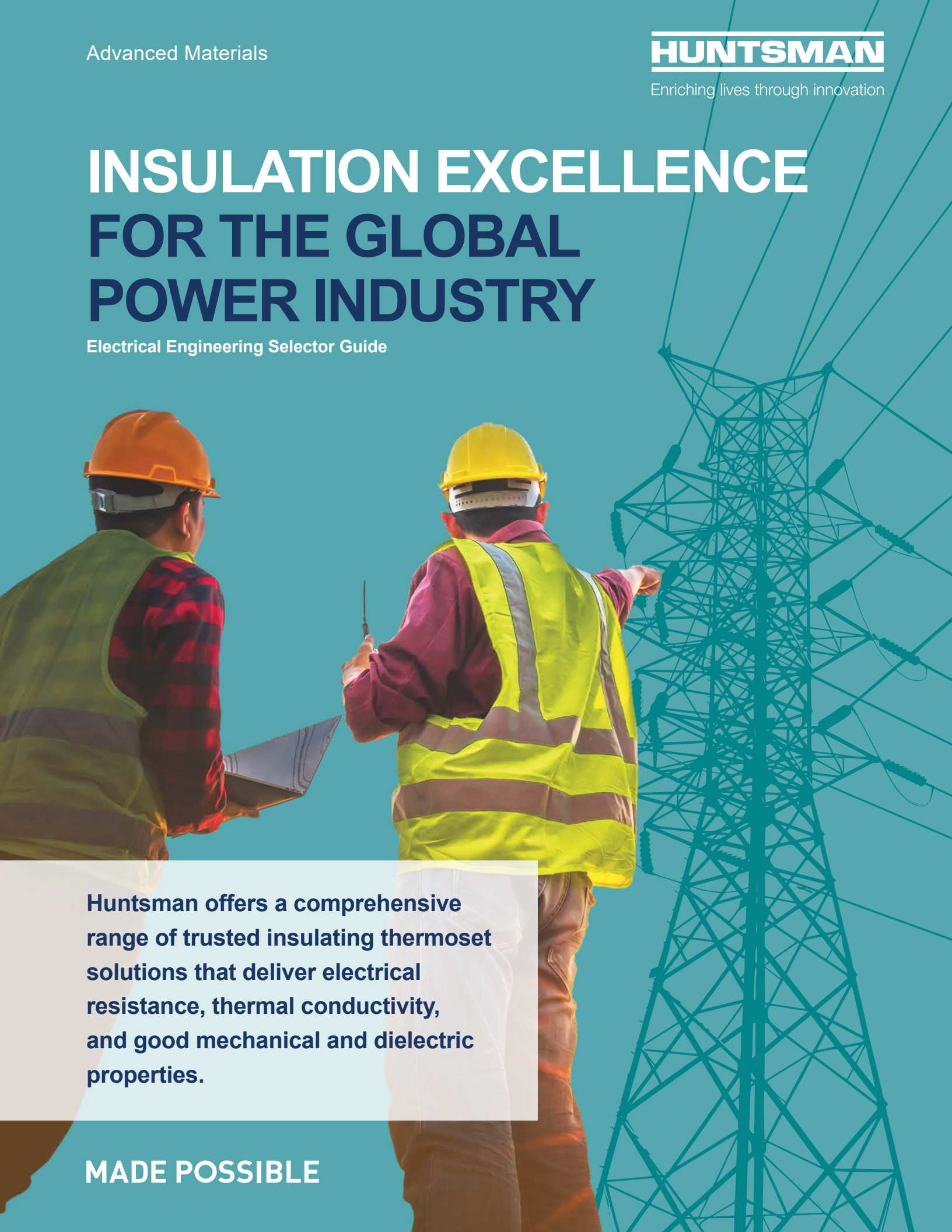
Advanced Materials

HUNTSMAN

Enriching lives through innovation

INSULATION EXCELLENCE FOR THE GLOBAL POWER INDUSTRY

Electrical Engineering Selector Guide



Huntsman offers a comprehensive range of trusted insulating thermoset solutions that deliver electrical resistance, thermal conductivity, and good mechanical and dielectric properties.

MADE POSSIBLE

RELIABLE AND COMPREHENSIVE SOLUTIONS BACKED BY TECHNICAL EXPERTISE

Rely on us with confidence

For more than 50 years, Huntsman Advanced Materials has been developing innovative solutions that are used in virtually every stage in the production of power equipment.
Huntsman's know-how and expertise allow us to fulfill the most stringent requirements for electrical engineering:

- High thermal endurance enabling long service life
- High thermal conductivity
- Flame-retardancy (UL® 94 V0/HB listing and EN/TS 45545 qualifications)
- Good mechanical and dielectric properties
- Variable hardness and high dimensional stability
- Good chemical resistance and low water uptake
- REACH compliant solutions, thermal recycling of copper

More than just products

Huntsman offers in-house electrical and mechanical testing capabilities to ensure our products provide the desired properties and comply with environmental requirements.
Our ISO/IEC 17025 accredited laboratory can help speed up the approval process and minimize time-to-market. Moreover, our ISO/TS (IATF) 16949 certified plants in Europe, China, and the US, combined with our dedicated local technical support teams, ensure we are always close to our customers - ready to provide tailored solutions and exceptional service.

In-house expertise

Our technical experts help solve your challenges

Huntsman offers extensive field experience in the global electrical insulation sector. Our team will guide you through our product portfolio, recommending the most efficient systems to meet your needs and processes. We are well-versed in the technical requirements for success and are prepared to visit your location to offer support and collaborate.

