



Standard Practice for Platforms in Cargo Tanks¹

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1. Scope

1.1 This practice provides 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 (metric) units are to be regarded as the standard. The inch-pound units given in parentheses are for information only.

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 and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 ASTM Standards:

A 36/A 36M Specification for Carbon Structural Steel²

2.2 Military Specification:

MIL-G-18015 Grating, Metal, Other than Bar Type (Shipboard Use)³

2.3 Federal Standard:

FED-SPEC-RR-C-271 Chain and Attachments, Welded and Weldless⁴

2.4 ABS Standard:

American Bureau of Shipping Rules for Building and Classing Steel Vessels⁵

2.5 AWS Standard:

AWS D1.1 Structural Welding Code—Steel⁶

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)³

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*—1.8-kg (4-lb) expanded metal fabricated in accordance with MIL-G-18015.

4.1.2 *Flanged Plate Supports*—Fabricated from 10 by 380 mm (approximately $\frac{3}{8}$ by 15 in.) with a 75-mm (approximately 3-in.) flange of carbon steel plate in accordance with Specification A 36/A 36M.

4.1.3 *Angle Supports*—75- by 75- by 10-mm (approximately 3- by 3- by $\frac{3}{8}$ -in.) structural angles of carbon steel in accordance with Specification A 36/A 36M.

4.1.4 *Stanchions*—25-mm (approximately 1-in.) diameter carbon steel.

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.

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 ± 6 mm (approximately $\frac{1}{4}$ in.).

5. Dimensions

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

¹ 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.

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² *Annual Book of ASTM Standards*, Vol 01.04.

³ Available from Naval Sea Systems Command, SEA 03R42, 2531 Jefferson Davis Highway, Arlington, VA 22242-5160.

⁴ Available from Standardization Documents Order Desk, Bldg. 4 Section D, 700 Robbins Ave., Philadelphia, PA 19111-5094, Attn: NPODS.

⁵ Available from American Bureau of Shipping, ABS Plaza, 16855 Northchase Dr., Houston, TX 77060.

⁶ Available from American Welding Society, 550 N.W. LeJuene Rd., Miami, FL 33126.

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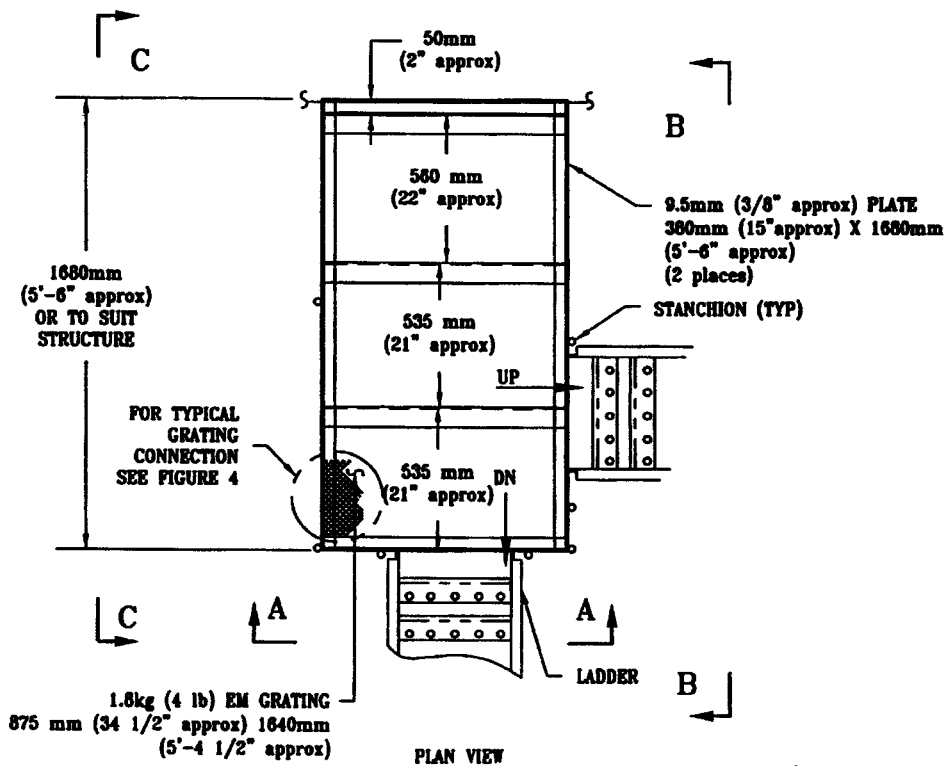
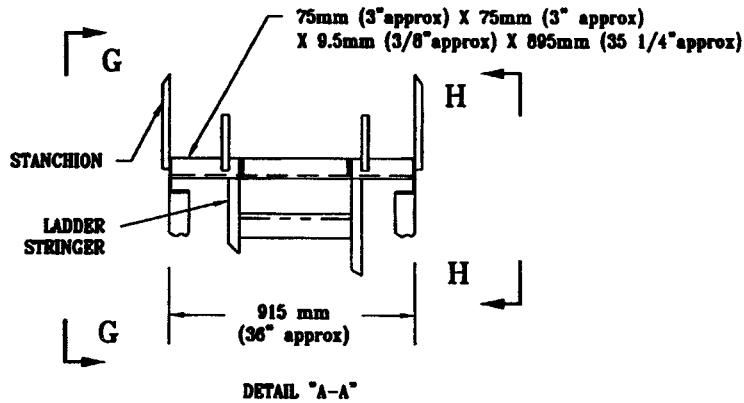


