Advancing circularity of composites through recovered glass fiber waste specifications

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Abstract

One of the composite industry challenges is to find sustainable and cost-effective solutions to use recycled material from end of life composite. Recycling glass fibers as a source of material for remelting is an effective route. It allows thanks to the infinite glass remelting ability, to recover virgin fiber performance and scale for recycling is attractive.
Manufacturing of glass fiber for composite reinforcement requires very high quality of the input material. This includes known and consistent chemical composition, low level of contaminants, either metallic, ceramic or even organic. One of the current challenges to overcome is to define waste class specifications that could be consistently collected.

Thus, bringing back fibers from old composite into glass melters needs to remove barriers in the way we control the quality from the initial end of life material or waste collection to its treatment through various processes to recover the glass fibers.

At Owens Corning, we are committed to building a sustainable future through material innovation, with 2030 goals of reducing by half our scope 1 & 2 emissions of GHG and send zero waste to Landfill.
This poster is talking about recent progress made at Owens Corning when it relates to glass waste collection and specifications for remelting glass fiber from wastes. We will talk about challenges that we had to overcome, the specifications to be developed, the online test measurements and how we have proven that remelting of glass fiber waste is a viable opportunity for true circularity for composites materials.

Keywords: end of life composite, Recycling glass fibers, glass remelting, glass waste specifications, glass fiber manufacturing

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