Our electrical insulation R&D team prepares you for the future

Our experienced chemists are continually innovating to enhance product features and processability, while developing solutions to address upcoming REACH restrictions.

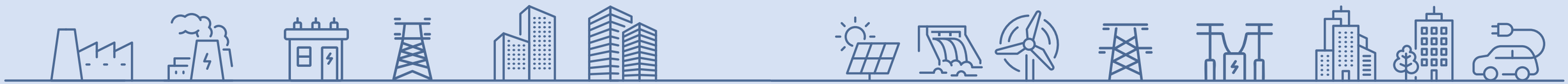
State-of-the-art R&D and testing facilities

Dedicated electrical insulation application center

We can simulate production methods according to your specifications using our in-house equipment, which includes vacuum casting, Automated Pressure Gelation (APG), and Vacuum Pressure Impregnation (VPI). Our team can also help you simulate and optimize the casting process, addressing your challenges and finding the best solutions.

In-house electrical and mechanical testing center

All our products undergo rigorous testing in our electrical and mechanical testing center. We offer thermal shock, thermal aging, UV, and weathering aging tests to ensure the long-term reliability of our products. With decades of experience in developing, testing, implementing, and analyzing solutions for various industry challenges, we have built substantial knowledge and expertise in power industry applications.



GENERATORS AND MOTORS

ARALDITE® and ARADUR® impregnation systems can be used in all insulation components of motors and generators due to their high mechanical strength, the strong adhesion to various metals and substrates, and their excellent dielectric properties.

Your needs
- High mechanical strength
- Strong adhesion to various metals and substrates
- Good dielectric properties
- Anhydride-free

Our solutions
ARALDITE® impregnation systems with thermal class F/H

Impregnation systems

Product designation	Mix ratio	Tg	Viscosity	Thermal class	Manufacturing process	Main features
Conditions			25°C			
Norm						
Units	pbw	°C	mPa.s			
ARALDITE® MY 790-1 ARADUR® HY 1102	100 : 100	143	400	H	Vacuum pressure impregnation	Standard system, thermal class H, high Tg. Good bath stability, low tan delta at high temperature.
ARALDITE® CY 192-1 ARADUR® HY 918-1	100 : 100	92	200	F	Vacuum pressure impregnation	Good arc and tracking resistance, high flexibility and crack resistance.
Resin XD 4410	1-component	125	1500	F	Vacuum pressure impregnation	Single component, good dielectric properties. Anhydride-free. Class F.
ARALDITE® CY 5841	1-component	115	1500-2200	H	Vacuum pressure impregnation	Single component system with good thermal endurance properties and suitable for 180°C continuous service.



SWITCHGEARS

ARALDITE® and ARADUR® casting systems can be used in indoor or outdoor applications and fulfill the general requirements for casting systems for switchgear parts which are medium to high glass transition temperature.

Your needs
- Medium to high glass transition temperature
- Tg adjusted to service temperature
- High resistance to mechanical creeping
- Good weathering resistance

Our solutions
- ARALDITE® casting systems with high Tg
- ARALDITE® HCEP systems reduce leakage currents and improve reliability and extend life expectancy
- ARALDITE® NPC systems increase productivity

