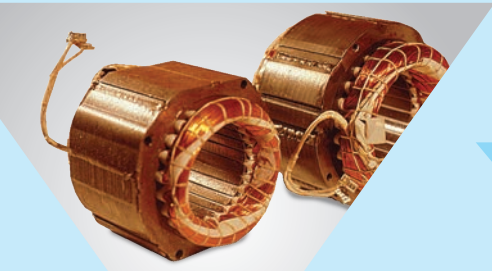
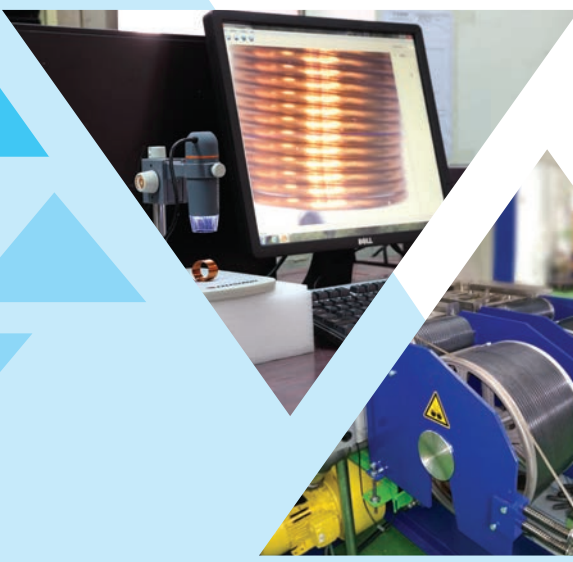


WIRE ENAMELS

Wire Enamels | Binder Varnishes
Primers | Lubricants



- ▶ Leading market position through continuous innovation
- ▶ Global Portfolio offering world class technology

- ▶ Global footprint allowing fast response to customer needs
- ▶ Underwriter Laboratories' testing equipment and product listings

- ▶ 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



- Secondary insulation of winding wire after it is mounted in a device (electric motor, generator or transformer)
- 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 Functional flooring to waterproofing and coating
- Polyamide hardeners for varied industrial uses

