

Specification for Steel Gang Nail Plates

01. Scope : This Specification covers the design manufacture and Supply of STEEL GANG NAIL PLATES for use on Railway Wooden sleepers and Electric Transmission wooden poles, to prevent splitting wood during its period of use.

02. General

- 2.1 : All items shall conform to standards and Specifications stipulated. Such standards/ Specifications shall include all amendments thereof.
- 2.2 : when such standards/ Specifications are NOT Stipulated the latest applicable standards/ Specifications appropriate for the item and recognized in the country of origin shall be applicable.
- 2.3 : When alternative offers NOT conforming to the stipulated Standards/Specifications are made, the alternative standards/ Specifications Shall be equal or higher but NOT less rigid than the standards/Specification stipulated.
- 2.4 : When such alternative standards/ Specification are used reference to such standards/ specifications shall be quoted and relevant described matter of the item offered shall accompany the offer.
- 2.4.1 Full details of the difference which effect the design or performance of the items shall be stated in the offer(s)

03. Service Conditions

Average Ambient Temperature - 30 °C
Maximum Ambient Temperature - 45 °C
Maximum Relative Humidity - 90%

Environmental Condition - Humid tropical climate with polluted atmosphere.
Operation Altitude - from M.S.L to 1900 m above M.S.L.

04. Galvanizing:

- 4.1 All Steel used in the works shall be galvanized after all shearing , punching ,filling and bending are completed. Galvanizing shall be applied by the Hot Dip process and all paints shall consist of a coating of at least 275 grams of ZINC Per sq. meters on both sides. All items shall be treated after galvanizing to prevent white rust.
- 4.2 The galvanizing process itself shall NOT distort or adversely affect the mechanical NOR the form of the items .
- 4.3 All galvanized items shall be protected from injury to the ZINC coating due to abrasion during periods of transport and delivery.

05. Material

5.1 The steel plate shall be of the appropriate grade to B.SS.1449,18 SWG Thick having the following mechanical properties:

- i. Tensile strength 310 N/mm² – 450 N/mm²
- ii. Minimum Yield stress 220 N/mm²
- iii. Minimum elongation 20%

06. Gang Nail

6.1 The gang nail shall of the knuckle twisted nail type to seat flat on the wood surface or
Twisted nail type punched in or
Straight Tooth Type Punched in having the Basic working Load (N) Per teeth for Green Wood, for the duties stated in this Specification.

6.2 The species of wood used in the manufacture of Transmission poles on which the above Nail plates are to be used are hard -woods such as Eucalyptus species, Dipterocarpus species, Terminalia species , Manilcara Hexandre etc.

07. Quality Control

Manufacturers should exercise adequate control to maintain a satisfactory standard of product with respect to quality of set steel plate, quoting thickness and teeth profile. No significant cracks should occur at teeth should have an adequate degree or ductility at these points.

08. Marking

All Nail plates should bear a mark to readily identify the manufacture or supplier.

09. Drawings

Bidders should forward along with the offers detail dimensioned drawings of the steel plate Nails offered indicating the teeth layout ,teeth profile , detail of material ,detail of galvanizing , details of strength of plate teeth etc.