Recommended systems for switchgear applications

	Product designation	Mix ratio	Tg	KIC	Manufacturing process	Main features
	Conditions					
	Norm					
	Units	pbw	°C	mPa.m0.5		
Indoor systems	**For medium voltage**					
	ARALDITE® CW 229-3 ARADUR® HW 229-1	100 : 100	115	2.9	Automatic pressure gelation, vacuum casting	Wollastonite prefilled system, low thermal expansion coefficient, high crack resistance, moderate reactivity, best suited for vacuum casting, UL® 746 B recognition for 200°C service temperature.
	ARALDITE® CY 228-1 ARADUR® HY 918-1 ACCELERATOR DY 062 or DY 067 Filler Silica	100 : 85 : 0.8 : 345	110	2.1	Automatic pressure gelation, vacuum casting	Wollastonite prefilled system, low thermal expansion coefficient, high crack resistance, moderate reactivity, UL® 746 B recognition for 200°C service temperature.
	ARALDITE® CW 229 ARADUR® HW 229-1	100 : 100	110-120	2.8-3	Automatic pressure gelation, vacuum casting	Good resistance to thermal cycling and thermal endurance properties. Relative thermal index is 200°C and qualifies for 200°C applications. Also available in black. Recognized UL® 746C.
	ARALDITE® CW 9029 ARADUR® HW 9029	100 : 100	110-120	2.7-2.8	Automatic pressure gelation, vacuum casting	Good resistance to thermal cycling and thermal endurance properties. Qualifies for 200°C applications. Also available in black. Recognized UL® 746C. Relative thermal index is 200°C.
	For high voltage					
	ARALDITE® CY 228-2 ARADUR® HY 925 Flexibilizer 042 ACCELERATOR DY 067 Silica Flour	100 : 80 : 15 : 0.35 : 340	100	3.00	Vacuum casting	Indoor electrical insulations for medium and high voltage applications. Can substitute solid resin system. Recognized UL® 94
Outdoor systems	**For medium voltage**					
	ARALDITE® CEP standard systems					
	ARALDITE® CY 184 ARADUR® HY 1235 ACCELERATOR DY 062 or DY 067 Filler Silica-EST	100 : 90 : 0.6 : 370	110	2.5	Automatic pressure gelation, vacuum casting	Uses liquid hardener. Suitable for extreme indoor conditions (pollution / humidity), EDF approved (HN-26-E-20).
	ARALDITE® CY 184 ARADUR® HY 1238 ACCELERATOR DY 062 or DY 067 Filler Silica-EST	100 : 92 : 0.5 : 375	107	3	Automatic pressure gelation, vacuum casting	SVCH-free, with liquid hardener, used in extreme indoor conditions (pollution/humidity). Proven for outdoor applications based on performance of ARALDITE® CY 184 system.
	Resin XB 5918-3 Hardener XB 5919-3	100 : 100	110	2.6	Automatic pressure gelation, vacuum casting	Core shell-toughened outdoor system that is prefilled, offering high crack resistance.
	ARALDITE® CW 5817 ARADUR® HY 1235 ACCELERATOR DY 062	100 : 23 : 0.125	95-105	2.1-2.3	Automatic pressure gelation, vacuum casting	Heat-curing cycloaliphatic epoxy casting system. Excellent arc track and thermal shock resistance. Flammability: UL® 94 V-0 (12.0 mm).
	ARALDITE® CW 5908 ARADUR® HW 5909	100 : 100	115-132	2.7-2.8	Automatic pressure gelation, vacuum casting	Toughened cycloaliphatic epoxy system for medium-voltage applications. Excellent arc tracking and thermal shock resistance.
	ARALDITE® CY 5910 ARADUR® HY 1235 ACCELERATOR DY 062 Silica	100 : 80 : 0.5 : 310	115-132	2.6-2.9	Automatic pressure gelation, vacuum casting	Toughened cycloaliphatic epoxy system for medium-voltage applications. Excellent arc tracking and thermal shock resistance.
	ARALDITE® CY 5910 ARADUR® HY 1102 ACCELERATOR DY 062 ARALDITE® DW 9134 Silica	100 : 89 : 0.3 : 5 : 310	95-105	2.7-2.8	Automatic pressure gelation, vacuum casting	Toughened cycloaliphatic epoxy system for medium-voltage applications. Excellent arc tracking and thermal shock resistance.
	ARALDITE® CW 5988 ARADUR® HW 5989	100 : 100	95	3.7-4.0	Automatic pressure gelation, vacuum casting	Resin system for outdoor applications with very high thermal shock resistance.
	ARALDITE® HCEP systems with hydrophobic properties					
	ARALDITE® CY 5622 / ARADUR® HY 1235 / ACCELERATOR DY 062 or DY 067 Filler Silica-EST	100 : 82 : 0.45 : 355	110	2.5	Automatic pressure gelation, vacuum casting	Hydrophobic cycloaliphatic system with liquid hardener, excellent thermal cycle resistance, hydrophobicity transfer and recovery, and extended insulator lifetime. Utility approvals. Approved according to EN 45545 for railway applications: best class R23 / HL 3 suited for tunnels.
	ARALDITE® CY 5910 ARADUR® HY 1102 ACCELERATOR DY 062 ARALDITE® DW 9134 Silica	100 : 100	110-115	2.3-2.5	Automatic pressure gelation, vacuum casting	Hydrophobic cycloaliphatic epoxy prefilled system, excellent thermal cycle resistance, hydrophobicity transfer and recovery.

INSULATORS AND BUSHINGS

ARALDITE® and ARADUR® casting systems are backed by decades of service experience and offer proven weathering resistance required for outdoor applications.

Your needs
- Obtain high cantilever strength
- Void-free castings
- Good weathering resistance

Our solutions
- ARALDITE® HCEP systems help reduce leakage currents and improve reliability and extend life expectancy
- Epoxy Resin Impregnated Paper (ERIP) system with low exothermic reaction
- Cost effective filament winding systems

