

ELECTRICALLY INSULATING CASTING, POTTING & CONFORMAL COATING MATERIALS

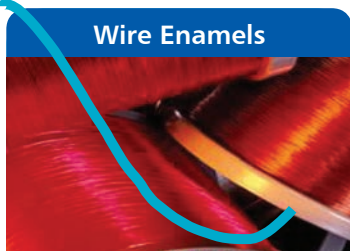


- ▶ Leading market position through continuous innovation
- ▶ Global portfolio offering world class products

- ▶ Global footprint allowing fast response to customer needs
- ▶ Efficient, safe and modern plants leading to supply reliability

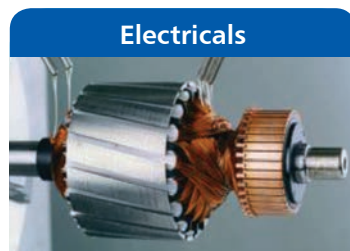
- ▶ Best team in the industry with global product, application, service & market knowledge

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



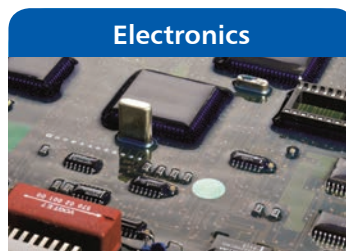
Wire Enamels

- 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
Room temperature curing, unfilled epoxy system						
Elan-tron EC 509/W 4246 IN	65/35	300	>6 hours	120 (E)	Low viscosity, high pot life, cures with very low exotherm	Battery sealing, Sensor potting
Elan-tron MC 4245 (Clear) IN / Hardener 46	65/35	500-1000	30-40	120 (E)	Low viscosity, fast Curing	SPD potting by adding fillers as per requirement
Dobeckot 505 C/ Hardener 758	100/10	400	45	120 (E)	Low viscosity, fast Curing	EMC filters
Dobeckot 504/ Hardener 758	100/10	300	75-95	120 (E)	Low viscosity, fast curing	Motors and generators
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 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 760	100/27	172 at 60°C	80-90 at 60°C	--	Low viscosity, high Tg	HV components, bushings, insulators
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/ 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/ 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 4240 IN/W 4240 IN	100/20	5000	120-150	120 (E)	Medium viscosity, good thermal shock resistance	Potting, casting and sealing of small and medium size electrical and electronic components such as CDI, regulators, flashers, capacitors, filters etc.
Elan-tron MC 4241 IN/W 4241 IN	100/12	1500-2500	25-35	155 (F)	RoHS compliant, thermally conductive, flame retardant, good thermal dimensional stability	Submersible pump potting
Elan-tron MC 4242 IN/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
Elan-tron MC 4244 IN/W 4244 IN	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.
Elan-tron MC 4245 IN/Hardener 46	100/20	1000-1500	40-80	120 (E)	Flexible, long pot life, re-workable	LED driver potting
Elan-tron MC 4245 IN (FR)/Hardener 46	100/20	4000-8000	140-160	120 (E)	Flexible, flame retardant, good thermal conductivity, re-workable	LED driver potting
Elan-tron MC 4245 IN (M)/Hardener 46	100/20	8000-14000	90-110	120 (E)	Rigid, flame retardant, good thermal conductivity, ready to use	SPD 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
Epoxy Gel Coat (Red/White)/ Hardener 758	100/10	25000	50	130 (B)	Thixotropic, fast cure	Switchgears
Epoxy Gel Coat (Red/White)/ Hardener EH 411	100/35	6000	135		Thixotropic, long pot life	Motors & generators
Elan-tron MC 4236/ W 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.