FIG. 1 Cargo Platform—Bulkhead

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

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.

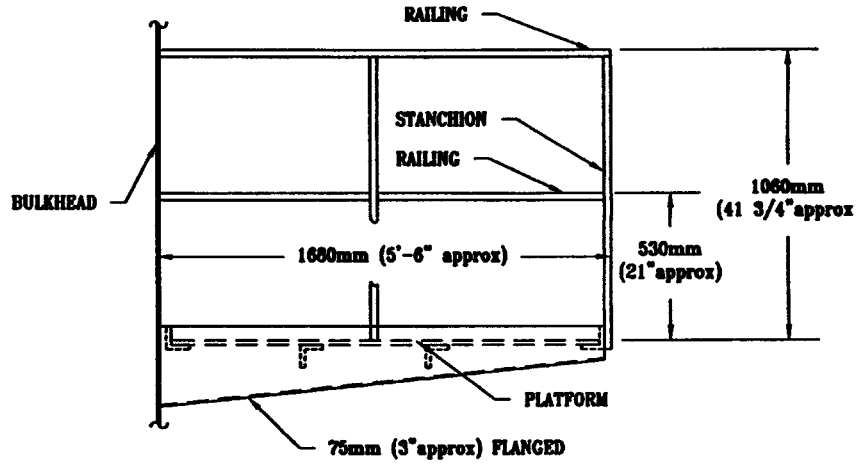
6.2 For cargo tanks carrying cargo other than fuel oils, coat platforms with one coat 3.0-MIL dry film thickness inorganic zinc silicate following surface preparation in accordance with

the Steel Structure Painting Council Specifications⁷ or the manufacturer's paint instructions.

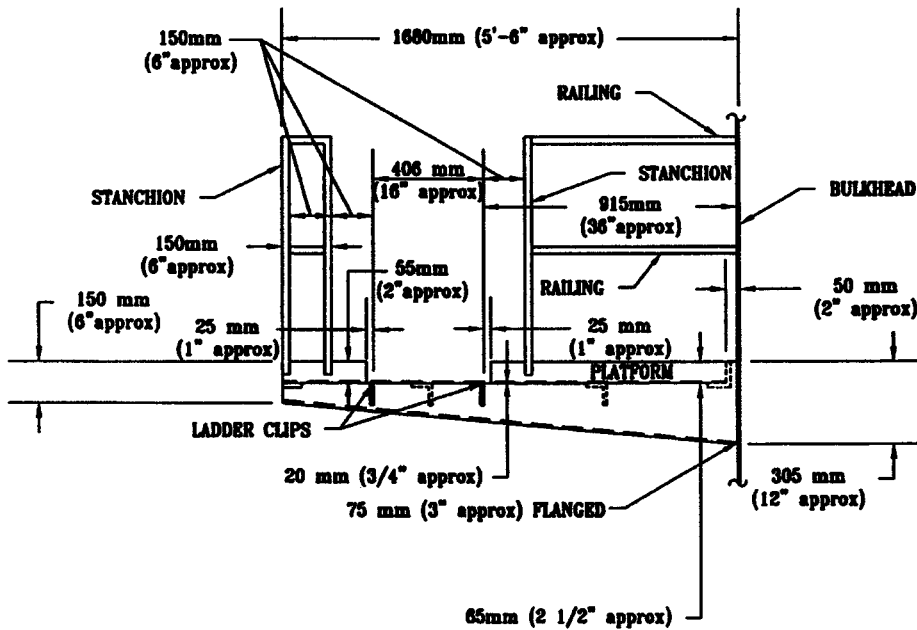
6.3 For spaces carrying fuel oil cargo, one coat of 3.0-MIL dry film thickness of corrosion preventive coating shall be applied to the platforms in accordance with SAE-AMS-C-27725.

