



# Standard Practice for Platforms in Cargo Tanks<sup>1</sup>

This standard is issued under the fixed designation F1385; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

## 1. Scope

1.1 This practice covers design, construction, and installation criteria for platforms in cargo tanks.

1.2 Where platforms are attached to ladders see [Figs. 1-4](#).

1.3 The values stated in SI units are to be regarded as standard. The values given in parentheses after SI units are included for information only and are not considered standard.

1.4 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.5 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

## 2. Referenced Documents

2.1 *ASTM Standards:*<sup>2</sup>

[A36/A36M Specification for Carbon Structural Steel](#)

2.2 *Military Specification:*<sup>3</sup>

[MIL-G-18015 Grating, Metal, Other than Bar Type \(Shipboard Use\)](#)

2.3 *Federal Standard:*<sup>4</sup>

[FED-SPEC-RR-C-271 Chain and Attachments, Welded and Weldless](#)

2.4 *ABS Standard:*<sup>5</sup>

[American Bureau of Shipping Rules for Building and Classing Steel Vessels](#)

2.5 *AWS Standard:*<sup>6</sup>

[AWS D1.1 Structural Welding Code—Steel](#)

2.6 *Other Standards:*

[SAE-AMS-C-27725 Coatings, Corrosion Preventative, Polyurethane, for Aircraft Integral Fuel Tanks for Use to 250 Degrees F \(121 Degrees C\)](#)<sup>3</sup>

[Steel Structures Painting Council Specification](#)<sup>7</sup>

## 3. Significance and Use

3.1 This practice establishes the procedure for the construction and installation of platforms to be fabricated and installed by the shipyards within the cargo tanks.

## 4. Materials and Manufacture

4.1 *Materials:*

4.1.1 *Gratings*—Only MIL-G-18015 Type I and Type III gratings are to be used.

4.1.2 *Flanged Plate Supports*—Fabricated from 10 mm by 380 mm (approximately  $\frac{3}{8}$  in. by 15 in.) with a 75 mm (approximately 3 in.) flange of carbon steel plate in accordance with Specification [A36/A36M](#).

4.1.3 *Angle Supports*—75 mm by 75 mm by 10 mm (approximately 3 in. by 3 in. by  $\frac{3}{8}$  in.) structural angles of carbon steel in accordance with Specification [A36/A36M](#).

4.1.4 *Stanchions and railings*—25 mm (approximately 1 in.) diameter carbon steel in accordance with Specification [A36/A36M](#).

4.1.5 *Ladder Clips* are to be made in accordance with Specification [A36/A36M](#).

4.2 *Manufacture:*

4.2.1 Platforms shall be constructed as shown in [Figs. 1-4](#).

4.2.2 The dimensions indicated in [Figs. 1-4](#) are for the commonly used sizes. However, dimensions can be modified to suit other existing structures.

<sup>1</sup> This practice is under the jurisdiction of ASTM Committee F25 on Ships and Marine Technology and is the direct responsibility of Subcommittee F25.03 on Outfitting and Deck Machinery.

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<sup>2</sup> For referenced ASTM standards, visit the ASTM website, [www.astm.org](http://www.astm.org), or contact ASTM Customer Service at [service@astm.org](mailto:service@astm.org). For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

<sup>3</sup> Available from Naval Sea Systems Command (NAVSEA), 1333 Isaac Hull Ave., SE, Washington Navy Yard, DC 20376, <http://www.navsea.navy.mil>.

<sup>4</sup> Available from DLA Document Services, Building 4/D, 700 Robbins Ave., Philadelphia, PA 19111-5094, <http://quicksearch.dla.mil>.

<sup>5</sup> Available from American Bureau of Shipping (ABS), ABS Plaza, 16855 Northchase Dr., Houston, TX 77060, <http://www.eagle.org>.

<sup>6</sup> Available from American Welding Society (AWS), 8669 NW 36 St., #130, Miami, FL 33166-6672, <http://www.aws.org>.

<sup>7</sup> Available from Society for Protective Coatings (SSPC), 800 Trumbull Dr., Pittsburgh, PA 15205, <http://www.sspc.org>.

