOMY IN THE FERRO-ALLOYS & SILICON SECTOR

Brussels

6 November 2019

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Introduction

- Ferro-alloys produced by smelting of ores in submerged electric arc furnaces with generation of slags (oxides content) as by-products.
- EEA production of ferro-alloys slags from around 1.4 Million Tons.
- Ferro-alloys slags registered under REACH. No hazard classification.
- The main applications: road construction (use in asphalt and concrete).
- Other applications: landfill cover and drainage, in embankment fills, as raw material for production of insulation material, in construction material for building -foundations, freeze insulations, surface drainage systems.
- Ferro-alloy slag are usually used directly in further applications without an additional extraction stage. The preliminary physical treatments, like crushing and screening to achieve the required size according to the specifications of the customers, are often similar to those applied to classical raw materials (like aggregates).

CIRCULAR ECONOMY IN THE FERRO-ALLOYS & SILICON SECTOR

Introduction

The uses/applications of those slags are described in the Non-Ferrous Metal BREF.

Main European Standards relevant for ferro-alloys slags are:

- EN 13242: Aggregates for unbound and hydraulically bound materials for use in civil engineering work and road construction.
- EN 13285: Unbound mixtures
- EN 13043: Aggregates for bituminous mixtures and surface treatments for roads, airfields and other trafficked area
- EN 12620: Aggregates for concrete
- EN 13139: Aggregates for mortar
- EN 206: Concrete
- EN 13383: Armourstones
- EN 14227: Slag bound mixtures

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Case 1 – Treatment of Mn Alloys residues for further reuse

- Project developed to treat manganese containing residues coming from the FeMn and SiMn production sites to produce a Mn rich slag by removing all impurities.
- The Mn rich slag would be then processed to produce FeMn, in lieu of Mn ore in a next door plant.
- BUT issue with the current legislation in France: slag considered as a waste
- Next-door plant cannot use the slag unless it is duly authorized to treat this kind of waste by changing the permit, implying new duties, new requirements...

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Case 2 – Ferrochrome slag

- Ferrochrome slag is used for decades as road construction products
- In Finland, the status has change from waste to by-product further to a decision of the Supreme Administrative Court in 2005.
- In Sweden, the outcome of a Court case lodged by a ferrochrome producer is that ferrochrome slag is considered as waste but can be recognized as by-product if fulfilling specific requirements.

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Case 3 – Status of ferro-alloys slags in Spain

- In Spain, slags are considered under the general waste legislation and hence according to the European Waste list.
- In Galicia, a specific Resolution issued by the local Administration (2005) considers silicomanganese slags as an inert waste that can be used in cement and building industry, provided that it passes the test demonstrating that it fulfills the leaching limit values for inert wastes of the Council Decision of 19 December 2002 establishing criteria and procedures for the acceptance of waste in landfills.
- The Autonomous Community of Cantabria issued in 2006 a Decree on the recovery of slags originating from thermal metallurgical processes whereby slags shall be classified as recoverable or non-recoverable on the basis of tests conducted on the leachate obtained in accordance with standard EN 12457-4
- A request to the national authority was lodged in 2016 by the main ferro-alloys producer to recognize as by-product their slags which fulfill all the technical requirements. Without a national resolution, slags must be qualified as wastes.

The issue is pending since more than 3 years due to a problem of bureaucracy triggered by the entry into force of the new Waste Directive adopted in 2018 !

CIRCULAR ECONOMY IN THE FERRO-ALLOYS & SILICON SECTOR

Case 4 – Ferromolybdenum slag in Belgium and UK

- Ferromolybdenum slag used successfully in the production of concrete blocks substituting for natural aggregates.
- All properties meet the required values in order to certify these blocks according to BENOR.
- However, obtaining a certification label is not straightforward due to:
 - Standards requirement
 - Prejudice of the connotation of “waste” in a waste-to-product approach
 - Need to fulfill both waste and products regulation: In Belgium/Flanders FeMo slags have to fulfill the waste certificate to be issued by OVAM based on requirements of the law VLAREM and product norm for CE certificate + requirements for measurements; EN 12620; SB250 local standard bestek voor de wegenbouw; COPRO TRA 40 regulations. Same in UK.

CIRCULAR ECONOMY IN THE FERRO-ALLOYS & SILICON SECTOR

Comments

- In some Member States, to be able to be considered and used as products, some by-products like slags are subject to double regulations as they must comply with both the wastes and the products requirements.
- Considerable amounts of valuable by-products are sometimes obliged to be landfilled because they are considered as waste and even more as “non-recoverable” wastes by some local authorities.
- The conflicting status between product and waste at national or local level jeopardizes valuable use of ferro-alloys slags in i.e. constructions road applications.
- At some national levels or local levels outdated data/quality thresholds (i.e. from the landfill directive) are still used, ignoring the state-of-the art information generated under REACH

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Suggested solutions

- Encourage an harmonized status of waste and by-products across Member States
- Remove double legal requirements (waste and product)
- Unlock current “silo” thinking and working methods between national/local administrations to avoid that knowledge gained on the one side is ignored on the other side
- **Bottleneck at local level.** Civil servants not aware of EU developments or discussions. Online training and information should be provided to local administrations. No need of sophisticated tools. How to make the link between EU discussions and local permit writers ? Potential role for the **European Committee of the Regions (CoR) ?**
- The same legal treatment should be made between primary materials and secondary raw materials, as long as both are meeting the same specifications, the same health and environmental requirements. In this respect, the European standards should be drafted or revised in order to ensure that primary or secondary materials are treated on equal basis.

THANK YOU FOR YOUR ATTENTION !

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