

Introduction

Long Fibre Reinforced Thermoplastics (LFRTP) are materials in which the matrix is a thermoplastic material like polypropylene, polyamides, polycarbonate, styrenics like ABS and blends, while the reinforcing members are fibres, generally glass, carbon or even natural fibres.

LFRTP's can be processed by indirect as well as direct techniques.

STEER's technology for Direct processing of Long Fibre Thermoplastics Materials:

STEER is the first company in India to establish a 'Direct' processing technology for the manufacture of LFRTP. STEER has a history of building world class co-rotating twin screw extruders suitable for various applications including glass fibre related applications.

The heart of STEER's LFRTP setup is a high performance, 'Generation Next', Co- Rotating, Twin Screw OMEGA Series extruder (Do/Di = 1.71), manufactured by STEER Engineering Pvt. Ltd., with a very powerful motor and a high torque gear box, which has been received well, globally.



STEER's Generation Next Omega Series Extruder

Upstream is a gravimetric feeder system for the continuous dosing of the polymer matrix and the additives. The Extruder Processing Zone (EPZ) has been specially designed to ensure proper compounding of the matrix PP with additives and to achieve excellent mixing of fibres with the melt giving a uniform fibre distribution in the melt and a very good fibre length distribution without much fibre attrition.

A specially designed fibre delivery system with a fibre spreading and heating unit ensures proper alignment and heating of fibres before mixing with the polypropylene melt. The fibres are introduced at a port along the length of the extruder and are pulled by the co-rotating screws. The extrudate containing the matrix and fibre is then extruded through a die.

STEER has the technical know how, the expertise and the capability to design, develop and manufacture a LFRTP setup for automotive as well as non-automotive applications. Depending on the application to be developed, the downstream equipment is designed, developed and manufactured.

Material formulation can be developed to suit the application.