Wire Enamels

Product	Chemical base	Viscosity by at 23 °C	Solid content (% 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 35- AL	Polyester	90-110 s	34-36	0.25 -1.6	130L	Specially designed for Aluminium conductors, Low curing Temp.	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 216-35 D	Polyester	80-100 s	34-36	0.05-1.0	130L	Best runability on high speed machine, Medium Brown colour also make it suitable for AL conductor	IS 13730-34 / IEC 60317-34
Terebec 218-35 HS	Polyester	80-100 s	34 -36	0.05-1.0	130L	For High speed enamelling machines having V x d > 100.	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
Terebec 230-35 G	Polyester	90-110 s	34-36	0.05-1.6	130L	Reddish Golden coloured wire, high processing speed	IS 13730-34 / IEC 60317-34
Terebec 231-35 P	Polyester	80-100 s	34-36	0.05-1.6	130L	Excellent Dark to light brown colour, wide curing range	IS 13730-34 / IEC 60317-34
Terebec 232-35 YG	Polyester	90-110 s	34-36	0.3 -1.6	130L	Yellowish Golden coloured wire, high processing speed	IS 13730-34 / IEC 60317-34
Terebec 232-35 YG(H)	Polyester	60-80 s	34-36	0.05 -1.0	130L	Yellowish Golden coloured wire, high processing speed, suitable for horizontal machines	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 235-35 U	Modified Polyester	80-100 s	34-36	0.05-2.5	130L	High processing speed, Higher tan delta, Excellent flexibility	IS 13730-34 / IEC 60317-34
Terebec 256-40	Modified Polyester	600-800 mPa.s	39-41	0.05-2.0	155	Lower viscosity, Excellent heat shock	IS 13730-3 / IEC 60317-3
Terebec 257-38	Modified Polyester	750-850 mPa.s	37-39	0.05-2.0	155	For High speed enamelling m/c having V x d > 100.	IS 13730-3 / IEC 60317-3
Terebec 257-35	Modified Polyester	80-100 s	34-36	0.05-1.0	155	For High speed enamelling m/c having V x d > 100 felt wiping.	IS 13730-3 / IEC 60317-3
Terebec 251-38 F	Modified Polyester	750-850 mPa.s	37-39	0.05-2.0	155	Class 155 economical version, for High speed to low speed machines.	IS 13730-3 / IEC 60317-3
Terebec 251-35 F	Modified Polyester	80-100 s	34-36	0.05-1.0	155	Class 155 economical version, for High speed to low speed machines, felt wiping.	IS 13730-3 / IEC 60317-3
Polyurethane Wire Enamels (Solderable)							
WE 1380/29 M1	Polyurethane	95-145 mPa.s	28-30	0.15-0.5	180	High processing speeds, good Solderability, high tan δ UL approved	IS 13730-51 / IEC 60317-51
WE 1355-30	Polyurethane	25 -40 sec @	29-31	0.02-0.5	155	Higher cut through, good solderability	IS 13730-20 / IEC 60317-20
WE 1355-35	Polyurethane	50-70 sec @	34-36	0.02-0.5	155	Higher cut through, good solderability	IS 13730-20 / IEC 60317-20
Polyesterimide Wire Enamels							
Terebec TR 543-38	THEIC Polyester imide	750-850 mPa.s	37-39	0.05-1.6	180	High tan δ bending point & cut through property, UL approved as a base coat.	IS 13730-8 / IEC 60317-8
Terebec TR 543-35	THEIC Polyester imide	50-70 s	34-36	0.05-1	180	High tan δ bending point & cut through property, UL approved as a base coat. For medium wire sizes.	IS 13730-8 / IEC 60317-8
Terebec TR 543-32	THEIC Polyester imide	40-60 s	31-33	0.05-0.5	180	High tan δ bending point & cut through property, UL approved as a base coat. For felt application and Fine wire	IS 13730-8 / IEC 60317-8
Terebec TR 543-39	THEIC Polyester imide	750-850 mPa.s	37-39	0.05-1.6	180	High tan δ bending point >190 ON 200 VxD m/c, UL approved as a base coat.	IS 13730-8 / IEC 60317-8
Terebec MT 533-34	THEIC Polyester imide	50-65 s	33-35	0.05-1.0	180	For High speed enamelling machines having V x d > 100, UL approved.	IS 13730-8 / IEC 60317-8
Terebec MT 533-39	THEIC Polyester imide	750-850 mPa.s	38-40	0.05-3.0	180	For High speed enamelling machines having V x d > 100, UL approved.	IS 13730-8 / IEC 60317-8
Terebec 540-36	THEIC Polyester imide	80-90 s	35-37	0.05 – 1.6 Rect. conductors	180	Excellent adhesion, Balanced Mechanical & thermal Properties. Suitable for rectangular conductor also with felt application	IS 13730-8 / IEC 60317-8 IS 13730-28 / IEC 60317-28
Terebec 540-38	THEIC Polyester imide	750-850 mPa.s	37-39	0.05 – 1.6 Rect. conductors	180	Excellent adhesion, Balanced Mechanical & thermal Properties. High Processing speed	IS 13730-8 / IEC 60317-8 IS 13730-28 / IEC 60317-28
Polyamide-Imide Wire Enamels							
AI 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.	IS 13730-26 / IEC 60317-26
AI 1013 BV/25	Polyamide-imide	25-35 s	24-26	0.05-0.5	200	Excellent hermetic resistance, low coefficient of friction, Ideal topcoat over PE (I) base coat. For Felt application and fine wire.	IS 13730-26 / IEC 60317-26
