



Stator Systems

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Roll dip impregnation machines



The “Roll Dip” impregnation method, known in the US market as “Roll Through”, is suitable for both rotor and stator winding.

The components are positioned & fixed horizontally on auto-centring chucks. These chucks allow the components to rotate constantly on the central axis and they carry them through the different phases of the process (preheating, impregnation, gelation, polymerization and cooling). Depending on the component size and on the process requirements, the rotation speed—which plays a major role for a good resin penetration – is electronically controlled through the whole process, paying special attention to the roll dip and gelation areas.

In the Roll Dip impregnation station, the system is equipped with one or more thermostatic cups containing resin and/or varnish to be used in the process; the resin is constantly flowing and overflowing to-from the cups through specific pumps. When the component is presents in the Roll Dip impregnation station , the cups automatically rises on the rotating stator/rotor and it can be partially dipped up to the specific level . The combination & control of all parameters (times, rotation speed and dipping level) ensures optimum resin penetration inside the component slots (where Stator section showing resin the windings are located) and heads. penetration

The component constantly rotates, during both the Roll Dip and the gelation phase, so the liquid product (resin) applied penetrates evenly and fully in the component windings (slots and heads), getting high levels of solids content after polymerization. Such impregnation method ensures high bond-strength levels on the winding and is particularly suggested and used for all products where thermodynamic stresses are relevant and strong in their service .

Detail of a rotating stator in the Roll Dip impregnation area

The TF ROLL DIP series is designed to combine user friendliness, flexibility and environmental friendly.

All components were chosen for their reliability and safety.

The heating systems are designed to ensure excellent process and energy saving performances.

The technology used in our Roll Dip systems complies with the best quality, reliability and automation standards. These features result in several advantages by the Roll Dip impregnation method :

High quality impregnation

Maximum resin filling on the winding slots

Very high Bond-Strength standards

Excellent resin penetration and covering between magnetic laminations

Very short process times

High system productivity

Possibility to use resins with or without monomers

All impregnation parameters are controlled by PLC. If different products undergo the impregnation process ("Random" production mode), you can set the following specific parameters for each single component;

Component rotation speed

Dipping time

Dipping stroke

Our TF ROLL DIP systems are designed and realised in order to use Traditional polyester , No-Solvent Polyester , Epoxy and Epoxy-Phenolic Resins, and all other medium-high performance products suitable for this impregnation method. The operator can easily change process data in order to comply with the product manufacturer's instructions.