AXALTA COATING SYSTEMS

Voltatex®
Impregnating Resins

excellence in electrical insulation

Axalta Coating Systems Germany GmbH
Energy Solutions - Voltatex®
Technical Service
Christbusch 25
D-42285 Wuppertal

Phone: +49 202 529-23 87
-24 91
-24 92
-25 01
Fax: +49 202 529-28 21

www.voltatex.com

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Axalta Voltatex®: Know-how derived from experience
The development of Impregnating Resins is closely connected with the company Axalta. It is the result of a continuous exchange of know-how with leading manufacturers in the electrical and electronics industry.
As a result, manufacturing processes have been improved continuously while products have been tailored to a wide variety of different requirements. Impregnating Resins are available for all common processing techniques: dip & bake, trickling and vacuum pressure impregnation.

Today, Voltatex® belongs to Axalta Coating Systems, which emerged from DuPont Performance Coatings.

Performance by Impregnating Resins
Impregnating Resins turn the laminated core and the wire windings into a homogenous and mechanically stable unit. The advantages are an excellent protection from a wide variety of environmental factors as well as improved heat transfer between wire winding, slot insulation and iron core.

Voltatex® Impregnating Resins are used in insulation systems for
- electric motors
- large machines
- fast revolving rotors and hermetic motors, as well as
- in transformers, especially used with heavy size round wires and with rectangular wire windings

Axalta Voltatex®: Environmentally friendly and safe
Conventional dip & bake technology requires the complete unit, consisting of wire windings and laminated core, to be dipped into a tank filled with Impregnating Resin and to be cured in an oven.

Thanks to the VOC-free one-component Impregnating Resins from Voltatex®, today the conventional impregnation process is lower in emissions and by that environmentally friendly. Therefore there is no fire or explosion hazard, as well as no occupational exposure limit (OEL).

In addition the Voltatex® resins convince with highest thermo-mechanical stability.

Voltatex® products meet the EU-directives
- 2003/11/EU (polybrominated diphenyl ether)
- 2006/121/EU (REACh directive) and contains no material according to Art 57/Annex XIV 1907/2006/EG
- 2011/65/EU (RoHS directive)

Voltatex® Electrical-UV: intelligent, fast and energy-saving
With the development of the electrical UV process, Voltatex® offered a completely new alternative to the conventional impregnating process. It represents a technological breakthrough resulting in short processing times, significantly reduced emissions and minimal loss of resin.

By using the electrical UV process, the curing after impregnation is carried out by heating up the winding with electrical current, while the external areas (e.g. the iron core) are cured by UV-light. The required system works completely without an external curing oven. It is therefore extremely compact and can directly be integrated into the mechanical and electrical manufacturing process.

One-component dip & bake and trickle resins
The portfolio contains Impregnating Resins suitable up to thermal class 220. Styrene based, vinyl toluene based and low emission systems can be used for the impregnation of electrical windings, e.g. in motors and transformers. Environmental friendly impregnating processes can be realized with our monomer free and low viscous Voltatex® Impregnating Resins.

All Voltatex® Impregnating Resins are UL-approved, making the UL-approval for our customers much easier. The change in technology towards the electrical-UV and hot-dipping-process, in combination with the low emission or monomer free Voltatex® resins, leads to effective solutions and outstanding quality performance.

Polyurethane casting resins
These cold-hardened 2-component Polyurethane resins are used for encapsulation of electric and electronic components and transformers. Flame retardant versions according to UL 94 are available as well.

Finishing Varnishes
These transparent or pigmented finishing varnishes are needed to provide additional protection for electric components and wire windings against environmental influences, especially against humidity. They are air-drying.

Impregnating Varnishes
These universal varnishes are suitable for all processing techniques and applications up to thermal class H.

Impregnating Resins, low emission

Application range	Voltatex® 4200	Voltatex® 4201	Voltatex® 4202	Voltatex® 4204	Voltatex® 4220	Voltatex® 4230	Voltatex® 4250	Voltatex® 4301	Voltatex® 4303	Voltatex® 4310	Voltatex® 4311
	low emission							monomer free			
Transformers < 100kVA	◐	◐	●	◐	●	●	◐	○	●	○	○
Transformers > 100kVA	◐	◐	●	○	●	●	◐	○	○	○	○
Rotors	●	◐	○	○	●	●	◐	○	○	◐	●
Rotors, high speed	○	○	○	○	○	○	○	○	○	●	●
Stators, trickling impregnation	◐	◐	◐	○	◐	○	◐	○	○	◐	●
Stators, Dip & Bake Process / oven curing	●	◐	●	◐	●	●	◐	◐	●	○	◐
Stators, Rotors up to 3kv, VPI process	○	○	◐	●	○	○	○	○	○	○	○
Stators, dipping - Electrical-Oven curing	●	●	●	○	●	●	◐	●	○	○	◐
Stators, dipping - Electrical-UV Process	○	○	○	○	○	○	●	○	○	○	○
Stators, dipping - Electrical-UV Dip-Heat-Gel-Process	○	○	○	○	○	○	●	○	○	○	○

Impregnating Resins, styrene + vinyl toluene based

Application range	Voltatex® 4000	Voltatex® 4001	Voltatex® 4002	Voltatex® 4010	Voltatex® 4012	Voltatex® 4030	Voltatex® 4050	Voltatex® 4100	Voltatex® 4130
	styrene							vinyl toluene	
Transformers < 100kVA	◐	●	◐	○	○	◐	○	●	◐
Transformers > 100kVA	◐	◐	●	○	○	●	○	○	●
Rotors	◐	○	◐	●	●	◐	○	○	●
Rotors, high speed	○	○	○	○	●	○	○	○	○
Stators, trickling impregnation	○	○	○	●	◐	○	○	○	◐
Stators, dipping - Electrical-UV Process	○	○	○	○	○	○	●	○	○
Stators, Dip & Bake Process	●	◐	●	◐	○	●	○	◐	●

● recommended
◐ suitable
○ not recommended