

**GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
RESEARCH DESIGNS & STANDARDS ORGANISATION**

No. EL/2.2.8.4

Manak Nagar, Lucknow-226011

Dated: 22.12.99

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SPECIAL MAINTENANCE INSTRUCTION NO. ELRS/SMI/200((Revised)

1. TITLE :

Characteristic properties of impregnating resins and insulating varnishes.

2. APPLICATION :

Auxiliary motors for Electric Locomotives and EMU applications.

Traction motors for Electric Locomotives except Hitachi Traction Motor type HS15250A/HS1050Er.

3. OBJECT : RDSO have issued Special Maintenance Instruction No. ELRS/SMI/200 in the past enclosing the catalogue and technical details of various insulating varnishes used for impregnation of stator windings of 3-phase auxiliary motors and traction motors for various applications.

The above RDSO SMI-200 is being superseded with the present SMI and the catalogue and technical properties of impregnating varnishes, resins/inhibitor UP 1 and Diluent-V etc. used for above applications are being furnished.

4. DRAWING/CATALOGUE NUMBER :

- 4.1 Following catalogue on various types of impregnating resins and antitracking varnishes are being enclosed for necessary guidance and adoption and to follow correct and compatible resins/varnishes for a particular application.

S. No	Catalogue No./Tech. Data Sheet No./Tech. Information No. of Schenectady Beck India Ltd.(SBIL) or M/s Rotomac Elec. Pvt. Ltd.(REPL)	Name of impregnating resin/varnish	Class of Insulation/ Temp.	Application
1	3-15 (Revision 2, Feb. 1998)	Solventless un-saturated polyester resin Dobeckon FT 2005/500EK	H/180°C	Aux. Motor & Traction motor.
	3-15 (Rev.3- Jan. '99)	Diluent 'V'	H/180°C	Aux. Motor &

	3-57 (Rev.2- June, 1999)	Technical note on control of stability of Dobeckon FT 2005/500EK using INHIBITOR UP 1	-DO-	Traction motor. -Do-
	3-43(Rev.1-Jan.1999)	DILUENT 'V'	-Do-	-Do-
2.	RE-009(of M/s Rotomac)	RE009- Solventless Polyester Insulating varnish.	-Do-	-Do-
3	2-28 (Rev.March 1996) (SBIL)	Siliconit E-233(Red)(Silicon based) anti tracking varnish or Finishing varnish)	-Do-	Traction motor only.
4.	RE-118 (of M/s Rotomac)	RE118(RED) Anti-tracking varnish	-Do-	-Do-
5.	2-31-8912(M/s SBIL)	Becktol Red	B/130°C	Aux. Motors only.
6.	Tech. Data sheet 2-16 Revision 2 Jan., 1999	H-71 impregnating varnish for 'VPI'	H/180°C	Aux. Motors only.

5.0 MAINTENANCE INSTRUCTIONS :

5.1 Type of varnish to be used for a particular application shall be as per Para 4.1 above. However, for a specific application, SMI issued earlier by RDSO or manufacturers instructions may also be followed.

5.2 Before use of the resin/varnish, railways shall conduct test to watch the characteristics as per catalogue indicated in para 4.0 above for a particular application. This procedure shall be mandatory.

5.3 Railways may also add the inhibitor UPI to resin Dobeckon FT2005/500EK in the required quantity as per technical data sheet No. 3-57 Rev 2 of June 1999 for restoring the gelling (activity) time. Similarly Diluent 'V' may also be added to resin Dobeckon FT 2005/500EK as per technical data sheet 3-43 Revision-1 of Jan. '99 and Technical information 3-57 Rev.2, June'99 to reduce the viscosity.

5.4 Railways shall use only those resins/varnishes declared compatible with the present system of insulation already adopted.

5.5 After application of this varnish, BDV test on auxiliary motors/stators, armature of traction motors and traction motor field coils shall be conducted by Railways.

5.6 All components shall be vacuum pressure impregnated with a varnish/resin for an application as per method specified in a particular catalogue.

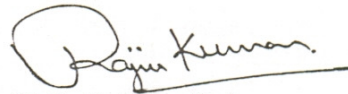
6.0 AGENCY OF IMPLEMENTATION :

All Electric Loco/EMU Sheds and Shops of Electrified Rlys.

7.0 PERIODICITY OF IMPLEMENTATION :

Whenever any auxiliary motor/traction motor is rewound in shed/shop.

8.0 DISTRIBUTION : As per enclosed list.



(R.K. Kulshrestha)
for Director General/Elec.