Huntsman Advanced Materials

Our Advanced Materials division is a leading global chemical solutions provider with a long heritage of pioneering technologically advanced epoxy, acrylic and polyurethane-based polymer products.

Our capabilities in high-performance adhesives and composites, delivered by more than 2 300 associates, serve over 3 000 global customers with innovative, tailor-made solutions and more than 1 500 products which address global engineering challenges.

Global presence – 13 manufacturing sites

Mobile App from Huntsman Advanced Materials

Download our mobile App and easily find the adhesive to fulfill your need.

Available on the App Store

ANDROID APP ON Google play

Get it at BlackBerry App World

Concept and design by Zygmund SARL

HUNTSMAN

Enriching lives through innovation

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Responsible Care®
OUR COMMITMENT TO SUSTAINABILITY

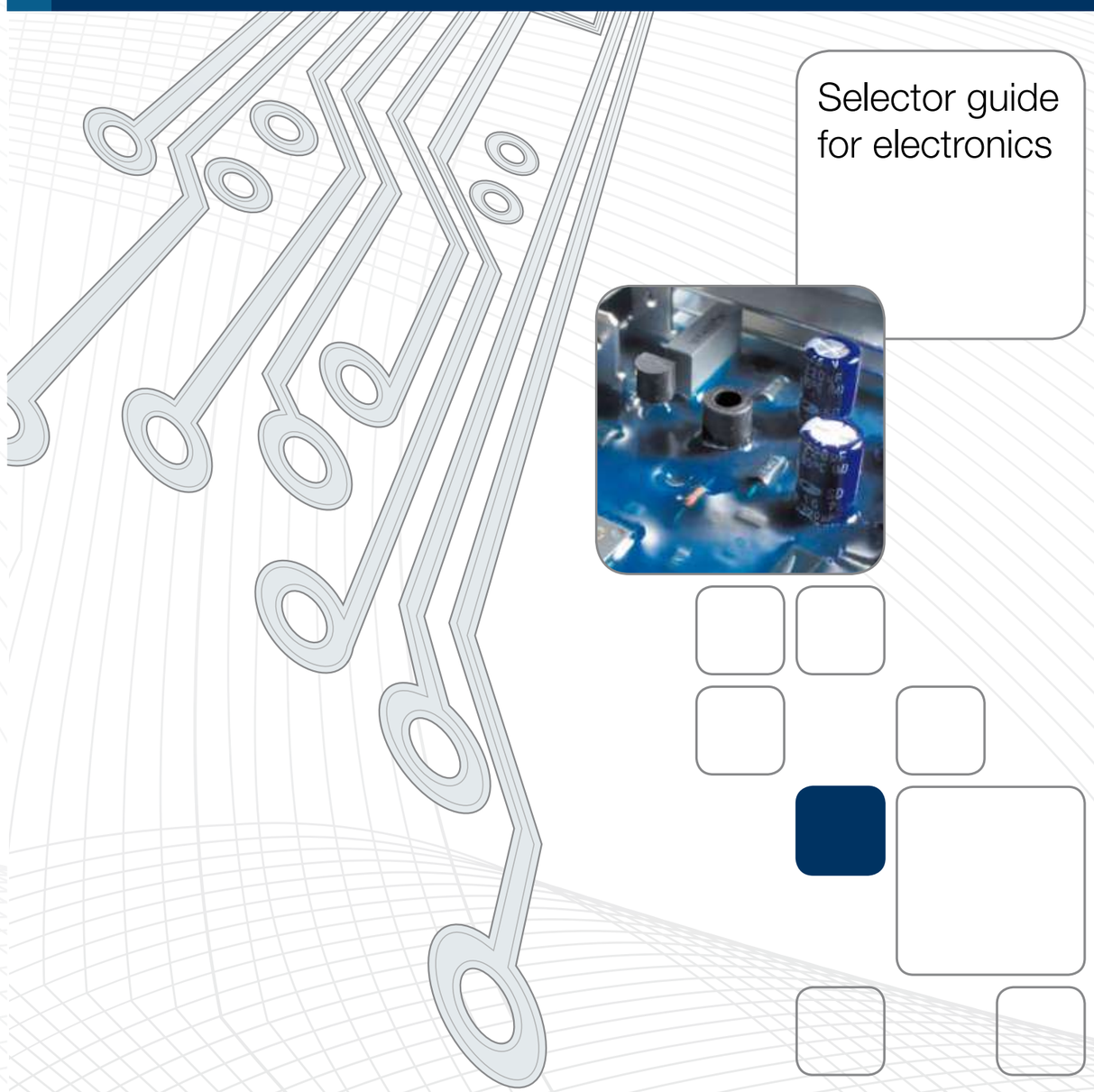
Registered for REACH

HUNTSMAN

Enriching lives through innovation

Advanced Materials

Protection, safety and sustainability



Selector guide for electronics

Rely on us with confidence

Rely on us with confidence

For more than 60 years, as a global provider, Huntsman Advanced Materials, has developed innovative solutions that are used during virtually every stage in the production of printed circuit boards and electronic devices. Our know-how and expertise allow us to develop epoxy and polyurethane systems that answer the most stringent requirements for electronics applications:

> high thermal resistance and thermal conductivity
> flame-retardancy (UL94 V0/HB listing, Railway NF16/101-102 qualification)
> excellent mechanical and dielectric properties
> variable hardness and high dimensional stability
> good chemical resistance and low water uptake

Product

Araldite®
Arathane®
Probimer®

The original brands
serving worldwide electronics
industry for more than
half a century.

More than just products

