

Enhancement and technical-regulatory qualification of CaCO₃-based fillers from mussel shells for additive manufacturing

Sector: Other - Circular blue economy

Short description of the needs:

W3DS is a start-up operating in the valorisation of mussel shells as a secondary raw material, intended for use as a filler and high-potential aggregate in formulations for mortars, premixes and mixtures for additive manufacturing in the construction industry.

The main technological challenge concerns the transition from refined material to a fully qualified construction product that can be standardised and integrated into the construction supply chain. In terms of performance, technological proposals are required that can optimise the physical-chemical properties of CaCO₃-based filler — with particular reference to purity, chloride content, residual organic fraction, particle size distribution, specific surface area and particle morphology — in order to improve interaction with binders and additives and ensure rheological stability and durability. The company is also interested in technological and technical-regulatory partnerships aimed at defining and validating protocols that overcome the critical issues associated with waste classification and the achievement of end-of-waste status, ensuring full regulatory compliance and the immediate usability of the material in project technical specifications.

More info: For more information apply to eccentric@imast.it

Company: W3DS S.r.l.

Point of contact for the brief/challenge: IMAST - Distretto Tecnologico per l'Ingegneria dei Materiali Polimerici e Compositi e Strutture

Company position in the value chain: Tier 1 supplier