Monolithic insulators and bushings - Casting systems

	Product designation	Mix ratio	Tg	KIC	Manufacturing process	Main features
	Conditions					
	Norm					
	Units	**pbw**	**°C**	**mPa.m0.5**		
Indoor applications	ARALDITE® CY 228-1 ARADUR® HY 918-1 ACCELERATOR DY 062 or DY 067 Filler Silica	100 : 85 : 0.8 : 345	110	2.1	Automatic pressure gelation, vacuum casting	High mechanical and electrical properties, good thermal shock resistance, high filler content possible.
Indoor applications	ARALDITE® CW 229-3 ARADUR® HW 229-1	100 : 100	115	2.0	Automatic pressure gelation, vacuum casting	Wollastonite prefilled system, low thermal expansion coefficient, high crack resistance, moderate reactivity, UL® 746 B recognition for 200°C service temperature.
Indoor applications	ARALDITE® CW 5908 ARADUR® HW 5909	100 : 100	115-132	2.7-2.8	Automatic pressure gelation, vacuum casting	Toughened cycloaliphatic epoxy system for medium-voltage applications. Filled system. Excellent arc tracking and thermal shock resistance.
Indoor applications	ARALDITE® CW 229 ARADUR® HW 229-1	100 : 100	110-120	2.9	Automatic pressure gelation, vacuum casting	Good resistance to thermal cycling and thermal endurance properties. Qualifies for 200°C applications. Also available in black. Recognized UL® 746C. Relative thermal index is 200°C.
Indoor applications	ARALDITE® CW 9029 ARADUR® HW 9029	100 : 100	110-120	2.7	Automatic pressure gelation, vacuum casting	Suitable for medium to high-voltage applications, including SF6 types of insulation. Available in blue or black. Recognized UL® 746C. Relative thermal index is 200°C.
Outdoor applications	**ARALDITE® CEP standard systems**					
Outdoor applications	ARALDITE® CY 184 ARADUR® HY 1235 ACCELERATOR DY 062 or DY 067 Filler Silica-EST	100 : 85 : 0.8 : 345	110	2.1	Automatic pressure gelation, vacuum casting	Long experience, liquid hardener, also used in severe indoor conditions (pollution humidity), EDF approved (HN-26-E-20).
Outdoor applications	Resin XB 5918-3 Hardener XB 5919-3	100 : 100	92	200	Automatic pressure gelation, vacuum casting	Core shell toughened outdoor system, prefilled, high crack resistance.
Outdoor applications	ARALDITE®CW 5988 ARADUR®HW 5989	100 : 100		3.85	Automatic pressure gelation, vacuum casting	Resin system for outdoor applications with very high thermal shock resistance.
Outdoor applications	**ARALDITE® HCEP systems with hydrophobic properties**					
Outdoor applications	ARALDITE® CY 5622 ARADUR® HY 1235 ACCELERATOR DY 062 or DY 067 Filler Silica-EST	100 : 82 : 0.45 : 355	110	2.5	Automatic pressure gelation, vacuum casting	Hydrophobic cycloaliphatic system with liquid hardener, excellent thermal cycle resistance, hydrophobicity transfer and recovery, extended insulator lifetime, utility approvals. Approved according to EN 45545 for railway applications: best class R23 / HL 3 suited for tunnels.
Outdoor applications	ARALDITE® CY 5622 ARADUR® HY 1238 ACCELERATOR DY 062 or DY 067 Filler Silica-EST	100 : 82 : 0.46 : 345	105	2.95	Automatic pressure gelation, vacuum casting	Hydrophobic cycloaliphatic liquid system. SVHC-free hardener with good thermal cycle resistance, hydrophobicity transfer and recovery, extended insulator lifetime, and utility approvals.
Outdoor applications	ARALDITE® CW 5625 ARADUR® HW 5625-1	100 : 100	100-115	2.3 - 2.5	Automatic pressure gelation, vacuum casting	Hydrophobic cycloaliphatic epoxy prefilled system with good thermal cycle resistance, hydrophobicity transfer and recovery.

Composite insulators and bushings - Impregnation systems

	Product designation	Mix ratio	Tg	Viscosity	Flexural strength	Manufacturing process	Main features
	Conditions			**25°C**			
	Norm						
	Units	**pbw**	**°C**	**mPa.m0.5**	**Mpa**		
For rods and tubes	ARALDITE® MY 740 ARADUR® HY 1102 ACCELERATOR DY 062 or DY 067	100 : 90 : 0.2	140	1000	115	Pultrusion, filament winding, vacuum impregnation	Standard system with variable accelerator amount.
For rods and tubes	ARALDITE® MY 740 ARADUR® HY 906 ACCELERATOR DY 070	100 : 95 : 1.2	170	1500	145	Pultrusion, filament winding	High Tg system with good mechanical properties.
For rods and tubes	ARALDITE® MY 740 ARADUR® HY 918-1 ACCELERATOR DY 062	100 : 85 : 1.3	120	700	160	Pultrusion, filament winding	Standard system with high mechanical performance.
For rods and tubes	ARALDITE® CY 179 ARADUR® HT 907 ACCELERATOR DY 072	100 : 105 : 8.5	155	280	100	Filament winding	Low viscosity standard system for high Tg. Moderate reactivity System also available with liquid hardener.
For rods and tubes	ARALDITE® MY 740 ARADUR® HY 906 ACCELERATOR DY 070	100 : 95 : 1.2	240	100-250	145	Pultrusion	Low viscosity, long working life with very rapid gelation and cure. High Tg and good mechanical properties.
For resin impregnated paper bushings	ARALDITE® MY 790-1 ARADUR® HY 1102 ACCELERATOR DY 9577	100 : 90 : 0.16 : 0.04	143	400	135	Vacuum impregnation	Thermal class H, high Tg. Ultra high voltage bushings.
For resin impregnated paper bushings	ARALDITE® MY 740 ARADUR® HY 1102 ACCELERATOR DY 062 or DY 067	100 : 90 : 0.2	140	1000	115	Vacuum impregnation	Standard system with variable accelerator amount.
For resin impregnated paper bushings	ARALDITE® F Hardener XV 295	100 : 100	105-115	3000	125-135	Vacuum pressure impregnation, trickle impregnation	Thermal Class F. Reactive diluent free, low-viscosity resin system with high thermal endurance properties.
Gap filling dielectric - PU Foam	ARATHANE® CY 11035-1 ARADUR® HY 11036	100 : 25	-65	2400	Elongation: 200%	Gas infusion mixing and dosing	Permanent elastic foam, low dielectrics over wide temperature range, and easy gap filling. Substitutes SF6 or other gases as moisture barrier for hollow core applications.



DRY-TYPE DISTRIBUTION TRANSFORMERS

ARALDITE® systems have a long and successful track record in dry-type distribution transformer applications.

Our ARALDITE® product range fulfills the demanding requirements for insulation systems, which include high crack resistance, a slow curing process and a high thermal class.