All products are tested in-house in our electrical and mechanical testing laboratories to ensure they provide the desired properties and comply with environmental requirements. Our own certified UL laboratory can speed up the approval process and minimize time-to-market. Moreover our global manufacturing footprint including ISO TS certified plants in Europe, China and the US and our local technical support teams ensures the highest proximity with our customers.

Protection, safety and sustainability

Thermosets such as epoxies and polyurethanes are widely used in the electronics industry to protect devices against chemical, mechanical and electrical loads.

Advantages

Thermosets over thermoplastics

> Dimensional accuracy and stability
> Excellent property retention over a broad range of temperatures
> Solvent resistance
> Non-melting, flame-retardant & low-smoke density
> Creep resistant

Epoxy encapsulants

> Ambient and hot curing systems
> Long pot life, latency
> Excellent cross linking
> Excellent impregnation
> High voltage behavior on impregnated parts
> High Tg
> Thermal endurance, high temperature applications
> Long-term reliability

Polyurethane encapsulants

> Low viscosity and easy processing
> Low exothermic reaction and low shrinkage
> Reactivity can be easily adjusted
> Flexibility at medium and low temperatures
> Suitable for pressure sensitive devices
> Crack resistance
> Thermal cycling resistance
> Casting of big volumes
> Good adhesion
> Lower cost of materials

Epoxy and polyurethane encapsulants

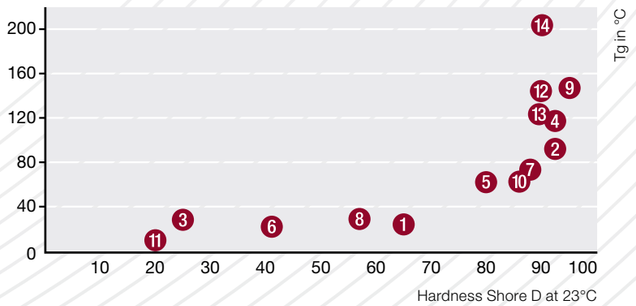
The selection of the appropriate encapsulants and the resulting choice of chemistries are dependent on the various requirements of the final application. Huntsman offers ranges of epoxy and polyurethane encapsulant chemistries that provide customers with the best solution possible for their specific applications.

Temperature is very often the dominating ageing factor on insulating materials and is by far the most common stress applied to electronic devices. The ability of parts to withstand cyclical exposures to extremely high and low temperatures is correlated to the thermal endurance profile of the encapsulant.

