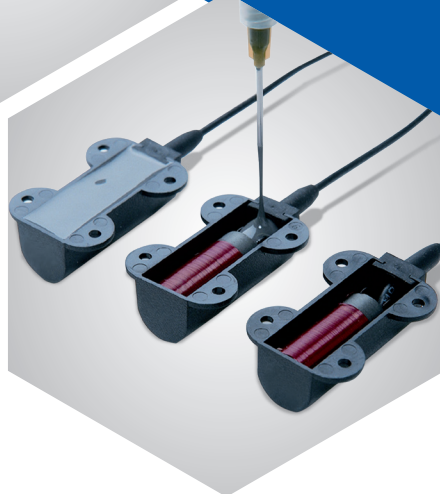
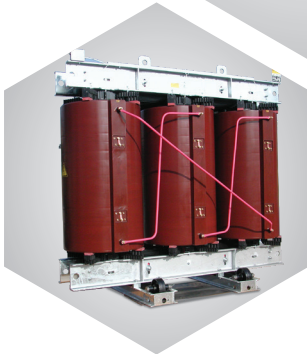


ELECTRICALLY INSULATING CASTING, POTTING & CONFORMAL COATING MATERIALS



- ▶ Leading market position through continuous innovation
- ▶ Global footprint allowing fast response to customer needs
- ▶ Best team in the industry with global product, application, service & market knowledge
- ▶ Global portfolio offering world class products
- ▶ Efficient, safe and modern plants leading to supply reliability

We offer enamels, varnishes, resins systems through our different business lines

Wire Enamels

- Wire enamels for the primary insulation of magnet wire
- Magnet wire is applied in electric motors, generators and transformers

Electricals

- Consolidation of magnet wire in electrical machine through insulating varnishes & resins
- Applied through various application techniques (dip, roll-dip, hot-dip, trickle, VPI etc.)

Electronics

- Resin systems for the overall protection of electronic circuits and electric devices
- Resin systems with specific functionalities in electronic components/assemblies

Engineering Materials

- Total Solution from Flooring to Water Proofing
- Unique Solution from Protective Coating to Architectural Paints

