

STR No.ELRS/STR/LB/0002

**GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS**

SCHEDULE OF TECHNICAL REQUIREMENTS

FOR

LEATHER BELLOW

OF

TRACTION MOTOR TYPE TA0-659

May, 2003

**ISSUED BY
ELECTRICAL DIRECTORATE
RESEARCH DESIGNS & STANDARDS ORGANISATION
MANAK NAGAR, LUCKNOW - 226 011.**

Schedule of technical requirements for the leather bellow
of Traction Motor type TAO-659

1. General :

Indian Railways are procuring Leather Bellows for the Traction Motors Type TAO 659 as per RDSO Specification No. SPEC/E-7/06 (Rev. 2) of July, 2002, hereafter called "Specification". The Schedule of Technical Requirements mentioned hereunder is issued to serve as a guide to the manufacturers, and should be read in conjunction with the above said specification. The firms should satisfy themselves about having complied the requirements of the Specification and the Technical Requirements. The Technical Requirements are meant to serve as a guideline only and not exhaustive.

1.1 The firm should have currently valid ISO 9000 Certification including the subject item under its range of manufacture.

2. Raw Material :

2.1 Leather :

Leather for Traction Motor Bellows shall be fully chrome tanned buffalo hide leather of thickness 2 ± 0.3 mm conforming to IS 578-1985, 3rd Rev., Amendment No. 1, Nov., 1992.

2.2 Nylon Thread :

Nylon thread of good quality with minimum 10 Kg ultimate breaking strength should be used for stitching.

2.3 The firm shall produce necessary documents as a proof of purchase of the above items including the test certificate for the quality of the leather issued by the laboratories as specified in para 5.1.4 of the Specification.

3. Manufacturing :

3.1 The manufacturing shall be carried out in a clean and orderly environment.

3.2 The list of machineries and plants shall be as per Annexure-I. The quantity and capacity of M&P is not specified and may vary depending upon the manufacturing capacity of the individual firm.

4. Testing :

4.1 List of testing facilities to be maintained by firm is given as per Annexure-II. The accuracy and capacity of the testing and measuring equipment shall be adequate to meet the requirements of the Specification.

4.2 Meticulous records of production, supply & testing should be maintained by the firm. The firm should be able to produce the same as and when required by inspection authority.

Annexure-I

Machineries and Plants

1. Industrial Sewing Machine.
2. Heavy Duty Stitching machine
3. Leather Cutting Machine
4. Skiving Sewing Machine
5. Clicking Die
6. Clicking Knife
7. Generator set.

Annexure – II

Testing Equipments

1. Facility to carry out Endurance Test as per Para 5.1.5 of the Specification.
2. Fixture for stretch test as per Para 5.1.2 of the Specification.
3. Suitable test rig to carry out Leak and Balloon test as per Para 5.1.3 of Specification, including compressor of sufficient capacity.
4. Paper Micro Meter for measurement of the thickness of leather.
5. Dial Vernier Callipers
6. Steel Scale.