Epoxy resins are proven for long-term thermal endurance, especially for applications at higher temperatures. Polyurethane systems are also available, offering thermal endurance profiles above 100°C and flexibility at low temperatures.

Chemical resistance of polyurethanes and epoxies is strongly related to the crosslinked density of the polymer network. As a rule of thumb, the harder the material, the better the chemical resistance.

Epoxy encapsulants



Typical Araldite® systems

1 Araldite® CW 5730N / Aradur® HY 5731
2 Araldite® CW 1446 BDF / Aradur® HY 2919
3 Araldite® CY 221 / Aradur® HY 2966
4 Araldite® XB 2710 / Aradur® XB 2711
5 Araldite® DBF / Aradur® HY 956 EN
6 Araldite® CW 2243-2 L / Aradur® HY 842
7 Araldite® CW 1302 / Aradur® HY 1300
8 Araldite® CW 1312 / Aradur® HY 1300
9 Araldite® CW 1195-1 / Aradur® HW 1196
10 Araldite® XB 2252 / Aradur® XB 2253
11 Araldite® CW 2243-2 / Aradur® HY 1872
12 Araldite® CW 5725-3 / Aradur® HY 5726
13 Araldite® CW5763 / Aradur® HY 5726
14 Araldite® CW 5742 / Aradur® HY 5726

Polyurethane encapsulants

Typical Arathane® systems

1 Arathane® CW 5620 / Arathane® HY 5610
2 Arathane® CW 5650 / Arathane® HY 5610
3 Arathane® XB 5633 / Arathane® HY 5610
4 Arathane® CW 5631 / Arathane® HY 5610
5 Arathane® VBU 6942 / Arathane® VBU 001/B
6 Arathane® VBU 6920 / Arathane® HY 5611-1
7 Arathane® XW 949-1 / Arathane® HY 5610

End-use applications

Automotive and e-mobility solutions

Industrial equipment

Aerospace and defense

Consumer electronics

Renewable energies

Medical

Encapsulating electronic components

Ignition coils

Product designation	Applications			Process		Color	Curing conditions	Glass transition temperature (Tg)	Thermal class	Hardness	Coefficient of thermal expansion (CTE)		Flammability	Comments
	Car	Oil / Gas burner	Motorbike or motorcycle	Vacuum casting	Casting / Potting									
Conditions								DSC		23°C				
Norm								ISO 11357-2	IEC 60085	DIN 53505	ISO 11359			
Unit							hot / cold	°C		Shore D	10^{-6} K^{-1}		Class	
Araldite® CW 5725-3 / Aradur® HY 5726	●		●	●		black	hot	144	H *	D90	35		UL 94, HB	Mineral filled resin with very good impregnation capability.
Araldite® CW 2202 / Aradur® HY 2203	●		●	●		grey	hot	69	F *	D77	42		UL 94, HB	Mineral filled resin with very good impregnation capability.
Araldite® CW 5763 / Aradur® HY 5726 NEW	●			●		black	hot	126	H *	D90	33		UL 94, HB	Mineral filled resin with very high performance.
Araldite® CW 5715 / Aradur® HY 5716	●			●		black	hot	135	H *	D85	28		UL 94, HB	Optimally filled toughened casting resin system with good impregnation capability for processing at high temperature.
Araldite® XB 5721 / Aradur® XB 5723	●			●		black	hot	70	H *	D88	39		UL 94, HB	System with very good impregnation capability. Excellent thermal shock resistance.
Araldite® XGR 247 / Aradur® XGH 248	●			●		grey	hot	117	H *	D88	42		UL 94, HB	Low viscosity, optimally filled casting system for processing and curing at high temperature.
Araldite® CW 5742 / Aradur® HY 5726 NEW	●			●		black	hot	210	N *	D90	38		UL 94, HB	Short curing time. Optimal impregnation. Short curing at high temperature.
Araldite® DBF / Aradur® HY 956 EN		●			●	nc	cold	60	-	D80	-			Unfilled resin system with good chemical and heat resistance.
Araldite® DBF / Aradur® HY 842		●			●	nc	cold	-	-	D64	-			Unfilled resin system with high flexibility. Good chemical and heat resistance.
Araldite® CW 2243-2L / Aradur® HY 842		●			●	blue	cold	37	B	D70	86		UL 94, V-0 (6 mm)	Mineral filled casting system with good thermal ageing stability and thermal shock resistance.
Araldite® XB 2252 / Aradur® XB 2253 NEW		●		●		black	cold	65	F	D86	60		UL 94, V-0 (6 mm)	Mineral filled casting system with excellent thermal ageing stability and thermal shock resistance.
Arathane® CW 5620 / Arathane® HY 5610		●			●	black, blue	cold	20	B	D40	55		UL 94, V-0 (6 mm)	Halogen free multipurpose PU system for pressure sensitive devices.
Araldite® CY 2239 / Aradur® XG 209-1			●	●	●	nc	hot	77	-	D80	50			Unfilled resin system with good dielectric and thermal shock resistance.