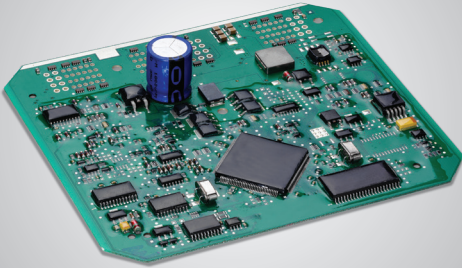
Product Selection Guide

System	Mixing ratio (pbw)	Mix viscosity at 25°C (mPa.s)	Pot life at 25°C (Min.)	Thermal class	Key properties	Application
Air drying, Acrylic conformal coating system						
Bectron AC 111 IN	one part	50	15 (touch dry)	---	Fast curing, ease for application, Suitable for application by spraying, brushing etc.	PCB protection
Bectron® PL 4122-37E BLF FLZ	one part	50	60 (touch dry)	---	Fast curing, UL 94 V0, RoHS compliant, ease for application, Suitable for application by spraying, brushing etc.	PCB protection
Room temperature curing, unfilled epoxy system						
Dobeckot- 520 F / Hardener-EH-411	100/55	11800	72	120 (E)	High viscosity, long pot life	EMC filters
Dobeckot- 520 F / Hardener- 758	100/10	1540	27	120 (E)	Fast cure, excellent chemical res.	EMC filters
Dobeckot- 522 / Hardener-EH-412	100/60	15000	15	120 (E)	High viscosity, fast cure	Adhesive for amorphous core sealing
Shimorez- 402 M / Hardener- 61	100/10	800	55-65	120 (E)	Low viscosity, fast curing	Potting, casting and sealing of electrical and electronic components such as transformers (LTCT) & sensors
Shimorez- 402 M / Hardener- 43	100/40	1000	160-200	120 (E)	Low viscosity, slow curing	Potting, casting and sealing of electrical and electronic components such as transformers (LTCT) & sensors
Shimorez- 400 / Hardener- 61	100/12	1540	27	155 (F)	Fast cure, high Tg, excellent chemical res.,	Adhesive for air core reactor
Heat curing, unfilled epoxy system						
Dobeckot- 520 F/ Hardener 7055 / Acc. 803 M	100/100/1	720	80 at 80°C	155 (F)	Low viscosity, high pot life, excellent electrical properties	Coating and impregnation
Shimorez- 400/ Elan-tron WH 95/ Acc 01	100/100/1	1500	6-8 hours	155 (F)	Low viscosity, good electrical properties	Casting of insulators, switchgear, transformers, bushings and impregnation of coils
Room temperature curing, filled epoxy system						
Elan-tron MC 62 / Elan-tron W 363	100/13	1400 - 2200	35-45	155 (F)	Self-extinguishing, RoHS compliant, thermally conductive, UL 94 V0 listed (File E116643)	Encapsulation, sealing and impregnation of electrical and electronic components.
Elan-tron MC 4238 IN / Elan-tron W 4238 IN	100/12	1400-2200	25-35	155 (F)	RoHS compliant, thermally conductive, flame retardant	Motor potting, magnet bonding, Encapsulation of transformers, igniters, noise filters
Elan-tron MC 4242 IN / Elan-tron W 4242 IN	100/12	1500-2500	5-6 hours	155 (F)	RoHS compliant, thermally conductive, flame retardant, very low cure exotherm, long pot life	Li-ion battery potting
Dobefil- 60 / Hardener-EH-408	100/25	2150	135	120 (E)	Low exotherm, long pot life	Sensors and actuators, safety devices, lighting transformers, instrument transformers, outdoor devices , capacitors, electromagnetic devices
Dobefil- 60 / Hardener- 758	100/05	3350	42	120 (E)	Fast cure, excellent chemical res.	
Dobeckot- 5503 / Hardener-EH-408	100/25	1100	135	120 (E)	Low viscosity, good thermal shock	Automotive electronics, modules & sensors
Dobeckot- 5503 / Hardener- 758	100/05	2400	42	130 (B)	Fast cure, Excellent chemical resistance	Automotive electronics, modules & sensors
Elan-tron MC 4236 / Elan-tronW 4236	100/08	4000 - 6500	20-30 at 40°C	180 (H)	Self-extinguishing, RoHS compliant, thermally conductive, UL 94 V0 listed (File E143115 and E116643).	Encapsulation, sealing and impregnation of electrical and electronic components.
Elan-tron MC 5506 / Elan-tron W 5506	100/16	2000 - 2500	100-130	130 (B)	Fire retardant, halogen free, RoHS compliant,	Encapsulation of electrical and electronic components particularly sensitive to thermo-mechanical stress.
Shimokote- 9 / Hardener- 61	100/05	3800	45	120 (E)	Medium viscosity, ready-to-use system	Potting, casting and sealing of small and medium size electrical and electronic components such as CDI, regulators, flashers, capacitors, filters etc.
Shimokote- 9 / Hardener- 43	100/25	2400	160-200	120 (E)	Medium viscosity, ready-to-use system	Potting, casting and sealing of small and medium size electrical and electronic components such as CDI, regulators, flashers, capacitors, filters etc.
Shimokote- 11 Black / Hardener- 43	100/20	4000	200-240	130 (B)	Medium viscosity, flexible	Suitable for potting of auto electricals
Elan-tron 5611 RC / Hardener- 43	100/20	4000	200-240	130 (B)	Medium viscosity, long pot life, flexible	Suitable for potting of auto electricals