Your needs
- High crack resistance
- Slow curing process
- High thermal class
- Flame-retardancy

Our solutions
- ARALDITE® vacuum casting systems with thermal class F/H



Recommended systems for dry-type distribution transformers

	Product designation	Mix ratio	Tg	KIC	Thermal class	Manufacturing process	Main features
	Conditions						
	Norm						
	Units	**pbw**	**°C**	**mPa.m0.5**			
Indoor applications	ARALDITE® CW 229-3 ARADUR® HW 229-1	100 : 100	115	2.9	H	Vacuum casting	Wollastonite prefilled system, low thermal expansion coefficient, high crack resistance, moderate reactivity, best suited for vacuum casting, UL® 746 B recognition for 200°C service temperature.
	ARALDITE® CY 5948 ARADUR® HY 926 Filler Silica	100 : 80: 350	85	2.8	200	Vacuum casting, vacuum impregnation	UL® 746 B recognition for 200°C service temperature. Also used without filler for GFRP structures.
	Resin XB 5942 Hardener XB 5943	100 : 100	55	2.4	F	Vacuum casting	Prefilled, low viscosity, low Tg system to meet IEC 60076-11 requirements F1 E2 C2.
	ARALDITE® CW 229 ARADUR® HW 229-1	100 : 100	110-120	2.8-3	K	Automatic pressure gelation, vacuum casting	Good resistance to thermal cycling and thermal endurance properties. Qualifies for 200°C applications. Also available in black. Recognized UL® 746C. Relative thermal index is 200°C.
	ARALDITE® CY 5948-2 Brown ARADUR® HY 925-1 Fast Filler Silica	100 : 80	85	3.1-3.4	200	Vacuum casting, vacuum impregnation	Anhydride based, heat curing, casting resin systems with good impregnation. Good crack resistance and very good thermal endurance properties. Reactivity of this system is the option for faster production of parts.
	ARALDITE® CW 229 ARADUR® HW 229-1	100 : 100	100-120	2.8-3	200	Automatic pressure gelation, vacuum casting	Filled system. Good resistance to thermal cycling and thermal endurance properties. Qualifies for 200°C applications. Also available in black. Recognized UL® 746C. Relative thermal index is 200°C.
	ARALDITE® CW 9029 ARADUR® HW 9029	100 : 100	100-120	2.7-2.8	200	Automatic pressure gelation, vacuum casting	Filled system suitable for medium- to high-voltage applications including SF6 types of insulation. Available in blue or black. Recognized UL® 746C. Relative thermal index is 200°C.
	ARALDITE® CW 5942-1 ARADUR® HW 5943-1	100 : 100	50-60	2.4 -2.6	F	Vacuum casting	Filled system suitable for applications requiring a flame-retardant insulation system. Flammability: UL® 94 V-0 (6.0mm).
	ARALDITE® CY 5825 ARADUR® HY 5825	100 : 121	230-240	NA	H	Vacuum casting	High Tg system suitable for high-temperature electrical insulation applications. Formulated specifically for enhanced gamma radiation resistance.
	ARALDITE® F ARADUR® HY 905 ACCELERATOR DY 062 Flexibilizer DY 040 Silica flour	100 : 100: 1.0: 10: 410	90-100	2.7-2.9	F	Vacuum casting	Suitable for indoor medium and high-voltage transformers. Provides good mechanical, electrical and very-high thermal endurance properties.
	ARALDITE® B ARADUR® HT 903-1	100 : 40	105-120	2.1-2.4	-	Vacuum casting	Suitable for indoor medium and high-voltage transformers. Provides good mechanical, electrical and very-high thermal endurance properties.
Outdoor applications	**ARALDITE® HCEP Hydrophobic Systems for Outdoor Applications**						
	ARALDITE® CY 184 ARADUR® HY 1235 ACCELERATOR DY 062 Filler Silica	100 : 82 : 0.45 : 325	100-115	2.1-2.4	-	Automatic pressure gelation, vacuum casting	Hydrophobic cycloaliphatic epoxy unfilled system with excellent thermal cycle resistance, hydrophobicity transfer and recovery.
	ARALDITE® CY 5622 ARADUR® HY 1235 ACCELERATOR DY 062 or DY 067 Filler Silica-EST	100 : 82 : 0.45 : 355	110	2.5	-	Automatic pressure gelation, vacuum casting	Hydrophobic cycloaliphatic system with liquid hardener. Good thermal cycle resistance, hydrophobicity transfer and recovery, and extended insulator lifetime. Utility approvals. Approved to EN 45545 for railway applications: best class R23 / HL 3 suited for tunnels.



INSTRUMENT TRANSFORMERS

One of the major properties of ARALDITE® and ARADUR® casting systems is high crack resistance, which is mandatory for instrument transformer castings.

Your needs
- High crack resistance
- Low glass transition temperature
- Good weathering resistance
- Low partial discharge level of castings

Our solutions
- Solid ARALDITE® resins over 50 years usage experience in the field
- Flexibilized ARALDITE® system, Tg adjustable
- Prefilled, toughened systems for indoor and outdoor applications