nc : not colored

* estimated

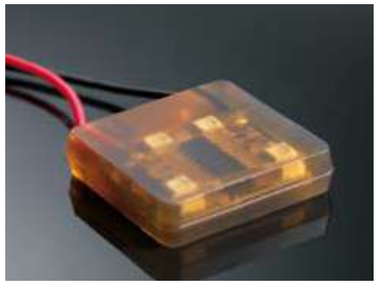
PU = polyurethane

Generators and motors

Product designation	Applications			Process		Impregnation capability	Curing conditions	Glass transition temperature (Tg)	Coefficient of thermal expansion (CTE)	Thermal class	Thermal conductivity		Flammability	Comments
	Power tools	Automotive	Pumps	Vacuum casting	Casting / Potting									
Conditions								DSC	Below Tg / Above Tg		25°C			
Norm								ISO 11357-2		IEC 60085	ISO 8894-1			
Unit							hot / cold	°C	10^{-6} K^{-1}		W/mK		Class	
Araldite® XB 2710 / Aradur® XB 2711 NEW		●		●	●	+	hot	120	24 / 67	H	1.50		UL 94, V-0 (12 mm)	High thermal conductivity.
Aratherm® XB 2731 NEW		●		●		o	hot	160	20 / 55	H *	3.00		UL 94, V-0 (12 mm)	Very high thermal conductivity. Good thermal resistance. Good resistance to atmospheric and chemical degradation. Stable at room temperature. Monocomponent.
Araldite® CW 5725-3 / Aradur® HY 5726		●		●	●	++	hot	144	35	H *	0.60		UL 94, HB	Optimally filled casting system with good impregnation capability for processing and curing at high temperature.
Araldite® CW 229-3 / Aradur® HW 229-1		●		●	●	+	hot	110 - 125	30 / 100	H	0.70		UL 94, V-1 (12 mm), HB (4 mm), NF 16-101/102, I3F0/2	Outstanding mechanical and electrical properties combined with very high crack and thermal shock resistance due to the low CTE. Qualified for encapsulation of large metal parts. Thermal Index (TI) of 204°C.
Araldite® CW 229 NPC / Aradur® HW 229 NPC NEW		●		●	●	+	hot	110 - 125	30	H	0.70		UL 94, V-1 (12 mm), HB (4 mm), NF 16-101/102, I3F0/2	Outstanding mechanical and electrical properties combined with very high crack and thermal shock resistance due to the low CTE. Qualified for encapsulation of large metal parts. No post-curing after demoulding.
Araldite® CW 1446 BDF / Aradur® HY 2919		●		●	●	++	hot	95	48 / 134	H	0.67		UL 94, V-0 (6 mm)	Multipurpose epoxy impregnation system. Good dielectric properties. Good thermal shock resistance. Excellent impregnation. Thermal Index (TI) of 200°C.
Araldite® XB 2252 / Aradur® XB 2253 NEW		●	●	●	●	++	cold	68	60 / 100	F	0.66		UL 94, V-0 (6 mm)	Filled casting system for processing and curing at room temperature. Excellent sedimentation stability and low abrasive fillers. Excellent thermal endurance.
Araldite® CY 246 / Aradur® XB 5911	●				●	+++	hot	124	-	-	-		-	Unfilled system. Produces homogeneous winding impregnation with excellent mechanical and electrical properties. Very good adhesion. High thermal loading capacity.
Araldite® CY 236 / Aradur® XB 5979	●				●	+++	hot	100	-	-	-		-	Unfilled system. Produces homogeneous winding impregnation with excellent mechanical and electrical properties. Very good adhesion. High thermal loading capacity.
Araldite® CW 1312 / Aradur® HY 1300		●		●	●	++	cold	30	103	B	1.10		UL 94, V-0 (3,2 mm)	Resilient casting system exhibiting good resistance to thermal ageing and good thermal shock resistance.
Araldite® CW 1302 / Aradur® HY 1300		●		●	●	+	cold	75	42 / 105	H	0.88		UL 94, V-0 (3 mm), HB NF 16-101/102, I2F1/4	Excellent thermal endurance. Recommended for electrical devices working in potentially explosive environments. Thermal Index (TI) of 181°C.