AI 1013-27SC	Polyamide-imide	1800-2800 mPa.s	26-28	0.2 to 3.0	220	Suitable for Total coat application, Excellent adhesion. Balanced thermal and mechanical properties.	IS 13730-57 / IEC 60317-57
AI 1013-33SC	Polyamide-imide	5000-8000 mPa.s	32-34	Rectangular conductors	220	Suitable for Total coat application, Excellent adhesion on Rectangular. Balanced thermal and mechanical properties.	IS 13730-58 / IEC 60317-58
Allotherm 602L-35	Polyamide-imide	650-800 mPa.s	35-37	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 M	Polyamide-imide	800-1000 mPa.s	31-33	0.2-3.0	200	Excellent hermetic resistance, low coefficient of friction, Topcoat over PEI base coat. UL approved Recommended for total coat of fine to medium wire sizes, Styrene resistant.	IS 13730-26 / IEC 60317-26
Wire Enamel 1823/33 MB	Polyamide-imide	700-900 mPa.s	34-33	0.2-3.0	200	Excellent hermetic resistance, low coefficient of friction, Topcoat over PEI base coat. UL approved	IS 13730-26 / IEC 60317-26
910 Nylon LS	Polyamide	50-80 sec@	7-9	0.05 – 1.0		Recommended as an overcoat on PE, PEI and PU based wires. Suitable for fine and superfine wires	
Wire Enamels For Dual Coated Wires (Base Coat + Top Coat)							
Terebec TR 543-38 + AI 1013 BV/35	THEIC Polyester imide + Polyamide-imide	750-850 mPa.s 700-1500 mPa.s	37-39 34-36	0.315-1.6 & Rectangular wires	200	Excellent hermetic & burnout resistance, high speed windability, UL approved	IS 13730-13 / IEC 60317-13
ISOMID 860/35 LYC + Sivamid 595/34 M	THEIC Polyester Imide + Polyamide-imide	400-600 mPa.s@ 800-1000 mPa.s	37-39 32-34	0.2-1.6	200	Excellent hermetic resistance, high cut through, suitable for high speed windability, Styrene resistant	IS 13730-13 / IEC 60317-13
Terebec SL225-40 A + AI 1013 BV/35	THEIC Polyester + Polyamide-imide	470-570 mPa.s 700-1500 mPa.s	38-40 34-36	0.315-3.0	200	Excellent hermetic resistance, improved mechanical properties	IS 13730-13 / IEC 60317-13
Terebec TR 543-38 + Allotherm 602L-35	THEIC Polyester imide + Polyamide-imide	750-850 mPa.s 650-800 mPa.s	37-39 35-37	0.315-1.6 & Rectangular wires	200	Excellent hermetic & burnout resistance, high speed windability, UL approved	IS 13730-13 / IEC 60317-13
WIRE ENAMELS FOR RECTANGULAR WIRES							
Product	Chemical base	Viscosity by at 23 °C ¹	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 dia. & up to 60 sqmm 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 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
Terebec MT 533-40 PA	THEIC Polyesterimide	800-1000 mPa.s	39-41	1.6-5.0 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 2440-3500	Polyvinyl formal	3000-5300 mPa.s	20-22	0.5-4.0 dia. & up to 60 sq. mm rect.	120	Excellent mechanical properties & transformer oil resistant, Ideal for CTC	IEC 60317-12 & IEC 60317-18
Formvar C 8359-23	Polyvinyl formal	1800-3000 ³ mPa.s	22-24@	0.5-4.0 dia. & up to 60 sq. mm rect.	120	Excellent mechanical properties & transformer oil resistant, Ideal for shaped conductors	IEC 60317-12 & IEC 60317-18
Primer N 35A	Polyamide	900-1300 mPa.s	22-24	Thicker round & all rect. Cond.	180	Excellent adhesion to bare conductor	-
Primer N 35B	Polyamide	400-600 mPa.s	19-21	Med. round and all rect. conductors	180	Excellent adhesion to bare conductor	-
BINDER VARNISHES FOR GLASS FIBRE COVERED & BRAIDED WIRES							
Product	Chemical base	Viscosity by at 23 °C ¹	Solid contents (% by wt.)	Recommended for wire size (mm dia.)	Class of wire	Distinctive properties of wire enamel / enamelled wire	Relevant specification for wires
Elmoglas H 69 A	Polyesterimide	50-65	39 – 41	---	180	Good bonding & flexibility, Hermetic resistant	IS 13730-31 / IEC 60317-31
Elmoglas V 132-48 A	Epoxy	30-40	50 - 52	---	155	High bond strength, good flexibility	IS 13730-32 / IEC 60317-32
Elmoglas V 155	Polyurethane	45-65	44 – 46	---	155	High bond strength ratio, generally used along with Elmoglas V 172 in the ratio 60:40 pbw	IS 13730-32/ IEC 60317-32
Elmoglas V 172	Polyurethane	20-30	45 – 48	---	155	Excellent flexibility, generally used along with Elmoglas V 155 in the ratio 60:40 pbw	IS 13730-32/ IEC 60317-32
Thinners For Wire Enamels							
Thinner 115	Cresylic solvents based	----	----	----	----	Suitable for all Polyester, Polyesterimide, Polyurethane PVA/PVF and Nylon wire enamels	
Thinner 129	NMP based	----	----	----	----	Suitable for Polyamide-imide based wire enamels & Primer	
Thinner 506 Bondall		----	----	----	----	Suitable for Deamelt 355 Wire enamels	

