

Government of India
Ministry of Railways
Research, Designs & Standards Organisation
Manak Nagar, Lucknow - 226 011

Note No. EL/2.2.25

9-04-1997

SPECIAL MAINTENANCE INSTRUCTIONS NO. RDSO/ELRS/SMI/188
GRAPHITE GREASE FOR USE ON MAIN WEARING STRIPS OF PANTO

- **PROCUREMENT SPECIFICATION**
- **TEST METHODS**

(This supersedes SMI No. RDSO/ELRS/SMI/72)

1. Object

- 1.1** In order to ensure that graphite grease of proper quality is used for lubrication of the main wearing strip of the pantograph, this SMI lays down the procurement specification and procedure to be followed for inspection and testing of the same together with the sources of supply.

2. INSTRUCTIONS

- 2.1** The grease pan and the centre wearing strips should be packed with graphite grease. The grease should be procured as per IS: 508-1981, Grade-2 (except consistence which should be 260-295). The requirements of Grade-2 grease when tested according to the methods prescribed 'p' series of IS: 1448 shall be as under:-

SL. NO.	Characteristic	Requirement for Gr-2	method of test : Re to "p" IS:1448*
1.	Graphite content % by mass	45 to 55	P:58
2.	Drop point 0c min.	95	P:52
3.	Copper strip corrosion test at 75 0c for 24 Hrs	Negative	P:51
4.	Water content % by mass max.	2.0	P:40
5.	Free acidity (as oleic acid), % by mass, max.	0.5	P:53
6.	Free alkalinity ca(OH) 2% by mass, max.	0.25	P:53
* Methods of test for petroleum and its products.			

- 2.2 Although the requirements of graphite grease as above can be met with by mixing the base grease, graphite and other constituents in the shed, the exercise is difficult and test equipments not available to check the characteristics of the mix. The Sheds should, therefore obtain their requirement of grease directly from the firms. In case the firms are unable to supply the requirement of the Shed, (being small) the Zonal Railways should consolidate the requirements of all the sheds in their Railway and procure the grease in bulk from the firms and distribute it to the sheds.
- 2.3 As far as known to RDSO, the graphite grease of specified quality conforming to the above characteristic requirements can be manufactured, tested as per the method indicated under 'p' series of IS:1448 and supplied by the following firms:

- i) M/s. Balmer Lawrie & co. Ltd.
Grease Division, p43, Ride Road Extension
Calcutta-7000088
- ii) M/s. Hindustan petroleum Co. Ltd.,
17 Jamshedji Tata Road,
Bombay-400020
- iii) M/s. Indian oil Corporation Ltd.
254-c, Dr. Annie Besant Road,
Prabhadevi, Bombay-400025

3. **APPLICATION**

All electric locomotives and EMUs.

4. **AGENCY FOR IMPLEMENTATION**

All Electric loco Sheds, EMU Car Sheds and POH Shops.

5. **DISTRIBUTION**

As per list attached.

(ARUN SRIVASTAVA)
FOR DIRECTOR GENERAL (ELECT)

ENCL: NIL