* estimated

Assemblies



Product designation	Applications				Process		Curing conditions	Glass transition temperature (Tg)	Thermal class	Hardness		Flammability	Comments
	Inverters	Modules / Sensors	Proximity switches	Wire harness / Connectors	Vacuum casting	Casting / Potting							
Conditions								DSC		23°C			
Norm								ISO 11357-2	IEC60085	DIN 53505			
Unit							hot / cold	°C		Shore D / Shore A		Class	
Arathane® CW 5620 / Arathane® HY 5610	●	●		●	●	●	cold	20	B	D40 / A85		UL 94 V-0 (6 mm)	Flexible multipurpose PU system. Excellent flow properties. Meets typical automotive requirements.
Araldite® XW 1155-1 / Aradur® HY 1473			●			●	cold	58	B	n.a.		UL 94 HBF (6 mm)	Filled expandable EP casting system. Good thermal shock resistance. Excellent electrical properties.
Arathane® CW 5650 / Arathane® HY 5610 NEW	●	●			●	●	cold	-40	E	D27 / A83		UL 94 V-0 (6 mm)	Very flexible PU system. Excellent flow properties. Low temperature flexibility.
Arathane® XW 949-1 / Arathane® HY 5610		●			●	●	cold	-62	B	D20 / A70			Unfilled PU system. Low modulus. Excellent dielectric properties. Good thermal shock resistance.
Araldite® DBF / Aradur® HY 2966		●			●	●	cold	54	E	D80			Low viscosity. Unfilled EP resin. Good heat resistance. Good resistance to atmospheric and chemical degradation.
Araldite® CW 2243-2L / Aradur® HY 1872		●			●	●	cold	8	E	D20 / A70			Very flexible EP system with good thermal ageing stability. Long pot life.
Araldite® CW 5730N / Aradur® HY 5731	●	●			●	●	hot	30	F	D70		UL 94 V-0 (6 mm)	Flexible impregnation EP system.
Arathane® XB 5601-1 / Arathane® XB 5600		●			●	●	cold	22	E	D27 / A76			Halogen-free, unfilled casting PU system for curing at room temperature. Flexible, transparent and UV stable for pressure sensitive devices, modules and solar cells.
Euremelt® 3413		●		●		●	n.a.	-35	F	D28 / A86		UL 94 V-0 (4 mm)	Thermoplastic hotmelt adhesive. Application temperature 180-230°C. Good adhesion to PVC and other plastics. High flexibility and good heat stability under load. Casting of electrical devices by low pressure injection moulding.

