



NATIONAL PETROCHEMICAL COMPANY
STANDARDS

MATERIAL STANDARD

FOR
BUCKET ELEVATOR

NPCS-MS-ME-02

REVISION : 0

DECEMBER 19 92

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1 SCOPE

1.1 The main object of this standard is to outline purchaser's requirements under which manufacturer shall design, manufacture and supply bucket elevators suitable for transporting bulk and unit loads vertically in the industrial as what will be specified per data sheet.

1.2 Assembled elevator and driver shall be suitable for climate and load conditions as specified per requisition.

1.3 Vendor shall coordinate exterior support and access features. The elevator vendor's design, when installed with support, shall retain structural integrity, suit conditions of operation and be accessible for maintenance.

2 DESIGN REQUIREMENTS

2.1 GENERAL

2.1.1 Design, manufacture and supply of bucket elevators shall be furnished by **manufacturer** in compliance with all operating conditions specified below to meet the performance requirements as what will be specified in the data sheets. The data sheets which will be attached to the requisition shall be filled up completely and submitted with the offer.

2.1.2 The elevator shall be suitable for duty as what will be specified in data sheets.

2.1.3 The elevator shall have the pulling member as chain.

2.1.4 The speed of the bucket elevator shall depend on the characteristics of the material handled and the construction of the elevator.

2.1.5 Assembled elevator shall be dustproof and moisture-proof.

2.1.6 The elevator shall be self-supporting design, unless specifically mentioned.

2.2 BUCKET CHAIN

2.2.1 Bucket chains to be vendor standard Carbon Steel, for service which will be specified.

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- 2.2.2 Chain shall be bushed roller types.
- 2.2.3 Chain shall be with 66.26 mm (2.609") pitch or approved equal.
- 2.2.4 Chain horsepower rating is to conform to ASA B 29.1 for Type I lubrication. Allowable chain pull shall be as what will be specified on data sheet.
- 2.3 BUCKET
- 2.3.1 The buckets shall be deep, round bottom shallow continuous type, and made of 16 gauge, type 316 or type 316 L, Stainless Steel, with the size as what will be specified per data sheet. Any other design shall be approved in writing by purchaser. Buckets intended for abrasive materials shall have a strengthened lip to protect them against rapid wear.
- 2.3.2 The buckets shall be attached to every third chain link with type 316 Stainless Steel bolts and nuts. Nuts shall center punching end of bolt.
- 2.3.3 The buckets shall be designed suitable for design capacity.
- 2.4 ELEVATOR BOOT SECTION
- 2.4.1 The elevator boot shall hold the feed hopper. The feed hopper be properly located and shall have sufficient slope in order to give unrestricted flow of material.
- 2.4.2 Manholes shall be provided on the side walls of the boot for maintenance and repair.
- 2.4.3 The curved bottom plates shall be provided whenever required.
- 2.4.4 The boot section shall be made of material having sufficient strength and thickness to prevent permanent warpage or deformation due to height of elevator, chain pull or loading or gravity take up.
- 2.5 ELEVATOR HEAD SECTION
- 2.5.1 Elevator head section shall hold the drive pulley and the discharge spout.
- 2.5.2 The discharge spout shall be suitably designed to ensure the least spillage of material.
- 2.5.3 Construction material shall conform to section 5.

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