System	Mixing ratio (pbw)	Mix viscosity at 25°C (mPa.s)	Pot life at 25°C (Min.)	Thermal class	Key properties	Application
Elan-tron MC 5509 / Elan-tron W 5509	100/25	2400	60-100	130 (B)	Medium viscosity, good workable life	Potting, casting and sealing of small and medium size electrical and electronic components
Dobeckot- 5601 / Hardener- 5601	100/12	2400	100	130 (B)	Medium viscosity, halogen free, fire retardant, RoHS compliant, , ready-to-use system	Potting casting and sealing of small and medium size electrical and electronic components such as coils, capacitors, filters, PCB assemblies
Shimokte 9_S + Hardener- 43_S	100/25	4000	160-200	130 (B)	Medium viscosity, RoHS & REACH compliant, , ready-to-use system	Potting, casting and sealing of small and medium size electrical and electronic components
Elan-tron MC 4255 + Elan-tron W 4255_LV	100/40	900	30	130 (B)	Low viscosity, fast curing, RoHS compliant, ready-to-use system	Battery terminal sealing,
Elan-tron MC 5613 + Hardener- 43_S	100/14	25000	120	130 (B)	High viscosity, RoHS & REACH compliant, , ready-to-use system	Potting and casting applications in electrical components
Elan-tron MC 4261 + W 4246	100/8	11200	250 - 350	130 (B)	High viscosity, RoHS & REACH compliant, , fire retardant, thermally conductive, ready-to-use system	Potting, casting and sealing of small and medium size electrical and electronic components
Elan-tron MC 11 + Hardener- 43_S	100/25	3900	210	130 (B)	Medium viscosity, RoHS & REACH compliant, , ready-to-use system	Potting, casting and sealing of small and medium size electrical and electronic components
Elan-tron MC 5612 + Hardener- 43_S	100/28	1300	140	130 (B)	Medium viscosity, RoHS & REACH compliant, , ready-to-use system	Telematic control unit (TCU) potting, RF compliant
Heat curing, filled epoxy system						
Elan-tron MC 5404 / Elan-tron WH 5404	70/40	600	20 at 80°C	155 (F)	Low viscosity, flame retardant,	Capacitor potting, Auto electrical applications
Dobeckot 5401 / Hardener 7055 / Acc. 803 M	100/60/0.5	240 at 60°C	200 at 60°C	155 (F)	Low abrasive filler, black, best suitable for automatic dispensing	Automotive electronics
Elan-tron MC 5603 R1 / Elan-tron WH 5603 R1	100/25	6500	40-60 at 80°C	130 (B)	Highly flexible, fire retardant, excellent thermal shock properties	Encapsulation of electrical and electronic components particularly sensitive to thermo-mechanical stresses such CDI
Dobefil- 60 / Hardener 7055 / Acc 803 M	100/50/0.5	195 at 60°C	190-210 at 60°C	155 (F)	Medium viscosity, natural colour, general purpose	Cast resin transformers, potting
Elan-tron MC 41 / Elan-tron WH 441	100/100	5000-8500 at 60°C	68-78 at 60°C	155 (F)	High Tg, thermally conductive, low water absorption	Encapsulation of semiconductors and components operating up to 150°C-160°C with peak temperature upto 180°C.
Elan-tron MC 4249 IN / Elan-tron WH 4249 IN	100/100	35000-55000	420	155 (F)	Highly rigid, fire retardant, excellent thermal shock properties, RoHS and REACH compliant	Encapsulation of semiconductors and components operating up to 150°C-160°C with peak temperature up to 180°C.
Elan-tron MC 5603 R1 / Elan-tron WH 5603_RC	100/25	6500	40-60 at 80°C	130 (B)	Highly flexible, fire retardant, excellent thermal shock properties, RoHS and REACH compliant	Encapsulation of electrical and electronic components particularly sensitive to thermo-mechanical stresses such CDI
Elan-tron MC 4258 / Elan-tron WH 5603_RC	100/25	4000 - 5000	360 - 480	130 (B)	Excellent adhesion to substrate, Highly flexible, fire retardant, excellent thermal shock properties, RoHS and REACH compliant	Encapsulation of electrical and electronic components Motor control unit, Good adhesion for bigger cavities. Excellent Thermal shock
Room temperature curing, polyurethane system						
Elan-tron PU 55 / Hardener-IS-16	100/30	350-450	45-50	120 (E)	Un-filled, optically clear, flexible, low viscosity	PCB potting, electrical & electronics application
Dobeckan IF 4401 / Hardener- 200	100/27	1540	15	120 (E)	Low viscosity, flexible	Cable joint application, casting, potting, encapsulation of electrical & electronic components,
Shipal- 40 / Hardener-IS-32	100/30	2000 - 2800	30-40	130 (B)	Semi-rigid, good thermal shock res.	Potting and casting applications in electrical components
Shipal- 30 B / Hardener-IS-16	100/25	400-600	10	120 (E)	Highly flexible	Encapsulating PCBs and micro electronic components
Shipal- 40 FR / Hardener-IS-32	100/26	2000-3000	30-40	120 (E)	Flame retardant, rigid	Ideal for potting, casting, encapsulation and sealing of transformers, capacitors, auto electrical components
Elan-tron PU 54 / Elan-tron-PH-54	100/16	1000-2000	50-70	130 (B)	Flame retardant, flexible	Ideal for potting sealing & encapsulation of auto electricals
Shimocast- 101 / Hardener-IS-32	100/22	2200-2800	35-45	130 (B)	Flexible	Encapsulation of power cable joints up to 11 kV and for potting capacitors, auto components.
Shipal- 81 FR / Hardener-IS-32	100/16	1000-2000	50-70	130 (B)	Flame retardant, flexible	Ideal for potting sealing & encapsulation of auto electricals

