

ISO 9001:2015	Document No: TM/HM/6/512	Version No:0.0	Date effective:
Specification of Modified Steel Bush for squeezing cylinder of CSM (Part no.G20.14)			



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**SPECIFICATION NO. TM/HM/6/512**  
**SPECIFICATION OF MODIFIED STEEL BUSH FOR SQUEEZING CYLINDER OF**  
**CSM**  
**(PART NO. G20.14)**

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- 1.0 Scope:** This specification covers the dimensional, functional and material requirements with testing criteria of modified steel bush for squeezing cylinder of CSM 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/01/22 modified steel bush for squeezing cylinder
- 3.0 Functional Requirement:** The bush shall be capable to withstand vibrations as well as squeezing pressure exerted on the tamping arm with slight rotatory motion and to act as spacer sleeve between the Centre pin and the tamping arm hole. All surfaces meant for machining shall be finished as mentioned in the drawing no. RDSO/TM/01/22.
- 4.0 Dimension & Tolerance:** Dimensions and tolerances of the modified steel bush for squeezing cylinder shall be as mentioned in RDSO drawing no. RDSO/TM/01/22.
- 5.0 Material:** The modified steel bush for squeezing cylinder 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:** The modified steel bush for squeezing cylinder shall be made by either machining from bar of specified material or by forging and machining process.
- 7.0 Heat Treatment:** Heat treatment of each component shall be done by induction hardening process to achieve case hardening of 56±2 HRC.

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**8.0 Marking:** Month and year of manufacture and manufacturer's code / identification shall be engraved / embossed on the non-functional surface of modified steel bush for squeezing cylinder.

**9.0 Inspection And Acceptance Criteria:**

- i) Each components offered by manufacturer shall be checked visually for their surface finish, freedom from defects 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 dimensions as per relevant drawing.
- iii) Minimum one or 2% of sample randomly picked up from each lot of consignment shall be checked for their hardness as per para no.7.0.
- iv) Supplier shall produce the certificate that the raw material used for manufacturing of modified steel bush for squeezing cylinder conforms to the Grade 815M17 (En-353) conforming to BS:970 - 1991 – Case hardening Alloy Steel.
- v) Minimum one no or 2 % sample of the component 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.
- vi) Any deviations in the test result from the requirement of the specification and drawing shall be the cause of rejection.

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

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