

# Energy Solutions Impregnating Resins

Product Overview Voltabas, Voltahyd,  
Voltatex® (Additives, Thinners, Cleaners)



# Energy Solutions - Impregnating Resins

## Voltabas, Voltahyd

Product	Key Characteristics	Thermal Class (IEC 60085)	UL-Recognition	Viscosity @ 25°C DIN 53019 [mPas]	Gel Time [min]	Emissions DIN EN 60455-3-5 [%]	Typical Curing Time
<b>Voltabas 0302</b>	Modified unsaturated polyester resin, single component, VOC-free	180°C (H)	✓	1000-1700	20.0-40.0 @ 100°C	≈0.8	2h @ 150°C
<b>Voltabas 0303</b>	Modified unsaturated polyester resin, single component, VOC-free	180°C (H)	✓	300-500	20.0-40.0 @ 100°C	≈0.6	1-2h @ 150°C
<b>Voltabas 0307</b>	Unsaturated polyester resin, epoxy-modified, single component, VOC-free	180°C (H)	✓	300-500	20.0-40.0 @ 100°C	≈0.8	2h @ 150°C
<b>Voltabas 0307 TX</b>	Unsaturated polyester resin, epoxy-modified, thixotropic single component, VOC-free	180°C (H)	✓	300-500	20.0-40.0 @ 100°C	≈0.9	2h @ 150°C
<b>Voltabas 0310 M</b>	Unsaturated polyesterimide resin, single component, VOC-free	180°C (H)	✗	1000-2000	8.0-12.0 @ 90°C	≈0.6	15 min @ 150°C

Product	Key Characteristics	Thermal Class (IEC 60085)	UL-Recognition	Viscosity @ 25°C DIN 53019 [mPas]	Flow Time DIN 53211 [s]	Typical Curing Time tack free / ready to assembly
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### Finishing Varnish/ Topcoat

<b>Voltahyd 2220 red</b>	Modified hybrid resin, single component, water based, low emission red pigmented	✓	✗	200-450	70-150 @ 23°C (4mm)	45-60 min @ 25°C / 24-36 h @ 25°C
<b>Voltahyd 2220 grey</b>	Modified hybrid resin, single component, water based, low emission grey pigmented	✓	✗	200-450	80-160 @ 23°C (4mm)	45 min @ 25°C / 24 h @ 25°C

### Conductive Varnish

<b>Voltahyd 2300</b>	Modified alkyd resin, waterborne, single component, specially pigmented	✗	✗	300-1000	-	NA / 2-5 min @ 140°C
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✓ = listed  
 ✓ = pending  
 ✗ = not listed

# Energy Solutions - Impregnating Resins

## Voltatex® Cleaner, Additive

Product	Key Characteristics	Shelf Life ≤ 25°C	Flash Point	Product Description
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### Cleaning Agent

<b>Voltatex® T050</b>	Propylenglycol ester, clear, transparent solvent mixture	12 months	46°C	Excellent cleaning properties for uncured residues of varnishes or resins, quick-drying surface
<b>Voltatex® T060</b>	Dibasic ester, clear, transparent solvent mixture	12 months	100°C	Excellent cleaning properties for uncured residues of solventborne/solventfree varnishes or resins
<b>Waterborne Prepclean 3910 WB</b>	Clear, transparent mixture of water and solvents	60 months	68°C	Cleaner for residues of Voltahyd series or other waterbased products, also used as preparatory cleaner

Product	Key Characteristics	Shelf Life ≤ 25°C	Product Description
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### Additive

<b>Voltatex® H140</b>	Yellow, pasty liquid hardener solution, free of peroxides	6 months	Can be added to Impregnating Resins (based on unsaturated polyester/polyesterimide) for adjusting the reactivity
<b>Voltatex® H151</b>	Organic peroxide white, fine-grained powder with 50% active ingredient	6 months	Curing agent for low temperature curing 80 - 120 °C
<b>Voltatex® A341</b>	Organic metal compound, dark-violet liquid	90 months	Catalyst for polymerization at room temperature of impregnating resins (based on unsaturated polyester / polyesterimide) with MEK-peroxide or Voltatex® H151
<b>Voltatex® A200</b>	Inhibitor, dark-brown liquid	12 months	Can be added to significantly reduce reactivity or stabilizing of dipping tanks with unsaturated polyester / polyesterimide
<b>Voltatex® A401</b>	Polyhydroxycarboxylic acid amid, transparent to slightly brown liquid, thixotropy agent	6 months	Can be added to Voltatex® gel coats or Voltabas 0307 TX for enhancing the viscosity

