Product Profile
Wire Enamels

BECK WIRE ENAMELS, BINDER VARNISHES & THINNERS

Product	Chemical base	Viscosity by at 23^{0}C	Solid contents (% by wt.)	Recommended for wire size (mm dia.)	Class of wire	Distinctive properties of wire enamel / enamelled wire	Relevant specification for wires
POLYESTER WIRE ENAMELS							
Terebec F 35 A	Polyester	90-110 s	34-36	0.05-1.0	130L	Wide curing range	IS 13730-34 / IEC 60317-34
Terebec F 215-35	Polyester	90-110 s	34-36	0.05-1.0	130L	High cut-through	IS 13730-34 / IEC 60317-34
Terebec 216-35	Polyester	80-100 s	34-36	0.05-1.0	130L	High processing speed High cut through	IS 13730-34 / IEC 60317-34
Terebec F 39 M	Polyester	800-1000 mPa.s	34-36	0.315-1.0	130L	Improved flexibility	IS 13730-34 / IEC 60317-34
Terebec G 250-35	Polyester	90-110 s	34-36	0.05-1.6	130L	Reddish brown coloured wire, high processing speed	IS 13730-34 / IEC 60317-34
Insomer XLR	Polyester	85-115 s	34-36	0.05-1.6	130L	Reddish Golden coloured wires, High processing speeds	IS 13730-34 / IEC 60317-34
Insomer S 35	Polyester	105-135	34-36	0.05-1.6	130L	Yellowish Golden coloured wires, High processing speeds	IS 13730-34 / IEC 60317-34
MODIFIED POLYESTER WIRE ENAMELS							
Terebec 101-36	Modified Polyester	100-120 s	34-36	0.05-2.0	130L	Improved heat shock	IS 13730-34 / IEC 60317-34
Terebec 227-35	Modified Polyester	110-135 s	34-36	0.2-5.0	130L	Excellent flexibility & adherence	IS 13730-34 / IEC 60317-34
Terebec 227-35 (R)	Modified Polyester	110-135 s	34-36	0.2-5.0	130L	Appealing reddish colour, Excellent flexibility & adherence	IS 13730-34 / IEC 60317-34
Terebec 256-39	Modified Polyester	1200-1400 mPa.s	38-40	0.05-2.0	155	Excellent heat shock, for die wiping on vertical machines	IS 13730-3 / IEC 60317-3
POLYURETHANE WIRE ENAMELS (SOLDERABLE)							
Isomelt 1566 M 30	Polyurethane	20-32 s	29-31	0.05-0.8	155	High processing speeds, good Solderability, high cut through. UL approved.	IS 13730-20 / IEC 60317-20
1380-29	Polyurethane	95-145 mPa.s	28-30	0.02-05	180	High processing speeds, good Solderability, high tan δ	IEC 60317-51
POLYESTERIMIDE WIRE ENAMELS							
Terebec TR 543-38	THEIC Polyesterimide	750-850 mPa.s	37-39	0.05-1.6	180	High tan δ bending point & cut through property, UL approved.	IS 13730-8 / IEC 60317-8
Terebec TR 563-40	THEIC Polyesterimide	600-800 mPa.s	39-41	0.05-1.6	180	Higher processing speed	IS 13730-8 / IEC 60317-8
ISOMID 860/35 LYC	THEIC Polyesterimide	400-600 mPa.s②	37-39	0.05-1.2	180	For High speed enamelling machines having V x d > 100. Also available in 28% solids version	IS 13730-8 / IEC 60317-8