Systems for medium voltage

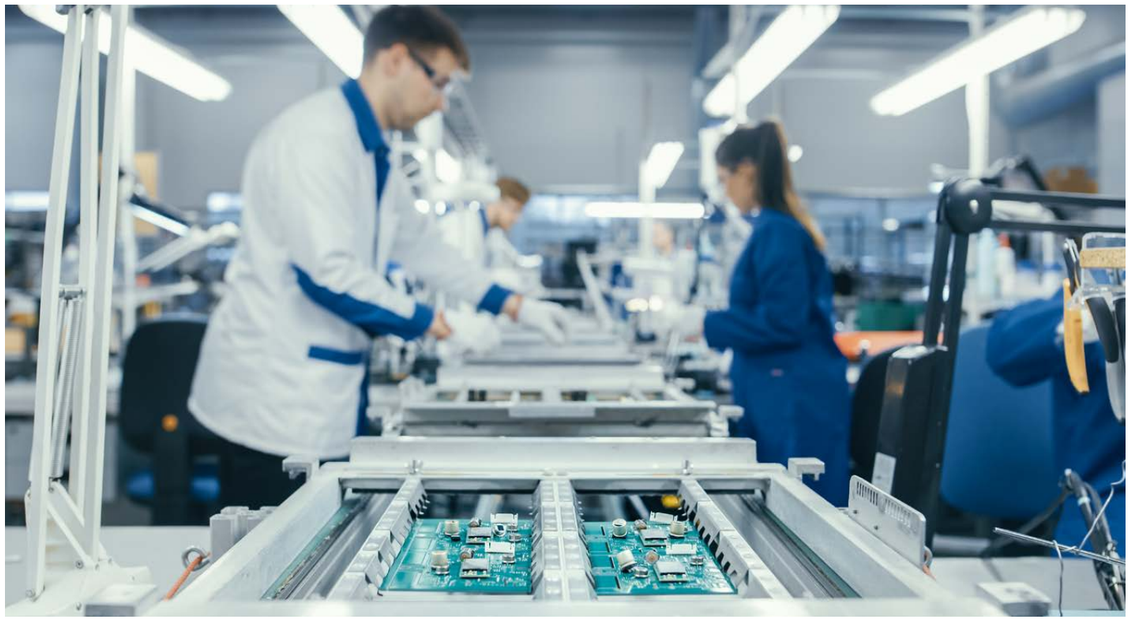
	Product designation	Mix ratio	Tg	KIC	Manufacturing process	Main features
	Conditions					
	Norm					
	Units	pbw	°C	mPa.m0.5		
Epoxy systems for indoor applications	ARALDITE® CW 229-3 ARADUR® HW 229-1	100 : 100	115	2.9	Automatic pressure gelation, vacuum casting	Wollastonite prefilled system, low thermal expansion coefficient, high crack resistance, moderate reactivity, best suited for vacuum casting, UL® 746 B recognition for 200°C service temperature.
	ARALDITE® CY 228-1 ARADUR® HY 918-1 Flexibilizer DY 040 ACCELERATOR DY 062 or DY 067 Filler Silica	100 : 85 : 20 : 0.8 : 385	70	2.7	Automatic pressure gelation, vacuum casting	Standard, low viscosity, high filler load. Flexibilizer DY 042 available as flexibilizer with improved toughness.
	ARALDITE® CY 5995 ARADUR® HY 227 Filler Silica	100 : 100 : 300	60	3.5	Vacuum casting	Highest toughness and crack resistance.
	ARALDITE® CW 229 ARADUR® HW 229-1	100 : 100	100 -120	2.9	Automatic pressure gelation, vacuum casting	Good resistance to thermal cycling and thermal endurance properties. Qualifies for 200°C applications. Also available in black. Recognized UL® 746C Relative thermal index is 200°C.
	ARALDITE® CW 9029 ARADUR® HW 9029	100 : 100	110 -120	2.7	Automatic pressure gelation, vacuum casting	Suitable for medium to high-voltage applications including SF6 types of insulation. Available in blue or black. Recognized UL® 746C. Relative thermal index is 200°C.
Polyurethane Systems for indoor applications	**ARATHANE® Standard Systems**	**Mix ratio**	**Tg**	**Working time**	**Viscosity**	**Hardness Shore D**	**Manufacturing process**	**Main features**
	ARATHANE® 5814 PO ARATHANE® 5814 IS	100 : 18	30	~50 min	3000-8000	75-80	Vacuum casting	Flammability: UL® 94 V-0 (6.0mm). Thermal index of 130°C by UL® 1446 by twisted pair and 180°C by helical coils.
	ARATHANE® 5888 PO ARATHANE® 5888 IS	100 : 13	2 - 4	~50 min	4,000-5,000	50-55	Vacuum Casting	Highly flexible casting system for high-voltage electrical devices. Good mechanical and electrical properties. Flammability: UL® 94 V-0 (6.0 mm).
	ARATHANE® CW 5620 ARATHANE® HY 5610	100 : 22	~20	~25 min	~1,300	40 (85 Shore A)	Vacuum Casting	Halogen-free casting/ impregnating system. Suitable for pressure-sensitive devices.

