UNIFIED FACILITIES GUIDE SPECIFICATIONS

References are in agreement with UMRL dated January 2021
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08/16, CHG 1: 08/18

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USACE / NAVFAC / AFCEC / NASA	**UFGS-10 22 13 (August 2016)** **Change 1 - 08/18**
Preparing Activity: NAVFAC	**Superseding** **UFGS-10 22 13 (August 2010)**

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SECTION 10 22 13

WIRE MESH PARTITIONS
08/16, CHG 1: 08/18

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NOTE: This guide specification covers the requirements for wire mesh partitions for normal and for extra heavy industrial use.

Adhere to UFC 1-300-02 Unified Facilities Guide Specifications (UFGS) Format Standard when editing this guide specification or preparing new project specification sections. Edit this guide specification for project specific requirements by adding, deleting, or revising text. For bracketed items, choose applicable item(s) or insert appropriate information.

Remove information and requirements not required in respective project, whether or not brackets are present.

Comments, suggestions and recommended changes for this guide specification are welcome and should be submitted as a Criteria Change Request (CCR).

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NOTE: The following information must be indicated on the project drawings:

1. Location, extent, height, and configuration of wire mesh partitions.

2. All openings, direction of door swing.

3. If the project includes both normal duty and heavy duty partitions, indicate the extent of each type.

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PART 1 GENERAL

1.1 REFERENCES

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NOTE: This paragraph is used to list the publications cited in the text of the guide specification. The publications are referred to in the text by basic designation only and listed in this paragraph by organization, designation, date, and title.

Use the Reference Wizard's Check Reference feature when you add a Reference Identifier (RID) outside of the Section's Reference Article to automatically place the reference in the Reference Article. Also use the Reference Wizard's Check Reference feature to update the issue dates.

References not used in the text will automatically be deleted from this section of the project specification when you choose to reconcile references in the publish print process.

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The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AMERICAN IRON AND STEEL INSTITUTE (AISI)

AISI SG03-3	(2002; Suppl 2001-2004; R 2008) Cold-Formed Steel Design Manual Set

ASTM INTERNATIONAL (ASTM)

ASTM A36/A36M	(2019) Standard Specification for Carbon Structural Steel

1.2 SUBMITTALS

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NOTE: Review Submittal Description (SD) definitions in Section 01 33 00 SUBMITTAL PROCEDURES and edit the following list, and corresponding submittal items in the text, to reflect only the submittals required for the project. The Guide Specification technical editors have classified those items that require Government approval, due to their complexity or criticality, with a "G." Generally, other submittal items can be reviewed by the Contractor's Quality Control System. Only add a "G" to an item if the submittal is sufficiently important or complex in context of the project.

For Army projects, fill in the empty brackets following the "G" classification, with a code of up to three characters to indicate the approving authority. Codes for Army projects using the

Resident Management System (RMS) are: "AE" for Architect-Engineer; "DO" for District Office (Engineering Division or other organization in the District Office); "AO" for Area Office; "RO" for Resident Office; and "PO" for Project Office. Codes following the "G" typically are not used for Navy, Air Force, and NASA projects.

The "S" classification indicates submittals required as proof of compliance for sustainability Guiding Principles Validation or Third Party Certification and as described in Section 01 33 00 SUBMITTAL PROCEDURES.

Choose the first bracketed item for Navy, Air Force, and NASA projects, or choose the second bracketed item for Army projects.

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Government approval is required for submittals with a "G" or "S" classification. Submittals not having a "G" or "S" classification are [for Contractor Quality Control approval.][for information only. When used, a code following the "G" classification identifies the office that will review the submittal for the Government.] Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Wire Mesh Partitions

Show layout, details, materials, dimensions, finishes, and all information necessary for fabrication and installation.

SD-03 Product Data

Wire Mesh Partitions

Submit for each type of partition, door, and window.

[Recycled Content for Metal Post and Framing Materials; S

][Recycled Content for Wire Materials; S

]1.3 DELIVERY, STORAGE, AND HANDLING

Deliver materials in manufacturer's original, unopened containers or packaging with labels intact and legible. Deliver, store, and handle materials so as to prevent damage. Replace damaged or defective materials with new.

