RESEARCH DESIGNS AND STANDARDS ORGANISATION
Manak Nagar, Lucknow-226011

Track Machine and Monitoring Directorate

SPECIFICATION NO.TM/HM/6/544

SPECIFICATION OF SHAFT FOR WORKING DRIVE OF UNIMAT (PART NO. UD63.1004)

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1.0 Scope: This specification covers the dimensional, functional and material requirements with testing criteria of Shaft for Working Drive of Unimat Tamping machine. This specification may be treated as provisional subject to modifications based on service performance.

2.0 Reference documents: Following documents have been referred to in this specification. Full sets of relevant drawings and the referred codes/ specifications, duly incorporating the up-dated corrections/amendments, shall be available for reference at manufacturer's works.

i) BS:970 - 1991 – Case hardening Alloy Steel - specification.
ii) IS:77-1976 - Linseed oil for paints - specification.
iii) RDSO Drg. No.- RDSO/TM/15/23 Shaft for Working Drive of Unimat.

3.0 Functional requirement: It is provided in the Working Drive to transmit power from motor to axle. All surfaces meant for machining shall be finished as mentioned in the drawing no. RDSO/TM/15/23.

4.0 Dimension & Tolerance: Dimensions and tolerances of Shaft for Working Drive of Unimat machine shall be as mentioned in RDSO drawing no. RDSO/TM/15/23.

5.0 Material: The Shaft for Working Drive of Unimat shall be made from case hardening alloy steel grade 815M17 (En-353) conforming to BS:970-1991–Case hardening Alloy Steel.

6.0 Manufacturing Process: Shaft for Working Drive of Unimat shall be made by forging and machining process of specified material.

7.0 Heat treatment: Shaft for Working Drive of Unimat shall be heat treated with any suitable methods to achieve case hardness 43 to 47 HRC.

8.0 Marking: Month and year of manufacture and manufacturer's code / identification shall be engraved / embossed on the non-functioning surface of Shaft for Working Drive of Unimat.

9.0 Inspection and Acceptance Criteria:

i. Each component offered by manufacturer shall be checked visually for their surface finish, freedom from defect like porosity, cracks, improper edges etc. Machined surface shall be checked by any suitable pneumatic or electronic equipment.

ii. The component found suitable after visual inspection shall be checked for their dimensional characteristics as per relevant drawing.

iii. Supplier shall produce the certificate that the raw material used for manufacturing of the component conforms to material specified as mentioned in Para 5.0.

iv. Minimum one no or 2 % sample of the shaft randomly picked up out of each lot of consignment and shall be subjected to chemical composition test. The consignee shall test the material for chemical composition at his laboratory or get the material tested in a reputed (NABL accredited or accredited by other international body like APLAC, MRA, ILAC etc) laboratory having proper facilities for testing. Before sending the samples for testing, the same shall be duly sealed and secret coding shall be done.

v. Any deviation in the test result shall be the cause of rejection.

10.0 Packing and Protection: Each component shall be protected with one coat of boil linseed oil conforming to IS: -77-1976 (linseed oil for paint) and shall be packed in card board case.

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