New Products

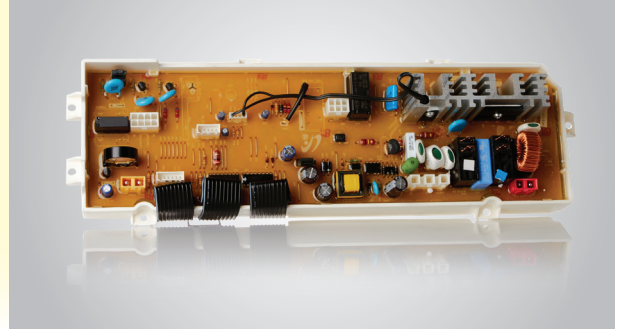
Acrylic Conformal Coating System - Bectron AC 111 IN



- Air Drying, Acrylic Conformal Coating System
- Fast Cure at Room Temperature
- Easy to Re-work
- Ease of Application by Spraying, Dipping, Brushing or Flow Coating
- Good Dielectric Properties
- Areas of Application: PCB Protection Against Dust & Moisture

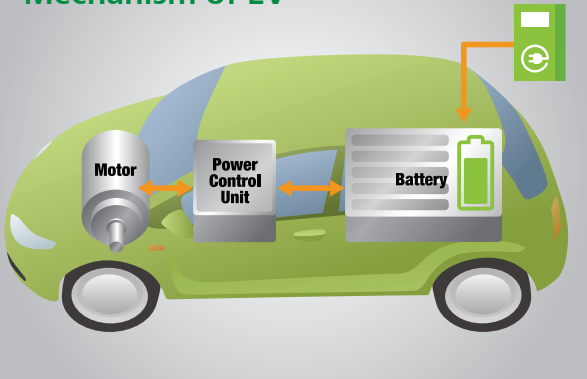
Consumer Electronics Transparent PU Potting System - Elan-tron PU 55 / Hardener IS 16

- Transparent RT Cure @25°C PU System
- Excellent resistance to water, moisture & various chemicals after curing
- Flexible & Re-workable System
- Low viscosity, moderate workable life
- REACH & RoHS Compliant System
- Areas of Application: PCB Protection for Consumer Electronic Assembly



Potting System for E-Vehicles- Elan-tron MC 4238 IN / W 4238IN –Elan-tron MC 4236/ W4236 (Motor Potting)

Mechanism of EV



Elan-tron MC 4236 + W 4236

- Mixing ratio: 100:80
- Hardness: 83 - 87 D
- Tg: 40 – 50, CTE: 25 - 125
- Thermal conductivity: 0.85 - 0.95
- Operating temperature: -40 to +180
- Flammability: UL 94 V0, REACH & RoHS compliant

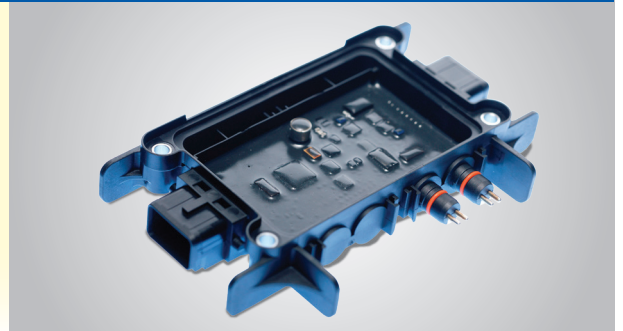
Elan-tron MC 4238 + W 4238

- Mixing ratio: 100:12
- Hardness: 75 - 85 D
- Tg: 40 – 45, CTE: 35 - 140
- Thermal conductivity: 0.85 - 0.95
- Operating temperature: -40 to +155
- Flammability: UL 94 V0, REACH & RoHS compliant

Thermally Conductive Epoxy Potting System for DC-DC Convertors Elan-tron MC 4249 / WH 4249

Elan-tron MC 4249 + WH 4249

- Mixing ratio: 100:100
- Hardness: 80 - 90 D
- Tg: 140 – 150, CTE: 15 - 110
- Thermal conductivity: 0.85 - 0.95
- Operating temperature: -40 to +155
- Flammability: UL 94 V0,
- REACH and RoHS compliant



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