Product	Chemical base	Viscosity by at 23^{0}C	Solid contents (% by wt.)	Recommended for wire size (mm dia.)	Class of wire	Distinctive properties of wire enamel / enamelled wire	Relevant specification for wires
POLYAMIDE-IMIDE WIRE ENAMELS							
Al 1013 BV/35	Polyamide -imide	700-1500 mPa.s	34-36	0.2-1.6	200	Excellent hermetic resistance, low coefficient of friction, Ideal topcoat over PE (I) base coat. 35% solids version is UL approved as a total coat. Also available in 31% solids version.	IS 13730-26 / IEC 60317-26
Allotherm 602L-35	Polyamide -imide	650-800 mPa.s	34-36	0.2-1.6	200	Excellent hermetic resistance, low coefficient of friction, topcoat over PE (I) base coat. UL approved as a top coat.	IS 13730-26 / IEC 60317-26
Sivamid 595/34 MB	Polyamide -imide	800-1000 mPa.s	31-33	0.2-1.6	200	Excellent hermetic resistance, low coefficient of friction, topcoat over PE (I) base coat. Recommended for total coat of fine to medium wire sizes	IS 13730-26 / IEC 60317-26
WIRE ENAMELS FOR DUAL COATED WIRES (BASE COAT + TOP COAT)							
Terebec TR 543-38 + Allotherm 602L-35	THEIC Polyester imide + Polyamide -imide	750-850 mPa.s 650-800 mPa.s	37-39 34-36	0.315-1.6	200	Excellent hermetic & burnout resistance, high speed windability, UL approved	IS 13730-13 / IEC 60317-13
ISOMID 860/35 LYC + Al 1013 BV/31	THEIC Polyester imide + Polyamide -imide	400-800 mPa.s② 400-700 mPa.s	38-40 30-32	0.315-1.2	200	Excellent hermetic resistance, high cut through, suitable for high speed windability	IS 13730-13 / IEC 60317-13
Terebec SL225-40 A + Al 1013 BV/35	THEIC Polyester + Polyamide -imide	440-540 mPa.s 700-1500 mPa.s	39-41 34-36	0.315-3.0	200	Excellent hermetic resistance, improved mechanical properties	IS 13730-13/IEC 60317-13
Terebec SL225-40 A + 910 Nylon	THEIC Polyester + Polyamide (Nylon)	440-540 mPa.s 1250-1450 mPa.s②	38-40 14-16	0.315-1.6	155	Excellent mechanical properties, high speed windability	NEMA MW 1000, 24C
WIRE ENAMELS FOR DUAL COATED WIRES (BASE COAT + TOP COAT) - BONDABLE							
ISOMID 860/35 LYC + 506 Bondall	Polyester Imide + Epoxy	400-800 mPa.s② 375-675 mPa.s②	38-40 18-20	0.08-1.5	180	Good bond strength at high temperature, suitable for motor stators, coils, TV yoke coils etc. Suggested over PEI or PAI base coat.	IEC 60317-37

WIRE ENAMELS FOR RECTANGULAR WIRES							
Product	**Chemical base**	**Viscosity by at 23^{0}C**	**Solid contents (% by wt.)**	**Recommended for wire size (mm dia.)**	**Class of wire**	**Distinctive properties of wire enamel / enamelled wire**	**Relevant specification for wires**
Terebec FN	Polyesterimide	85-100 s	32-34	2.0-5.0 mm dia. & up to 60 sq. mm rect.	155	Good adherence for rectangular wires	IS 13730-3 / IEC 60317-3 IS 13730-16 / IEC 60317-16
Terebec MT 533-36 PA	THEIC Polyesterimide	80-90 s	35-37	1.6-5.0 mm dia. & up to 60 sq. mm rect.	180	Excellent adhesion, heat shock & thermal resistance	IS 13730-8 / IEC 60317-8 IS 13730-28 / IEC 60317-28
Formvar 2440	Polyvinyl formal	3000-5300 mPa.s	20-22	0.5-4.0 & up to 60 sq. mm rect.	120	Excellent mechanical properties & transformer oil resistant, Ideal for CTC	IEC 60317-12 IEC 60317-18