Shelf Life ≤ 25°C	Product Description	Typical Application	Dip & Bake (atmospheric)	Vacuum Process	VPI	Hot Dipping	Resistance Heating Process	UV-Curable	Trickle	Roll-Dip
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suitable for:

12 months	Low viscosity	Low voltage stators, rotors, transformers, (wind) generators	✓	✓	✓	✓	✓	✗	✓	✓
12 months	Very low viscosity	Low voltage stators, rotors, transformers, (wind) generators	✓	✓	✓	✓	✓	✗	✓	✓
12 months	Very low viscosity, low crack tendency	Low voltage stators, rotors, transformers, (wind) generators	✓	✓	✓	✓	✓	✗	✓	✓
12 months	Low draining losses, thixotropy adjustable, very low viscosity, low crack tendency	Low voltage stators, rotors, transformers, (wind) generators	✓	✓	✓	✓	✓	✗	✗	✓
3 months	Low viscosity, high reactive, short curing time	low voltage, small rotors and stators (e.g. alternators)	✗	✗	✗	✗	✗	✗	✓	✗

Shelf Life ≤ 25°C	Product Description	Typical Application	Dip & Bake (atmospheric)	Brushing & Spraying	Roll-Dip
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suitable for:

6 months	Quick drying, additional protection against external influences, mould resistance, tested in acc. with EN 45545-2, good adhesion to steel, galvanized substrates and aluminum	low voltage, transformers, stators, traction motors, (wind) generators	✓	✓	✗
6 months	Quick drying, additional protection against external influences, mould resistance, tested in acc. with EN 45545-2, good adhesion to steel, galvanized substrates and aluminum	low voltage, transformers, stators, traction motors	✓	✓	✗

6 months	Quick drying, provide electrical conductivity on surfaces, air or fast oven drying, good adhesion on steel, glass and e.g. PET	Corona shielding	✓	✓	✓
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✓ = recommended  
 ✓ = conditionally recommended (please consult us)  
 ✗ = not recommended

# Energy Solutions - Impregnating Resins

## Voltatex® Thinner Product Overview

Product	Key Characteristics	Shelf Life ≤ 25°C	Flow Time DIN 53211 [s]	Viscosity DIN 53019 @25°C [mPas]	Product Description
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### Thinner

<b>Voltatex® T031</b>	Unsaturated aromatic hydrocarbon, clear, transparent and specially stabilized reactive thinner	6 months	<20 @ 23°C (4mm)	≈ 0,7	Can be added to Impregnating Resins Voltatex® 4000 series to adjust the required viscosity
<b>Voltatex® T032</b>	Unsaturated aromatic hydrocarbon, clear, transparent and specially stabilized reactive thinner	6 months	<20 @ 23°C (4mm)	≈ 0,8	Can be added to Impregnating Resins Voltatex® 4100 series to adjust the required viscosity
<b>Voltatex® T033</b>	Unsaturated methacrylate ester, clear, transparent and specially stabilized reactive thinner	6 months	<20 @ 23°C (4mm)	10-14	Can be added to Impregnating Resins Voltatex® 4200 series to adjust the required viscosity
<b>Voltatex® T034</b>	Unsaturated acrylate ester, clear, transparent and specially stabilized reactive thinner	6 months	-	60-100	Can be added to Impregnating Resins Voltatex® 4300 series to adjust the required viscosity, monomerfree, VOC-free
<b>Voltatex® T035</b>	Unsaturated methacrylate ester, clear, transparent and specially stabilized reactive thinner	6 months	-	≈ 30	Can be added to Impregnating Resins Voltatex® 4300 series to adjust the required viscosity; monomerfree, VOC-free
<b>Voltatex® T040</b>	Water, dest.	6 months	-	≈ 1	Can be added to Voltahyd series to adjust the required viscosity, VOC-free
<b>Voltatex® T041</b>	Waterbased amine solution, clear, transparent thinner and stabilizer	12 months	-	≈ 1	For stabilization of dipping tanks with Voltahyd 2220
<b>Voltatex® T042</b>	Waterbased solution clear, transparent thinner and accelerator	6 months	-	≈ 1	Accelerator for spray applications of Voltahyd series, VOC-free



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