EP = epoxy PU = polyurethane

Components

Product designation	Applications				Process		Curing conditions	Glass transition temperature (Tg)	Thermal class	Hardness	Flammability		Dielectric strength	Dielectric dissipation factor (tan δ)	Relative permittivity (ε_r)	Comments
	Inductive components / Transformers	Filters	Capacitors / Resistors	Power semi-conductors	Vacuum casting	Casting / Potting										
Conditions								DSC		23°C			2mm plate	23°C	50 Hz	
Norm								ISO 11357-2	IEC 60085	DIN 53505			IEC 60243-1	IEC 60250	IEC 60250	
Unit							hot / cold	°C		Shore D / Shore A	Class		kV/mm	%	23°C	
Arathane® VB U 6942 / Arathane® VB U001/B	●				●	●	cold	20	E	D40 / A87	UL 94V-0 (6,4 mm)		22	13	5.50	Flexible, multipurpose PU system. Good thermal shock resistance.
Arathane® VB U 6920 / Arathane® HY 5611-1			●		●	●	cold	60	F	D74 / A88	UL 94 V-0 (6 mm)		18	1.50	4.50	Hard PU system. Designed for capacitors.
Arathane® CW 5631 / Arathane® HY 5610	●	●	●		●		cold	47	F	D 80	UL 94 V-0 (6 mm), NF 16-101/102, I3F1/2		29	3	4.50	Hard, multipurpose PU system. Good thermal shock resistance. Thermal Index (TI) of 159°C.
Araldite® CW 5730N / Aradur® HY 5731	●				●	●	hot	30	F	D70	UL 94 V-0 (6 mm)		28	3.40	4.70	Flexible impregnation EP system.
Araldite® CW 1446BDF Aradur® HY 2919	●				●	●	hot	95	H	D92	UL 94 V-0 (6 mm)		25	1.50	4.00	Flexible, multipurpose EP impregnation system. Excellent impregnation. Thermal Index (TI) of 204°C.
Arathane® VB U 6910 / Arathane® HY 5611-1		●	●		●	●	cold	55	F	D 82	UL 94 V-0 (6 mm)		29	2.10	4.40	Hard multipurpose PU system.
Arathane® CW 5620 / Arathane® HY 5610	●	●			●	●	cold	20	B	D40 / A85	UL 94 V-0 (6 mm)		25	11	6.00	Flexible multipurpose PU system. Excellent flow properties. Meets typical automotive requirements. Thermal Index (TI) of 152°C.
Araldite® CW 1302 Aradur® HY 1300	●				●	●	cold	75	H	D88	UL 94 V-0 (3 mm) NF 16-101/102, I2F1/4		27	5.30	4.90	Optimally filled casting system with good impregnating capability. High thermal conductivity. Low water absorption. Thermal Index (TI) of 181°C.
Araldite® CW 2243-2L Aradur® HY 1872	●				●	●	cold	8	E	D20 / A70			22	14.20	7.70	Very flexible EP system with good thermal ageing stability. Long pot life.
Araldite® CW 2243-2L Aradur® HY 842	●				●	●	cold	22	B	D41	UL 94 V-0 (6mm)		23	14	7.00	Flexible EP system. Good thermal shock resistance. Low viscosity.

