

ISO 9001:2008	Document No: TM/HM/6/197 REV- 2	Version No: 2.0	Date effective:11.06.18
Specification of Connecting Rod Bolt for Tamping Unit with Nut & washer (Part no.G20.13)			



RESEARCH DESIGNS AND STANDARDS ORGANISATION
Manak Nagar, Lucknow-226011

Track Machine and Monitoring Directorate

SPECIFICATION NO.TM/HM/6/197 REV-2

SPECIFICATION OF CONNECTING ROD BOLT FOR TAMPING UNIT
(35 Dia. PIN) WITH NUT & WASHER
(Part no. G20.13)

DTM-III	EDTM	Page 1 of 3
Prepared By:	Issued By:	

ISO 9001:2008	Document No: TM/HM/6/197 REV- 2	Version No: 2.0	Date effective:11.06.18
Specification of Connecting Rod Bolt for Tamping Unit with Nut & washer (Part no.G20.13)			

SPECIFICATION NO.TM/HM/6/197 REV-2

SPECIFICATION OF CONNECTING ROD BOLT FOR TAMPING UNIT (35 Dia. PIN) WITH NUT & WASHER (Part no. G20.13)

- 1.0 Scope:** This specification covers the dimensional, functional and material requirements with testing criteria of Connecting rod bolt for tamping unit of all tamping machines. 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 updated corrections/amendments, shall be available for reference at manufacturer's works.
- i) BS:970 Part II Specification of direct hardening alloy steel.
 - ii) IS 2062 – 1992 Steel for general engineering purpose.
 - iii) IS:77-1976 - Linseed oil for paints - specification.
 - iv) RDSO Drg. No. TM/0510 REV-2 Connecting rod bolt for tamping unit.
- 3.0 Functional requirement:** It is provided in the tamping unit to connect the tamping arm with squeezing cylinder. It shall be capable to withstand the squeezing pressure upto 140 kg/cm^2 . All surfaces meant for machining shall be finished as mentioned in the drawing no. TM/ 0510 REV-2.
- 4.0 Dimension & Tolerance:** Dimensions and tolerances of the connecting rod bolt for tamping unit with nut and washer shall be as mentioned in RDSO drawing no. TM/ 0510 REV-2.
- 5.0 Material:** The Connecting rod bolt for tamping unit shall be made from Steel of Grade 709M40 (EN-19) conforming to BS:970 Part-II, Specification of direct hardening alloy steel nut and washer shall be made of MS conforming to steel grade A or B of IS 2062 – 1972.
- 6.0 Manufacturing Process:** Connecting rod bolt for tamping unit shall be made by closed die forging only under belt drop forged hammer of adequate capacity capable of delivering minimum energy or force required for deformation during closed die-forging of connecting rod bolt. Forging shall be machined to get final shape.
- 7.0 Heat treatment:** Heat treatment of each component shall be done by induction hardening process to achieve surface hardness of 55 ± 2 HRC up to 1.25 mm depth after finishing.
- 8.0 Marking:** Month and year of manufacture and manufacturer's code / identification shall be engraved / embossed on the non-functional surface of Connecting rod bolt for tamping unit and Nut.

DTM-III	EDTM	Page 2 of 3
Prepared By:	Issued By:	

ISO 9001:2008	Document No: TM/HM/6/197 REV- 2	Version No: 2.0	Date effective:11.06.18
Specification of Connecting Rod Bolt for Tamping Unit with Nut & washer (Part no.G20.13)			

9.0 Inspection and Acceptance Criteria:

- i) Each component 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 the Connecting rod bolt for tamping unit and Nut & washer conforms to the Grade 709M40 (EN-19) and MS respectively of BS:970 Part II & IS 2062-1992 as mentioned in Para 5.0.
- v) Minimum one no or 2 % sample of the Connecting rod bolt for tamping unit 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 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.

DTM-III	EDTM	Page 3 of 3
Prepared By:	Issued By:	