



NATIONAL PETROCHEMICAL COMPANY STANDARDS

MATERIAL STANDARD FOR E.O.T. CRANE

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1 SCOPE

1.1 This standard covers the minimum requirements under which the vendor shall design, fabricate, test, pack and supply of Electric Overhead Travelling Cranes as specified herein.

1.2 E.O.T. Cranes shall be complete with all accessories, such as following:

- Trailing cables and hangers.
- Rails for crane movement along with fixing clamps and fixing bolts.
- Buffers and end-stoppers.
- Spare parts and special tools, in case required.

2 DESIGN AND CONSTRUCTION

2.1 E.O.T. Cranes will be installed in areas, classification of which are defined in data sheets for each crane. All offered equipment shall be electrically suitable for specified area. The design and fabrication shall be in accordance with the applicable specifications and ANSI B 30.2.0 Code, latest edition.

2.2 All mechanical and electrical parts requiring maintenance, replacement, inspection or lubrication shall be easily accessible without the need for dismantling of other equipment of structure. The basic concept covering design of all crane mechanisms shall be to cut overhead repairs to minimum.

2.3 For welded construction such as that of bridge girders, end carriages trolley frames, rope drums, gearboxes, etc., steel shall conform to A 283 Grade C.

2.4 No cast iron part shall be used on the crane, except for electrical equipment. Similarly no wood or other combustible shall be used in any part of the crane.

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- 2.5 Sweeping plates, which will push forward or throw off the track, any object placed across it, shall be fixed to each end of the end carriages.
- 2.6 A guard structure shall be provided on the crane to prevent hoist ropes, from coming in contact with down-shop leads.
- 2.7 BRIDGE
- 2.7.1 The bridge girder shall be of single beam and of welded box construction unless otherwise specified and provided with full length wearing plates welded to the top flange. For strength calculations of girder, wearing plate will not be considered.
- 2.7.2 Boxgirders shall be constructed in a manner so as to avoid accumulation of water or lubricants into it.
- 2.7.3 The maximum vertical deflection of girders produced by weight of trolley and the rated load without considering the impact shall not exceed 1/1000 of crane span.
- 2.7.4 Bridge girders shall also be cambered an amount equal to the deflection caused by dead load plus half of rated live load.
- 2.7.5 Not more than two splices shall be provided in order to make full length of bridge girder's web or flange plate.
- 2.7.6 Girder shall be marked so as to facilitate and carriage connections and squareness.
- 2.8 END CARRIAGE
- 2.8.1 End carriage shall be fabricated from rolled steel sections of plates to form a welded box section.
- 2.8.2 The wheel base of crane shall preferably not be less than twenty percent of the span of the crane.
- 2.8.3 Jacking pads shall be provided for jacking up the crane for changing crane wheels and other repairs.