

CTO[®] for MSW

INNOVATIVE PATENTED TECHNOLOGY
FOR THE TREATMENT OF MSW,
WITH MATERIAL RECOVERY, TO USE IN THE
CONSTRUCTION AND CIVIL ENGINEERING
FIELDS, IN THE DEVELOPMENT OF
INDUSTRIAL NEW APPLICATIONS AND FOR
ENVIRONMENTAL RESTORATION

Technology features

CTO[®] - Cold Thermal Oxidation

1. CTO[®] is an international patent, whose innovative technology of "Self-Cleaning" is a closed cycle, CO₂ FREE, with no harmful emissions, odor, dust and without the release of waste products. (Attachment n°1 – Technical Sheet CTO[®] - Cold Thermal Oxidation).
2. CTO[®] is applied to MSW fractions: unsorted, un-sort able, and non-recyclable; and is an alternative to landfill disposal, incineration, or biological stabilization and other types of disposal or treatment. (Attachment. n°2 – Flow diagram).
3. The CTO[®] process complements and does not replace the collection and the MSW differentiation targeting recycling.
4. The CTO[®] process is aimed at the treatment of a wide range of solid and sludge waste from which it draws an "aggregate CTO[®]" alkaline, dry, sandy calcified material with a specific weight of <math><1\text{kg}/\text{dm}^3</math>;
5. The CTO[®] aggregates derived from the treatment of the MSW, are no longer classified as waste, but are to be considered as secondary raw materials intended for use as a replacement of other current materials of natural origin.

CTO[®] Cold Thermal Oxidation



Application areas of "Aggregate CTO[®]"





Remediation Srl, in the laboratory of its subsidiary Ricerche Ambientali Srl, and in collaboration with universities CRICT-UNIMORE, UNIRSM and the UNIVPM, has carried out a series of experimental tests aimed at the valorization of the "aggregates" obtained by the treatment of the MSW through the OTF process, with the aim of determining and certifying the

specific application areas of "aggregates CTO®", identifying themselves as an innovation in the public and economic interest, with a wide range of applications in the industry of construction and environmental restoration, in new industrial applications, all to reduce the use of virgin raw materials.

The "CTO® process thus makes it possible to realize the ambitious project of exclusive "Self-Cleaning", which allows us to develop:
The 1st integrated model of environmentally eco-friendly circular economy, with real ZERO waste.

The treatment plant

Based on our experience, we can, as of now assume that the industrial development of the CTO process can be achieved with a system of the following features:

- Small size;
- Modular structure;
- Transportable
- Continuous production;
- Process entirely close loop and environmentally controlled;
- Absence of harmful emissions;
- Low environmental impact;
- Contained plant costs;
- Low running costs.

The management of this system requires the use per shift of No. 2 employees.

Induced benefits

The "CTO® - Cold Thermal Oxidation" technology applied for the treatment of MSW, allows the achievement of the following advantages:

- Autonomous management of MSW;
- Lower investment required compared to competing technologies;
- Substantial financial savings from operating costs (30-50% less than the current costs of disposal, stabilization, incineration);
- Shift in economy and local employment the costs for disposal;
- Containment of impacts (environmental and social).



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