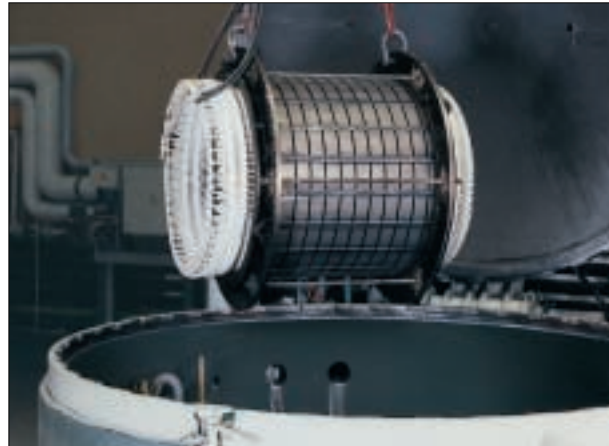


V-CELASTIK®-VPI winding insulation

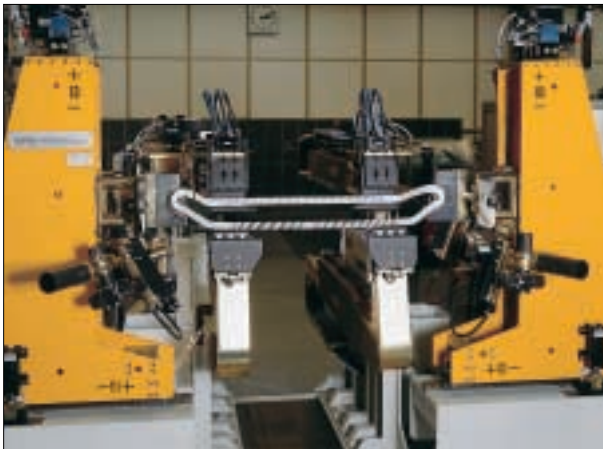
Developments in the field of insulation led in the 80's to the introduction of the V-Celastik® insulating system. This is a system using the VPI technique which corresponds to Class F.

VPI means that the complete stator (core and windings) is impregnated with artificial resin in a vacuum/pressure process. The result is a winding with excellent thermal, electrical and mechanical properties.

The constantly high quality of the high-voltage insulation is ensured by the latest in manufacturing equipment.



Wound stator prior to impregnation



Coil-spreading machine

Impulse withstand capability

The impulse withstand level of the windings is well above the specified minimum of $4 \times U_N + 5 \text{ kV}$ so that additional protective measures against overvoltages have to be taken only in exceptional cases.

Mechanical stability

Windings are designed to meet all mechanical stresses occurring in service. The bracing of each winding is calculated, using a special computer program developed at Hanover University.

This calculation is based on the highest stresses to be expected, e. g. reconnection against 100 % residual voltage in phase opposition.

Quality assurance

The manufacture of windings is, as is the entire company, subject to a certified QA system to DIN EN ISO 9001.

Materials, manufacturing techniques and processes are continually monitored and the results recorded. Additional tests on winding elements, or complete windings, can be carried out on request.

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Coil-taping machine