

Composite Recycling Ltd. - Abstract

Composite Recycling Ltd (CRL) developed a radically new, economic (IRR > 25%), patented, and scalable process to chemically recycle plastics into synthetic oil using molten zinc/tin at 400-550°C. The process can also chemically recycle aluminium-laminated plastics, carbon fibre materials and lithium-ion batteries.

CRL's molten metal reactor has many advantages over other reactors, such as:

1. Scale-up: doubling the surface area doubles the throughput
2. Fast: direct heat transfer from molten metal – fastest possible heat transfer, e.g. whole tyre pyrolysis in 15 minutes
3. Constant temperature – no gradient – quality products; [incl. return plastics to monomers (e.g., polystyrene, PMMA and PA)]
4. Reactor from the hot-dip galvanising industry, no rotating equipment → lower CAPEX
5. Different wastes can be treated with the same process

Moreover, the molten metal reactor is safer than conventional reactors, e.g. rotary kilns.

CRL won Horizon 2020 Phase 1 SME, a European fund supporting innovative, disruptive small and medium-sized enterprises with global potential, three times: (1) on waste plastic recycling; (2) on printed circuit board recycling and (3) on tyre recycling. Moreover, CRL was the lead contributor to an H2020 research project on the recycling of aluminium-laminated plastic, automobile shredder residue, lithium-ion batteries and other materials.

Composite
Recycling Ltd

Contact:

Frank Riedewald; email: frank.riedewald@comp-recycling.com

Website: www.crltd.com

Address: CIT Campus, Rubicon Centre, Cork, T12 Y275, Ireland.