

Partners



Sidenor I+D




www.life5refract.eu/es

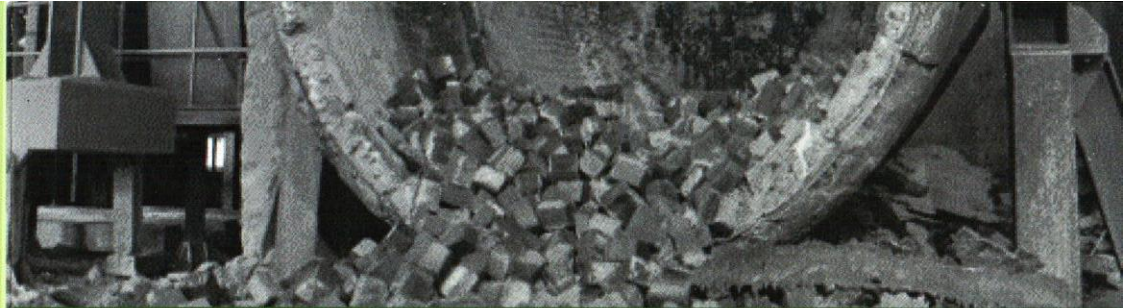
Coordinator of the project:
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General Details

Start date of the project: July 1st, 2018
End date of the project: September 30th, 2020
Project duration: 26 months

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5 Refract - Information

Purpose of the LIFE 5ReFRACT project

The overall purpose of the LIFE 5ReFRACT project is to extend the "4R" approach to a "5R" paradigm (reduce-reuse- remanufacture-recycle-re-educate) and apply it to the steel sector and refractories market, thus achieving an integral valorisation of refractory materials.

The project SYSTEMATIC AND INTEGRAL VALORIZATION OF REFRACTORIES UNDER THE "5R" APPROACH (LIFE5REFRACT) is co funded by the LIFE financial instrument of the European Community under contract number LIFE17 ENV/ES/000228.



Project

Refractories are used in high temperature processes, involving raw materials that are largely considered as "critical". Surprisingly, only 7% of the raw material volume arises from recycled sources. While it could be expected that the "4R" approach (reduce-reuse-remanufacture-recycle) is well established in steel companies, valorisation of refractory materials is most often sporadic and the sector's Best Available Techniques reference document (BREF) only provides general recommendations in this respect.

The overall purpose of the LIFE 5ReFRACT project is to extend the "4R" approach to a "5R" paradigm (reduce-reuse- remanufacture-recycle-re-educate) and apply it to the steel sector and refractories market, thus achieving an integral valorisation of refractory materials. The LIFE 5ReFRACT project will constitute the first industrial and systematic demonstration experience dealing with refractory waste in the steel sector.

Its specific objectives are the following:

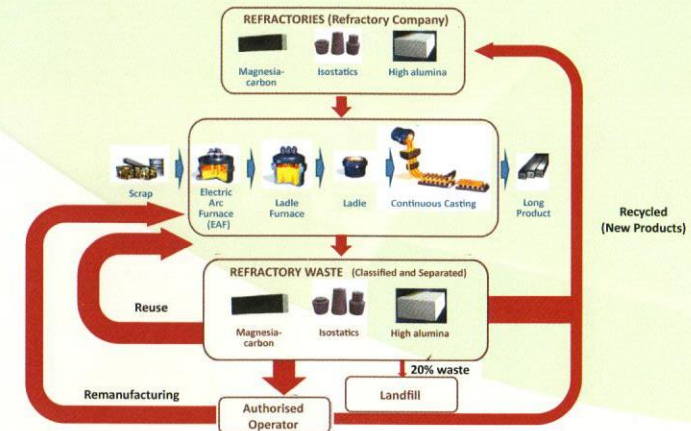
- Development of new high added-value refractory materials from spent refractories.
- Reduction of soil occupation and pollution by avoiding landfilling.
- Reduction of CO2 emissions, as it is not necessary to produce magnesite and alumina from the source mineral.
- Establishment of guidelines for the European steel sector to adopt these strategies, disseminating the good practices defined in the sector.
- Contribution to the state of the art in refractory waste management so as to complete the BREF document on steel with specific methodologies and applications.
- Analysis of synergies between the steel industry and other energy-intensive industries in order to define new circular economy models.

The following actions will be carried out in order to achieve the proposed objectives:

- An analysis of the refractories used by SIDENOR.
- Development of new products incorporating recycled refractories.
- Replicability of solutions.
- Combination and transferability of solutions.
- Analysis of the environmental and socio-economic impact.
- Dissemination of results.

LIFE 5ReFRACT

- Refractory products using recycled material
- Circular economy



Impact