Notes: ¹ Viscosity is measured at 23°C by DIN 53211/ Cup 4 or Brookfield viscometer, as indicated by (s) or (mPa.s) | ² Solids content: 2g /200°C/2 h

³ Viscosity by Brookfield viscometer (ISO 2555) at 25°C | ⁴ Viscosity is measured at 30°C by Ford B4 Cup

New Products

TEREBEC 540-38 | TEREPEC 540-36



PEI Enamels with High-Speed runnability

- Specially designed wire enamel having wide curing range
- Suitable for high speed Vertical & Horizontal machines.
- Good Tan Delta (175-190°C)
- Excellent flexibility and adherence (20% elongation x 1d)
- Excellent Hermetic Resistance.
- Suitable for Class 180 and 200 applications.

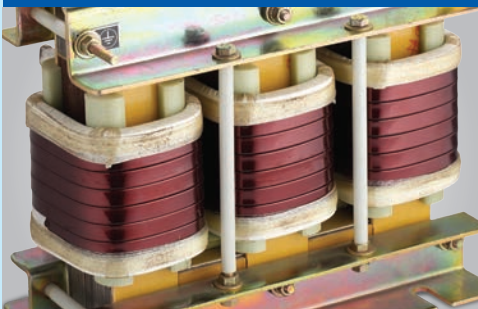
TEREBEC 251-35F | TEREPEC 251-38F



Excellent enamel for Class 155 application

- Compliant with IEC 60317-3 and IS 13730-3, Class-155 requirements
- Available in 35% and 38% Solids version making it suitable for high speed Vertical & Horizontal machines and Die as well as Felt application
- Excellent flexibility and adherence (20% x 1d) Good Tan Delta bending point value (135-150°C)
- Appealing yellowish golden colour with wide market acceptance
- Cost effective option for Class 155 requirements

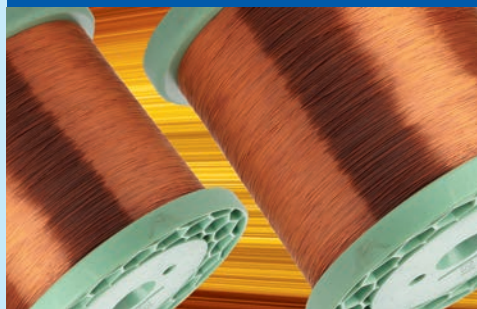
PRIMER N-35



Solution to all your adhesion issues for copper and Aluminium conductors

- Most popular enamel and extensively used in European countries. Substantial improvement in flexibility, peel and adhesion can be achieved.
- Low consumption. Generally single pass is sufficient to achieve desired results.
- Significantly reduces problems of enamel film peel off and adhesion failure etc.
- Suitable for thicker sized wires (above 1.6mm dia) and all rectangular conductors.

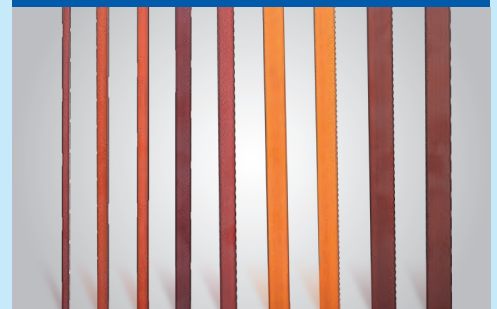
TEREBEC TR 543-32+ AI 1013 BV/25



UL approved Class 200 system for superfine wires

- Class 200 system for fine and super fine wires
- Ready to use enamels. No dilution or thinning down required
- Suitable for felt application on medium and high speed machines
- Excellent Hermetic and burnout resistance.
- Best balanced mechanical and Thermal properties in the Class.
- Low coefficient of friction, suitable for high speed winding
- Enamelled wires compliant with IS13730-13 and IEC 60317-13.
- UL approved.

AI 1013 - 27 SC | AI 1013 - 33 SC



Class 220 enamel for single coat application

- Suitable for Single coat (Total coat) application on round and rectangular conductors.
- Conforms to Class 220 application.
- Excellent mechanical properties
- Good chemical resistance
- Low coefficient of friction
- Conforms to requirements of IEC 60317-57 and IEC 60317-58.