	Product designation	Mix ratio	Tg	KIC	Manufacturing process	Main features
	Conditions					
	Norm					
	Units	pbw	°C	mPa.m0.5		
Epoxy systems for indoor applications	**ARALDITE® CEP standard systems**					
	ARALDITE® CY 184 ARADUR® HY 1235 ACCELERATOR DY 062 or DY 067 Filler Silica-EST	100 : 90 : 0.6 : 370	110	2.5	Automatic pressure gelation, vacuum casting	System includes liquid hardener. Used in extreme indoor conditions (pollution/humidity). EDF approved (HN-26-E-20).
	ARALDITE® CW 5988 ARADUR® HW 5989	100 : 100	95	3.7- 4.0	Automatic pressure gelation, vacuum casting	Resin system for outdoor applications with very high thermal shock resistance.
	ARALDITE® CW 5817 ARADUR® HY 1235 ACCELERATOR DY 062	23:00.1	95-105	2.1-2.3	Automatic pressure gelation, vacuum casting	Heat-curing cycloaliphatic epoxy casting system. Good arc tracking and thermal shock resistance. Flammability: UL® 94 V-0 (12.0 mm).
	ARALDITE® CY 184 ARADUR® HT 907 ACCELERATOR DY 183 Silica flour	100 :9 0 : 3 : 300	110-115	2.5	Automatic pressure gelation, vacuum casting	Heat-curing cycloaliphatic epoxy casting system suitable for medium and high-voltage electrical insulating components.
	ARATHANE® 5814 PO ARATHANE® 5814 IS	100 : 18	30	75-80	Vacuum casting	Flammability: UL® 94 V-0 (6.0mm). Thermal index of 130°C by UL® 1446 by twisted pair and 180°C by helical coil test.
	ARALDITE® CW 5908 ARADUR® HW 5909	100 : 100	115-132	2.7-2.8	Automatic pressure gelation, vacuum casting	Toughened cycloaliphatic epoxy system for medium-voltage applications. Good arc tracking and thermal shock resistance.
	ARALDITE® HCEP SYSTEMS WITH HYDROPHOBIC PROPERTIES					
	ARALDITE® CY 5622 ARADUR® HY 1235 ACCELERATOR DY 062 or DY 067 Filler Silica-EST	100 : 82 : 0.45 : 355	110	2.5	Automatic pressure gelation, vacuum casting	Hydrophobic cycloaliphatic system with liquid hardener. Good thermal cycle resistance, hydrophobicity transfer and recovery, and extended insulator lifetime. Utility approvals. Approved to EN 45545 for railway applications: best class R23 / HL 3 suited for tunnels.
	ARALDITE® CY 5622 ARADUR® HY 1238 ACCELERATOR DY 062 or DY 067 Filler Silica-EST	100 : 84 : 0.46 : 347	30	2.95	Automatic pressure gelation, vacuum casting	Hydrophobic cycloaliphatic system with liquid. Includes SVHC-free hardener. Good thermal cycle resistance, hydrophobicity transfer and recovery, and extended insulator lifetime. Utility approvals.
	ARALDITE® CW 5908 ARADUR® HW 5909	100 : 100	115-132	2.3-2.5	Automatic pressure gelation, vacuum casting	Hydrophobic cycloaliphatic epoxy prefilled system with good thermal cycle resistance and hydrophobicity transfer and recovery.

ADHESIVES

Product designation	Chemistry	Color	Mix ratio	Mix Viscosity	Pot life	Cure time to LSS = 1 N/mm2	Lap shear strength	E-modulus	Elongation at break	Benefits
Conditions				RT	23°C, 100g		Aluminium	23°C		
Norm										
Units			pbw	Pa.s	min		N/mm²	%		
ARALDITE® AV 4415 Hardener HV 4416-1	Epoxy	dark grey	100 : 50	thixotropic	90	15 min at 60°C	22	4 500	1	High-performance on composites and bonds a wide range of substrates. Temperature resistance up to 180°C. Excellent resistance to most common chemicals. Non-flowing paste for ease of application. Available in cartridges.
ARALDITE® AW 4859 Hardener HW 4859 (Cartridge)	Epoxy	black	100 : 43	thixotropic	100	20 min at 60°C	33	1 500	5	High strength and toughness, good temperature resistance. Available in cartridges.
ARALDITE® AW 4510 Hardener HW 4511-1	Epoxy	dark grey	100 : 50	thixotropic	85	15 min at 60°C	22			Temperature resistance up to 180°C, with excellent resistance to most chemicals. Bonds a wide range of substrates.
ARALDITE® 2051	Acrylic	pale yellow	100 : 100	non-sagging	5	15 min at 23°C	22	1700	10	Toughened methacrylate adhesive with fast cure from 0°C to 40°C and service temperature up to 120°C. Minimum surface pre-treatment needed
ARALDITE® 2053-05 & 2053-15	Acrylic	dark grey	100 : 13	non-sagging	5 with -05 15 with -15	20 min at 23°C with -05 40 min at 23°C with -15	17	1000	50	Toughened methacrylate adhesive with very high elongation and service temperature up to 100°C. Minimum surface pre-treatment needed.
ARALDITE® 5861 A / B	Epoxy	pale yellow	100 : 100	flowable	4 at 25°C	20 min at 25°C	19	2000	17	Rapid-cure, multi-purpose epoxy adhesive that cures at room temperature and exhibits high strength and toughness. It is suitable for bonding a wide variety of substrates. UL-recognized system - 180°C class electrical insulation systems.
ARALDITE® 5865 A / B	Epoxy	pale beige	100 : 50	thixotropic	40 at 25°C	3.5 hours 25°C	19	4000	0.7	Two-component, thixotropic, room-temperature curing paste adhesive that exhibits high strength and toughness. Offers good chemical resistance for use in harsh/aggressive environments. Suitable for bonding electrical components, insulation sheets and other parts requiring elevated temperature performance. UL-recognized system 180°C class for electrical insulation systems.

Product designation	Dielectric strength	Volume resistivity	Dielectric constant / Loss tangent	Loss tangent
Conditions	RT	RT	50Hz, RT	RT
Norm	IEC 60243-1	IEC 60093	IEC 60250	IEC 60250
Units	kV/mm	Ohm-cm	%	%
ARALDITE® 5861 A / B	17 (ASTM D-149)	5.7 E+14	4.4	0.8
ARALDITE® 5865 A / B	17 (ASTM D-149)	2.2 E+15 (ASTM D-527)	4.0 (ASTM D-150 @60 Hz)	0.01 (ASTM D-150 @60 Hz)