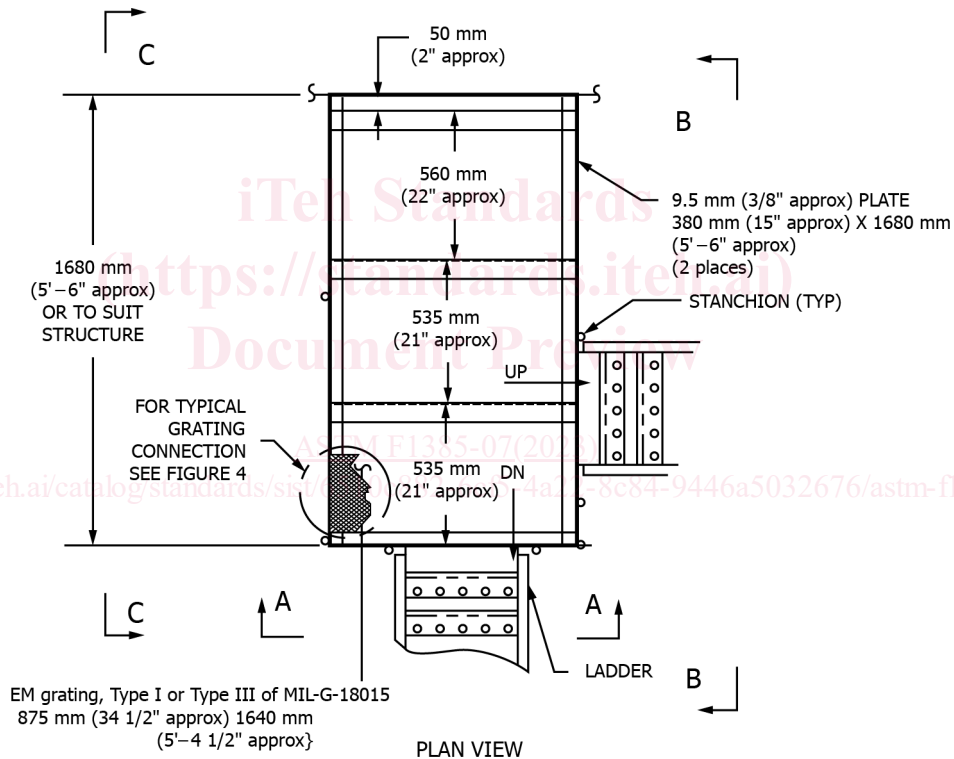
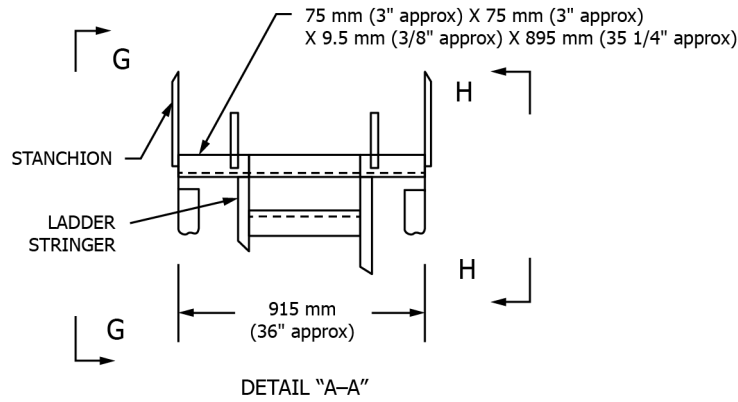


FIG. 1 Cargo Platform—Bulkhead

4.2.3 Platforms shall be designed to support static loads of at least 14 kPa (approximately 300 psf).

4.2.4 Platforms shall be locally reinforced where greater loads are contemplated for removal or disassembly of machinery.

4.2.5 All welding shall be in accordance with American Bureau of Shipping Rules for Building and Classing Steel Vessels or AWS D1.1.

4.2.6 Tolerances shall be under 6 in.  $\pm$  1/64 in., from 6 in. to 24 in.  $\pm$  1/32 in., and over 24 in.  $\pm$  1/16 in.

## 5. Dimensions

5.1 Openings in railings serving ladders to lower levels shall not be more than 690 mm (approximately 27 in.) wide.

5.2 Safety chains with snap hooks shall be provided to close such openings at heights of 530 mm and 1060 mm (approximately 21 in. and 42 in.) above the walking surface. Chain shall be welded and shall be in accordance with FED-SPEC-RR-C-271.