System	Mixing ratio (pbw)	Mix viscosity at 25°C (mPa.s)	Pot life at 25°C (min)	Thermal class	Key properties	Application
Room temperature curing, filled epoxy system						
Elan-tron MC 5506/ 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 10/ Hardener 43	100/18	4000	170-210		Medium viscosity, semi flexible	Suitable for casting and potting applications
Shimokote 11 Black/ Hardener 43	100/20	4000	200-240		Medium viscosity, flexible	Suitable for potting of auto electricals
Elan-tron 5611 RC/ Hardener 43	100/20	4000	200-240		Medium viscosity, long pot life, flexible	Suitable for potting of auto electricals
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
SHIMOREZ SV 400/ Hardener 61	100/08	4000	25		Chemical / acid resistant	Battery sealing
SHIMOREZ 403 GC/ Hardener 61	100/10	Thixotropic	--		Thixotropic	Coating and encapsulation of electrical and electronic components
SHIMOREZ 403 GC/ Hardener 43	100/40	Thixotropic	--		Thixotropic	Coating and encapsulation of electrical and electronic components
Heat curing, filled epoxy system						
Elan-tron MC 5404/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		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 5701/ Elan-tron WH 7056	100/30	400 at 60°C	160-240 at 60°C	155 (F)	High Tg, halogen free, fire retardant, RoHS compliant, ready to use	Impregnation cum potting of ignition coils
Elan-tron MC 5702/ Elan-tron WH 7058	100/30	400 at 60°C	180 at 70°C		High Tg, low water absorption	Encapsulation under vacuum of ignition coils.
Elan-tron MC 41/ Elan-tron WH 441	100/100	5000-8500 at 60°C	68-78 at 60°C		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.
Shimokote E 39 A/ Hardener E 39 B/Dil. M	100/30/0-30	800 - 1200	12 hours	130 (B)	Thixotropic	Capacitor, liquid dip coating
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
Elan-tron PU 43 R1/ Hardener PH 54	100/35	4100 - 5100	22-28		Medium viscosity, good adhesion to various substrate	Adhesive for Sheet Membrane filter bonding & potting
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		Semi-rigid, good thermal shock res.	Potting and casting applications in electrical components
SHIPAL 30 B/ Hardener IS 16	100/25	400-600	10		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
SHIPAL 40 NA/ Hardener IS 32	100/30	1800-2600	30-40	120 (E)	Rigid , non abrasive	Ideal for potting, casting, encapsulating and sealing of transformers, Insulators, capacitors, auto electrical
SHIPAL 60 LV/ Hardener IS 32	100/30	2000-2800	12		Semi-rigid	Ideal for potting, casting, encapsulating and sealing of transformers, capacitors, auto electricals, filters
Elan-tron PU 54/ Hardener PH 54	100/16	1000-2000	50-70	130 (B)	Flame retardant, flexible	Ideal for potting sealing & encapsulation of auto electricals
Elan-tron PU 62/ Hardener PH 54	100/20	1000-2000	10	130 (B)	Rigid, Flame retardant, low viscosity	Auto electrical component, capacitors, filters, cable joint
Shimocast 101/ Hardener IS 32	100/22	2200-2800	35-45		Flexible	Encapsulation of power cable joints up to 11 kV and for potting capacitors, auto components.

New Products

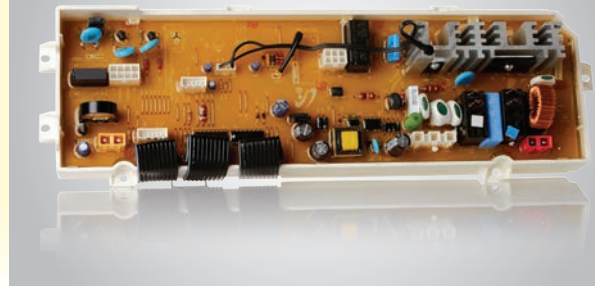
Acrylic Conformal Coating System - Bectron AC 111 IN



- 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

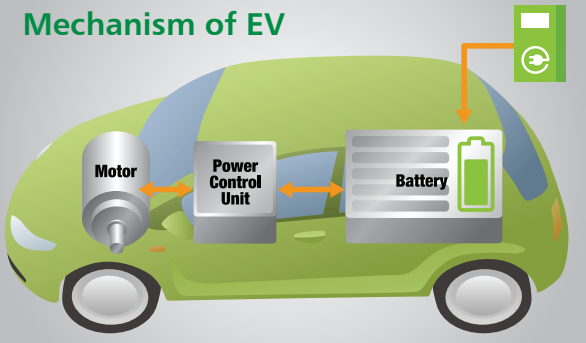
Consumer Electronics Transparent PU Potting System - Elan-tron PU 55 / Hardener IS 16

- 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 4238 IN (Motor Potting) Elan-tron MC 4242 IN/W 4242 IN (Li-Ion Battery Pack Potting)

Mechanism of EV



- 2-K, RT Cure @ 25°C Epoxy System
- Thermally Conductive System
- Meeting the requirement as per UL 94 V0
- REACH & RoHS Compliant System
- Low Exotherm suitable for Li-ion Battery Packs
- Area of Application: Electric Motor Potting, Magnet Bonding & as Thermal Interface Material in Li-Ion Battery Packs

Thermally Conductive Epoxy Potting System for LED Drivers Assembly & SPD - Elan-tron MC 4245 IN Series with Hardener 46

- 2K, RT Cure @ 25°C Epoxy System
- High work life, suitable for Manual & Machine Potting
- Soft & Re-workable System
- Low Viscosity
- REACH & RoHS Compliant System
- Areas of Application: DC-DC Convertors, PCB Protection, LED Driver Assemblies & SPD Potting



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