ANCILLARIES

Flexibilizers

Product designation	Color	pH value	Viscosity	Benefits
Conditions	visual	5% in water; 23°C	dynamic 25°C	
Norm		ISO 787-9	ISO 12058	
Units			mPa.s	
Flexibilizer DY 040	colorless liquid	4.0 - 7.0	60 - 90	Standard flexibilizer with low viscosity
Flexibilizer DY 042	colorless liquid	5.0 - 7.0	45 - 65	Low viscosity. Superior toughening / higher flexibility. Better crack resistance. Smaller amount required
Flexibilizer DY 044	colorless liquid	4.0 - 7.0	150 - 200	Heat-curing cycloaliphatic epoxy casting system. Good arc tracking and thermal shock resistance. Flammability: UL® 94 V-0 (12.0 mm)

Release agents

Mold Release QZ 66	Solvent-free mold release agent. Improved working hygiene and optimum release effects. Enables precise reproduction of surface detail, such as contours. Allows smooth demolding at mold temperatures up to 250°C. Smaller amount needed for good release and offers fast drying times. Does not corrode ARALDITE® epoxy or metal molds. Multiple demold.
Mold Release QZ 13	Mold release agent. Optimum release effects and enables precise reproduction of surface detail, such as contours. Allows smooth demolding at mold temperatures up to 250°C. Smaller amount needed for good release, with fast drying times. Does not corrode ARALDITE® epoxy or metal molds. Multiple demold.

Coloring pastes

Product designation	Benefits
Conditions	
Norm	
Units	
ARALDITE® DW 0131 / RAL 1013 (white)	Uniform and homogenous coloration. Minor effects on the processing and end properties of a casting resin system. Light and heat resistance. Viscosity at 25°C: 20 - 160 Pas. Pigment particle size below 50 µm.
ARALDITE® DW 0133 / RAL 3000 (red)	
ARALDITE® DW 0136 / RAL 8016 (brown)	
ARALDITE® DW 0137-1 / RAL 8022 (black)	
ARALDITE® DW 0138 / RAL 7035 (grey)	
ARALDITE® DW 0139 / RAL 3000 (red)	
ARALDITE® DW 9134 / RAL 7035 (grey)	

UL® CLASSIFICATIONS

for Huntsman Systems

UL® File	System	Thickness, mm	Flame Class	RTI		
				Elec	Imp	Str
Plastics – Component						
E168815	ARALDITE® CW 229 US ARADUR® HW 229-1 US	1.5 6	HB HB	200	200	200
	ARALDITE® CW 229 US ARADUR® HW 5787 US	1.5 6	HB HB	200	200	200
	ARALDITE® CW 9029 US ARADUR® HW 9029 US	1.5 6	HB HB	200	200	200
	ARALDITE® CW 5942-1 US ARADUR® HW 5943-1 US	6	V-0	90	–	–
	ARALDITE® CW 5817 US ARADUR® HY 1235 ACCELERATOR DY 062	12	V-0	–	–	–
	ARATHANE® 5814 PO ARATHANE® 5814 IS	6	V-0	50	50	50
	ARATHANE® 5888 PO ARATHANE® 5888 IS	6 12	V-0 V-0	50	50	50
System Components, Electrical Insulation – Component						
E170246	ARALDITE® CW 229 US ARADUR® HW 229-1 US	1.5 6	HB HB	200	200	200
Plastics – Component						
E96722	ARALDITE® CY 5948 ARADUR® HY 925-1 Silica	6	HB	–	–	200

Varnish Dsg	ANSI Magnet Wire Type	Varnish Thermal Class C		
		TP	HC	CE
Varnishes – Component				
ARATHANE® 5814 IS I ARATHANE 5814 PO US	MW80	130	180	–
ARALDITE® CY 5841 US	MW35	180	180	–
ARALDITE® CW 5853 US / ARADURHY 5853 US	MW35	180	200	–



APPLICATION TECHNOLOGIES

Process 1- 2 = Casting I Process 3-4 = Impregnation

Why use this process?		
Vacuum casting		
Ensuring perfect impregnation of high voltage windings	Good impregnation and gap filling capability	Insulators
Reliable electrical insulation	Low viscosity for easy processing	Bushings
Good chemical and mechanical protection	High crack resistance	Stators / Rotors
Short cycle times	Low coefficient of thermal expansion	
Fully automatic continuous production lines	High thermal durability (thermal class)	
Mass production with highest productivity	High dielectric strength	
	High heat conductivity	
	Sedimentation stability	
	Supply in bulk container	
Automated Pressure Gelation (APG) g / Potting		
Short cycle times	Low viscosity for easy processing	Insulators
Void free castings	Sedimentation stability	Bushings
Shrinkage compensation	Fast demolding and curing	Stators / Rotors
Feeding of clamping machines over ring lines with central resin system preparation	Thermal class	Switchgears
	High crack resistance	
	Low coefficient of thermal expansion	
	High heat conductivity	
Trickle impregnation		
Ensuring void-free impregnation of windings	Solvent-free resins	Small motors for hand tools and household appliances
No loss of impregnating resin	Thermal class	Stators / rotors
Automatic trickle machines for continuous process	High tracking resistance and dielectric strength	
Good bonding and mechanical fixation	High mechanical strength	
Good heat dissipation	High humidity and chemical resistance	
	Humidity	
Vacuum Pressure Impregnation (VPI)		
Ensuring void-free impregnation	Low viscosity	Large motors and generators
Reliable electrical insulation with lowest partial discharges	Stable viscosity	
Good bonding and mechanical fixation	1-/2-component systems	
Good heat dissipation	Thermal class	
	High tracking resistance and dielectric strength	
	Humidity and chemical resistance	

MADE POSSIBLE

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- Customer seminars and training
- Trouble-shooting and problem-solving

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