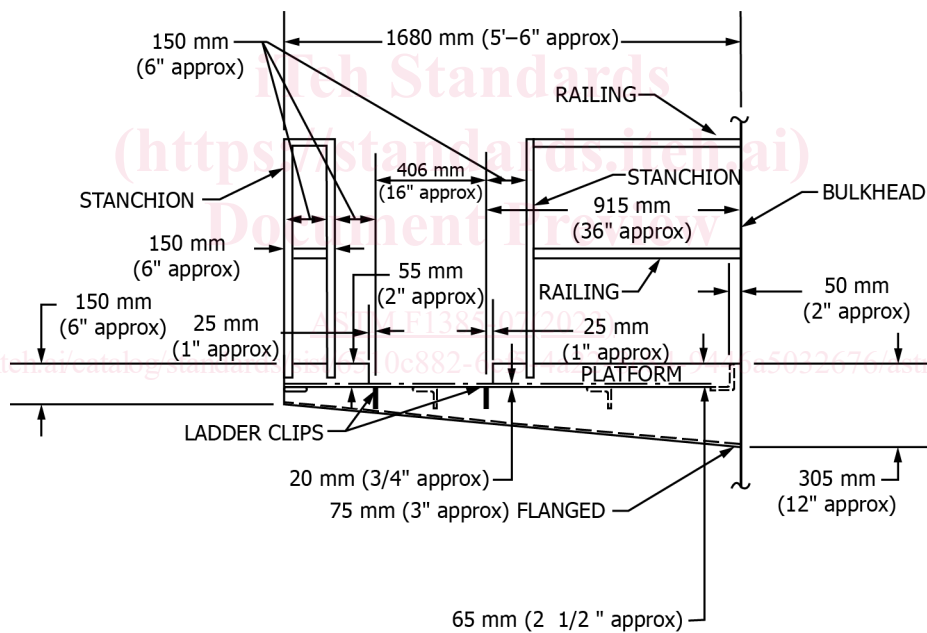
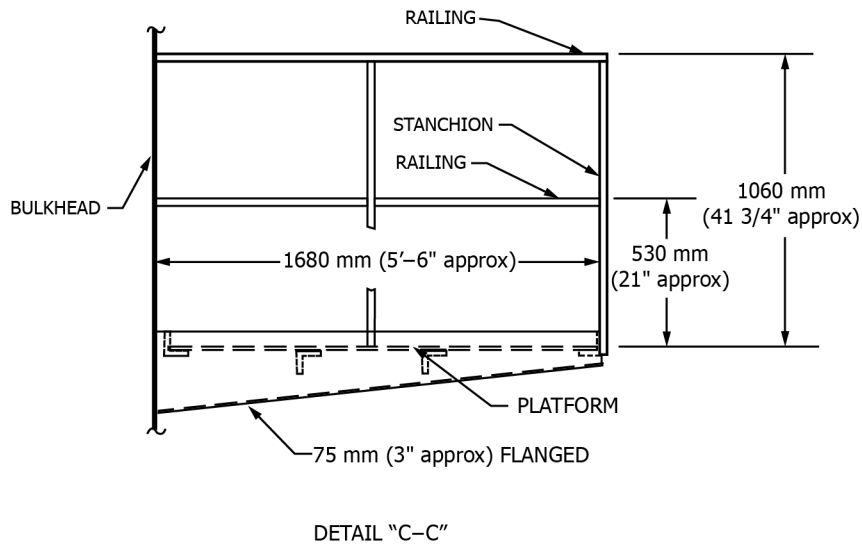


FIG. 2 Cargo Platform Elevation

**6. Workmanship, Finish, and Appearance**

6.1 Platforms shall be free of all sharp edges, burrs, projections, weld splatter, and other defects that might be injurious to personnel or equipment, or both.

6.2 For cargo tanks carrying cargo other than fuel oils, coat platforms, stanchions, support structure, and railings with one coat 3.0-MIL dry film thickness inorganic zinc silicate following surface preparation in accordance with the Steel Structure Painting Council Specifications<sup>7</sup> or the manufacturer's paint instructions.

6.3 For spaces carrying fuel oil cargo, one coat of 3.0-MIL dry film thickness of corrosion preventive coating shall be applied to the platforms in accordance with SAE-AMS-C-27725.

6.4 Grating sections are to be load tested in accordance with MIL-G-18015.

**7. Keywords**

7.1 cargo tank access; cargo tank gratings; cargo tank platforms; cargo tanks; platforms