BINDER VARNISHES FOR GLASS FIBRE COVERED & BRAIDED WIRES							
Product	**Chemical base**	**Recommended thinner**	**Viscosity**	**Suggested curing temp./ time**	**Class**	**Distinctive properties of wire enamel / enamelled wire**	**Relevant specification for wires**
Elmoglas H 69 A	Polyester imide	218	50-65	300-400/3-4	180	Good bonding & flexibility, Hermetic resistant	IS 4865 / IEC 60317-31
Elmoglas V 132-48 A	Epoxy	218	30-40	300-400/3-4	155	High bond strength, good flexibility	IS 4865 / IEC 60317-32
Elmoglas V 155	Polyurethane	218	45-65	300-400/3-4	155	High bond strength ratio, generally used along with Elmoglas V 172 in the ratio 60:40 pbw	IS 4865 / IEC 60317-32
Elmoglas V 172	Polyurethane	218	20-30	300-400/3-4	155	Excellent flexibility, generally used along with Elmoglas V 155 in the ratio 60:40 pbw	IS 4865 / IEC 60317-32

THINNERS FOR WIRE ENAMELS							
Product	**Chemical base**	**Recommended thinner**	**Viscosity**	**Suggested curing temp./ time**	**Class**	**Distinctive properties of wire enamel / enamelled wire**	**Relevant specification for wires**
Thinner 115	Cresylic solvents based	----	----	----	----	Suitable for all Terebec & Supradurit Polyester, Polyesterimide & Polyurethane wire enamels	
Thinner 129	NMP based	----	----	----	----	Suitable for Polyamide-imide based wire enamel	
Thinner 506 Bondall		----	----	----	----	Suitable for 506 Bondall Wire enamel	

Notes: Viscosity is measured at 23°C by either DIN 53211/ Cup 4 or Brookfield viscometer, as indicated by (s) or (mPa.s)
② Viscosity by Brookfield viscometer (ISO 2555) at 25°C

BECK PRODUCT SPECTRUM

Wire Enamels	**Terebec®** **Allotherm** **Supradurit** **Decklack** **ISONEL™** **ISOMID™** **ISOMELT™** **FORMVAR™** **BONDALL™** **Sivamid** **Insomer** **Highsol** **Elmoglas**	**Wire enamels for coating copper and aluminium round and rectangular wires, for temperature class 105 to 200 and for enamelled wires with special properties such as solderable, refrigerant resistant, bondable etc.** **Binder varnishes for glass-fibre covered and braided wires.**
Insulating Varnishes	Elmo® Elmoglas Elmotherm ISONEL Siliconit Elmo Luft Becktol	Impregnation of electrical machine windings, transformers, magnet coils for thermal class 120 to 200 equipment. Coating of core plate laminations, capacitors, electronic components etc. Impregnation of hermetically sealed motors. Impregnation of glass-fibre sleevings, tapes etc. Finishing varnish coatings for improved moisture and track resistance.
Impregnating Resins	Dobeckan® Dobeckot®	Solventless resins for impregnation of electrical machine windings up to thermal class 200. Impregnation of high voltage machines, magnet coils and instrument transformers, D.C. machines, traction motors etc.
Resins & Hardeners	Dobeckot® Dobefil Dobeckan® IF	Casting, potting and encapsulation of electrical and electronic components such as high voltage insulators, instrument transformers etc. Impregnation of high voltage windings of electrical machines. Binder resins for glass-fibre filament wound arc chamber tubes.

ELANTAS BECK INDIA LTD.
Marketing H.O. : Damle Path, Pune 411 004, INDIA • Tel: (020) 30210 700, 30210 800 • Fax: (020) 30210
Technical Services: 147, Mumbai-Pune Road, Pimpri, Pune 411 018, INDIA • Tel: (020) 30610 600, 30610 720 • Fax: (020) 30610 601
Regional Offices:
• **Bangalore:** Tel: (080) 2528 1649, 2528 3093 • fax: 2528 0831 • **New Delhi:** Tel: (011) 2341 1664, 2341 2940 • Fax: 2341 3408
• **Pune** : Tel: (020) 30210600 • Fax: 30210740 • **Kolkata :** Tel: (033) 2227 1841 • Fax: 2227 1843