Continued on page 14

EP = epoxy PU = polyurethane

Components

Continued

Product designation	Applications				Process		Curing conditions	Glass transition temperature (Tg)	Thermal class	Hardness	Flammability		Dielectric strength	Dielectric dissipation factor (tan δ)	Relative permittivity (ε_r)	Comments
	Inductive components / Transformers	Filters	Capacitors / Resistors	Power semi-conductors	Vacuum casting	Casting / Potting										
Conditions								DSC		23°C			2mm plate	23°C	50 Hz	
Norm								ISO 11357-2	IEC 60085	DIN 53505			IEC 60243-1	IEC 60250	IEC 60250	
Unit							hot / cold	°C		Shore D / Shore A	Class		kV/mm	%	23°C	
Araldite® CW 2243-2L Aradur® HY 2966	●				●	●	cold	37	B	D70	UL 94 V-0 (6 mm)		15	5.0	5.3	Low viscosity. Multipurpose EP system. Good thermal shock resistance.
Arathane® XB 5633 / Arathane® HY 5610	●	●			●	●	cold	25	B	D40 / A89	UL 94 V-0 (6 mm)		20	12.5	7.2	Flexible. Multipurpose PU system, good thermal endurance, good thermal shock resistance. Thermal Index (TI) of 155°C.
Araldite® DBF / Aradur® HY 2966	●		●		●	●	cold	54	E	D80			24	0.7	3.9	Low viscosity unfilled EP resin. Good heat resistance. Good resistance to atmospheric and chemical degradation.
Araldite® CY 221 / Aradur® HY 2966	●		●		●	●	cold	29	E	D25			36	7.6	5.4	Multipurpose unfilled EP system with good heat resistance. Good resistance to atmospheric and chemical degradation. Higher filler addition possibility.
Araldite® CW 1312 / Aradur® HY 1300	●				●	●	cold	30	B	D57	UL 94 V-0 (3,6 mm)		15	30.0	9	Resilient EP casting exhibiting good resistance to heat ageing. High thermal conductivity. Good thermal shock resistance.
Araldite® XB 2252 / Aradur® XB 2253 NEW	●		●		●	●	cold	65	F	D 86	UL 94 V-0 (6 mm)		29	4.4	4.7	Multipurpose EP system with high thermal endurance and excellent impregnation capability. Thermal Index (TI) of 180°C.
Arathane® CW 5650 / Arathane® HY 5610	●	●			●	●	cold	-40	E	D27 / A83	UL 94 V-0 (6 mm)		27	11.0	8	Very flexible PU system. Excellent flow properties. Low temperature flexibility.
Araldite® CW 1195-1 / Aradur® HW 1196				●	●	●	hot	146	H	D95	UL 94 V-0 (6 mm)		14	0.5	3.7	Optimally filled EP system with good impregnating capability. Low CTE.
Araldite® CW 2250-1 / Aradur® HY 2251	●	●	●		●	●	cold	54	B	D88	UL 94 V-O (4 mm), NF 16-101/102, I3F1/2		28	3.4	4.6	Good dielectric properties. Excellent thermal shock resistance. High thermal conductivity.

EP = epoxy PU = polyurethane

Structuring printed circuit boards

Probimer® soldermasks

Probimer® 65 : halogen free soldermasks with advanced high temperature resistance

Product designation	Color	Surface gloss	Halogen free	Coating application			Comments
				FSP	CC	ES	
Probimer® 65 7203-5 CH / 7211-1 CH	green	SM	yes		●		Standard Polyalcohol. Developed for high end applications. Solvent developable.

Probimer® 77 - 1st generation : E-corrosion resistant automotive soldermask with large drying window

Product designation	Color	Surface gloss	Halogen free	Coating application			Comments
				FSP	CC	ES	
Probimer® 77 1070 / 1050	green	MA	≤ 2 000 ppm	●			Supermatt. Low adhesion of solder balls (soldering flux related).
Probimer® 77 7224-2 / 7225-1	green	SM	yes	●			General industry product. Outstanding Ni/Au performance.
Probimer® 77 7179 / 7180	green	SM	≤ 2 000 ppm	●			Well-proven in market for automotive PCB.
Probimer® 77 1040 / 1050	green	SM	≤ 2 000 ppm	●			Underhood flip-chip PCB.
Probimer® 77 7177-2 / 7167-2	green	SM	yes		●		General industry product. Outstanding Ni/Au performance.
Probimer® 77 8030 / 8045 / 8064	green	SM	≤ 2 000 ppm		●		Mainly for mobile phone PCB.

Probimer® 77 - 2nd generation : halogen free multipurpose soldermask for short exposure time

Product designation	Color	Surface gloss	Halogen free	Coating application			Comments
				FSP	CC	ES	
Probimer® 77 9000 / 9002	green	GL	yes	●			Good Ni/Au and immersion Sn performances.
Probimer® 77 9021 / 9002	green	SM	yes		●	●	Good Ni/Au and immersion Sn performances, fine lines capabilities (75 microns).
Probimer® 77 9020 / 9002	green	GL	yes		●		Same performances as Probimer® 77 9021/9002.