6.4 Grating sections are to be tested in accordance with MIL-G-18015 or as follows: Support a section of grating on

⁷ Available from Steel Structures Painting Council (SSPC), 40 24th St., 6th Floor, Pittsburgh, PA 15222-4656.



DETAIL "C-C"



DETAIL "B-B"

FIG. 2 Cargo Platform Elevation

two supports each 25 mm (approximately 1 in.) wide and 915 mm (approximately 36 in.) apart. The test load is to be three times the design load. The test load is to be suspended from a bar 610 by 50 mm (approximately 24 by 2 in.) applied across the grating midway between the supports.

7. Keywords

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

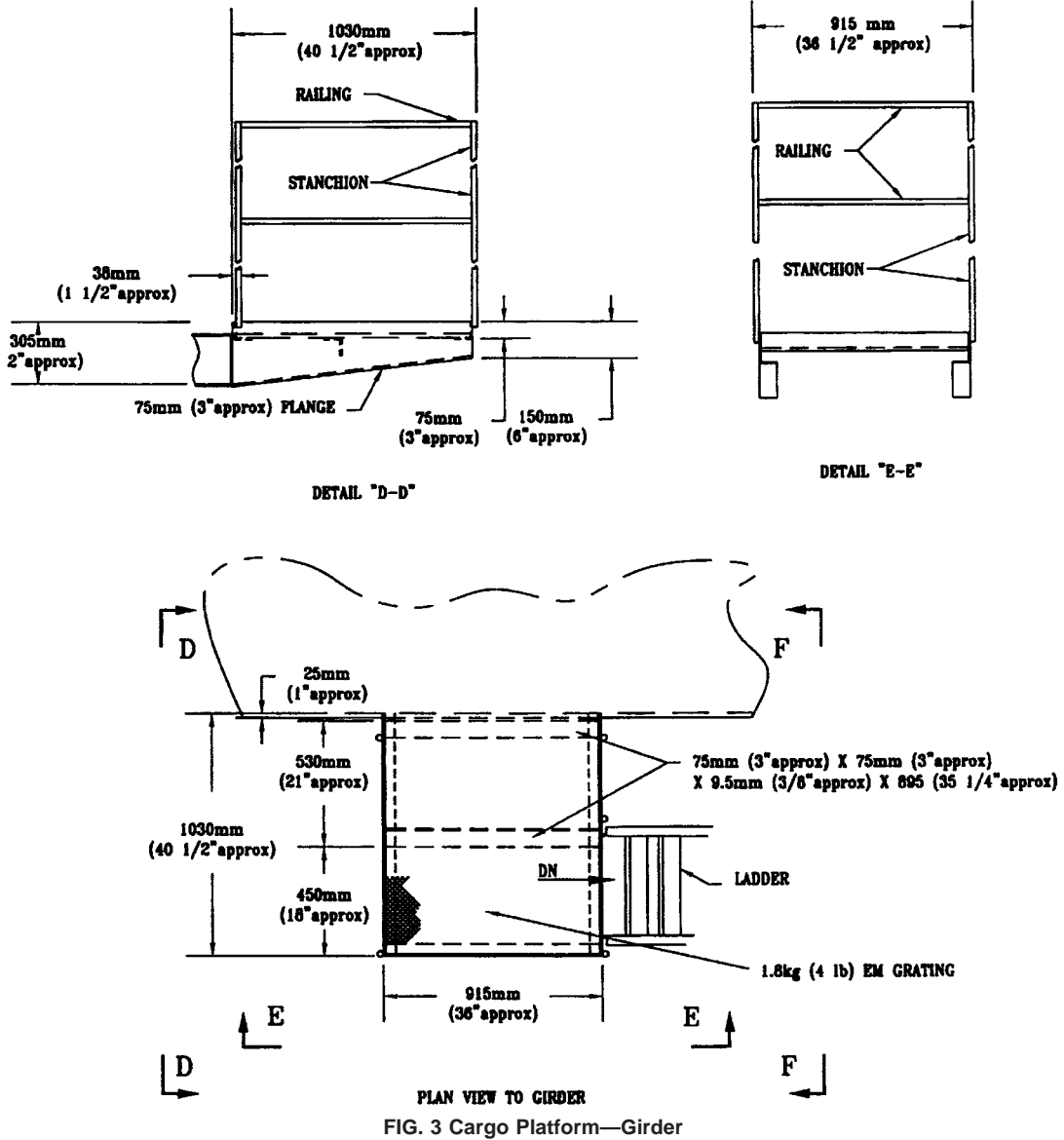


FIG. 3 Cargo Platform—Girder

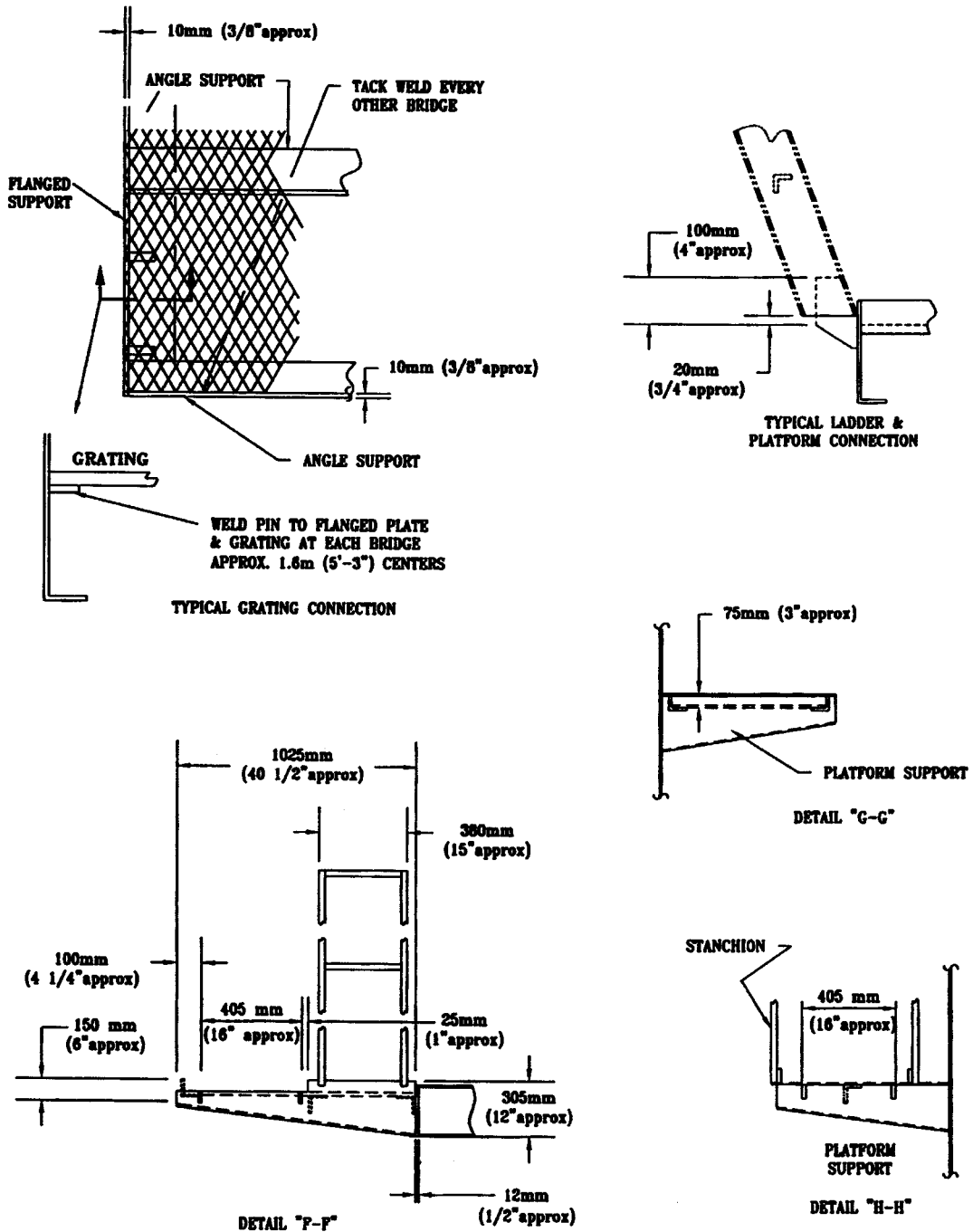


FIG. 4 Cargo Platforms Showing Typical Sections

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