

PATENT NO. 319911
RADIAL IMPREGNATION DIE (RID) FOR RAPID PROCESSING OF
CONTINUOUS FIBER-THERMOPLASTIC COMPOSITE

APPLICATION NO. 258/DEL/2008

APPLICANT

Indian Institute of Technology, New
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ABSTRACT

The present invention provides a radial impregnation die for use in a pultrusion process comprising a plurality of areas provided therein, comprising in turn a first inlet area provided with a preheating chamber to receive a fiber bundle web from a creel, said first area being connected to a second area through a passage means, said second area being provided with a tapered section to enhance melt velocity into an impregnation zone and provided with heating means therefore and an outlet means communicating with a third area comprising said impregnation zone and provided in turn with a plurality of paths for melt flow, said third area having a plurality of pins with three or more radial elliptical slots, said third area communicating with an outlet means comprising the fourth area.

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CLAIM 1

A radial impregnation die for use in a pultrusion process comprising a plurality of areas provided therein, comprising in turn a first inlet area provided with a preheating chamber to receive a fiber bundle web from a creel, said first area being connected to a second area through a passage means, said second area being provided with a tapered section to enhance melt velocity- into an impregnation zone and provided with heating means therefore and an outlet means communicating with a third area comprising said impregnation zone and provided in turn with a plurality of paths for melt flow, said third area having a plurality of pins with three or more radial elliptical slots, said third area communicating with an outlet means comprising the fourth area.