Probimer® 77 - 3rd generation : high thermal cycling resistant soldermask for lead free multisoldering application

Product designation	Color	Surface gloss	Halogen free	Coating application			Comments
				FSP	CC	ES	
Probimer® 77 73100 / 79002	white	GL	yes	●			Non-yellowing. White color stable soldermask.
Probimer® 77 72103 / 79002 NEW	white	SM	yes	●			White, semi-mat formulation, high reflectivity.
Probimer® 77 72101 / 79001	green	SM	yes	●			Crack resistant (Class C/C1000). Best suitable for automotive application. Outstanding immersion Ni/Au and Sn performances.
Probimer® 77 72201 / 79005	green	SM	yes			●	Crack resistance - Class D/D1000.
Probimer® 77 71101 / 79009	green	MA	yes	●			Halogen free. Replacement for 1070/1050.

SM : Semi Matt I MA : Matt I GL : Glossy I FSP : Flood Screen Print I CC : Curtain Coating I ES : Electrostatic Spray

All Probimer® soldermasks are UL listed under File QMJU2.E76463

Bonding electronic components

Adhesives and sealants

Product designation	Color	Mix ratio	Mix viscosity	Pot life	Cure time to LSS = 1 N/mm²	Lap shear strength	E-modulus	Elongation at break	Flammability	Comments
Conditions			RT	23°C, 100g	23°C	Aluminium	23°C	23°C		
Norm										
Unit		pbw	mPa·s	min	min	N/mm²	N/mm²	%	Class	
Araldite® CY 8767 / Aradur® HY 8767-1	black	100 / 25			60 at 60°C			2.7		Potting system for use in sealed acid and storage batteries. Low-cost alternative for terminal lead potting and housing sealing.
Araldite® 2028-1	transparent	100 / 100	-	6 - 8	15	15	16	60		Fast curing. UV-stable. PU adhesive.
Araldite® 2033	black	100 / 88	thixotropic	120 - 140	240	16	576	39	UL 94 V-0 (4,5 mm), NF 16-101/102 I2F2, PrCEN/ TS 45545-2	Self extinguishing. Gap filling. Medium open time. High strength.
Araldite® 2014-1	grey	100 / 50	thixotropic	60	180	19	4 000	0.7		High temperature and chemical resistance. Low shrinkage.
Resin XD 4447 / Hardener XD 4448	pale yellow	100 / 33	300 - 600	4 - 6 weeks	24h at 120°C	18		<1		Good impregnation properties. Good resistance to temperatures up to 110°C.
Araldite® AT1-1	white-yellowish		solid material, softening point 55°C		24h at 120°C	33		<1		Long term heat resistance up to 110°C. Good resistance to weathering and chemicals. High resistance to static and dynamic stresses.

LSS: Lap Shear Strength

With innovation

Every day, all over the world, our Technical Competence centers engage in intensive research and development focusing on one goal; to deliver innovative solutions by working hand-in-hand with our business partners. Together through a continual exchange of ideas, supported by an experienced team of sales and technical specialists, we strive to deliver innovative solutions.

We track both new market expectations and changing regulations. Protection of the environment, as well as health and safety are paramount concerns that play an integral part in our development projects.

By providing certified technologies and patented products in combination with high quality and reliability, our chemists and experts bring enhanced value to our customers to ensure their success.

With customer intimacy

We market a unique product portfolio and a broad range of forward-looking solutions for our customers. Customers and partners benefit from an advanced level of service in:

> product development and quality control
> product trials in-house and with customers
> customer seminars and training
> trouble-shooting and problem-solving

Partnership with our customers is more than simply «putting them first». It requires long-term commitment to forge close relationships that create synergies of knowledge, security and adaptability to create a successful, shared future.

With care

Sustainability is a fundamental part of our corporate and business strategy. We see a better world in which our innovations help reduce consumption of natural resources and improve the quality of life for people everywhere. We are identifying the long-term trends that affect our markets and looking at how our products and applications can play a part in supporting and providing solutions to the challenges those markets face.

We value your challenge