1.4 DESCRIPTION OF WORK

Wire mesh partitions must be [all wire type] [sheet metal base type], [normal duty for normal industrial use] [heavy duty for extra heavy industrial use]. Provide partitions complete with fasteners, capping bars, adjustable floor sockets, bracing, doors, [service windows,] hardware, and other items necessary for a complete, useable, and rigid installation.

PART 2 PRODUCTS

2.1 MATERIALS

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NOTE: Use materials with recycled content where appropriate for use. Verify suitability, availability within the region, cost effectiveness and adequate competition (including verification of bracketed percentages included in this guide specification) before specifying product recycled content requirements.

Research shows the product is available from US national manufacturers above the minimum recycled content percentages shown below. Some manufacturers and regions have higher percentages. Based on research, select or insert desired minimum percentages into the empty set of brackets.
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[Metal post and framing materials listed below must contain a minimum of [15][_____] percent post-consumer recycled content and wire materials must contain a minimum of [50][_____] percent post-industrial recycled content. Provide data identifying percentage of recycled content for metal post and framing materials. Also provide data identifying percentage of recycled content for wire materials.

]2.1.1 Steel Shapes, Plates, and Bars

ASTM A36/A36M.

2.1.2 Cold-Formed Steel

AISI SG03-3.

2.1.3 Wire Mesh

Carbon steel wire, woven diamond mesh, intermediate crimped.

2.1.4 Floor Sockets

Cast or forged steel or ductile iron, adjustable, approximately 64 mm 2-1/2 inches high.

2.2 NORMAL DUTY PARTITIONS

2.2.1 Wire Mesh

10 gage wire, 38 mm 1-1/2 inch mesh.

2.2.2 Vertical Frames

32 by 16 mm1-1/4 by 5/8 inch cold-rolled C section channels or 32 by 16 by 3 mm 1-1/4 by 5/8 by 1/8 inch channels.[Provide only C channels where frames are installed toe to toe without posts.]

2.2.3 Horizontal Frames

25 by 16 mm1 by 5/8 inch channels.

2.2.4 Center Reinforcing Bar

One 25 by 13 by 3 mm 1 by 1/2 by 1/8 inch channel with all wires woven through, or two 25 by 10 by 3 mm 1 by 3/8 by 1/8 inch channels bolted together with mesh in between.

2.2.5 Capping Bar

56 by 25 by 3 mm 2-1/4 by one by 1/8 inch channel or 50 by 6 mm 2 by 1/4 inch flat bar.

2.2.6 Corner Posts

Structural steel angles, 32 by 32 by 3 mm 1-1/4 by 1-1/4 by 1/8 inch.

2.2.7 Line Posts

Unless otherwise indicated, provide partitions more than 3600 mm 12 feet high with flat bar line posts bolted between vertical frame channels. Sizes of posts must be as follows:

Partition Height	Size of Posts
3600 to 4400 mm	44 by 7.9 mm or 50 by 6 mm
4400 to 5900 mm	63 by 7.9 mm
5900 to 7100 mm	75 to 7.9 mm

Partition Height	Size of Posts
12 feet to 14 feet 8 inches	1-3/4 by 5/16 inch or 2 by 1/4 inch
14 feet 8 inches to 19 feet 8 inches	2-1/2 by 5/16 inch
19 feet 8 inches to 23 feet 8 inches	3 by 5/16 inch

2.2.8 Hinged Doors

Frames must be 32 by 13 by 3 mm 1-1/4 by 1/2 by 1/8 inch channels with 32 by 3 mm 1-1/4 by 1/8 inch flat bar cover on top and bottom rails and on hinge stile and a 35 by 20 by 3 mm 1-3/8 by 3/4 by 1/8 inch angle riveted to the lock stile. Provide 1 1/2 pairs of regular weight, wrought steel, non-removable pin, butt hinges riveted or welded to the door and the door opening frame for each door.

2.2.9 Sheet Metal Base

Hot- or cold-rolled sheet steel, not lighter than 16 gage.

2.3 HEAVY DUTY PARTITIONS

2.3.1 Wire Mesh

6 gage wire, 50 mm 2 inch mesh.

2.3.2 Panel Frames

38 by 20 by 3 mm 1-1/2 by 3/4 by 1/8 inch steel channels.

2.3.3 Center Reinforcing Bar

One 38 by 20 by 3 mm 1-1/2 by 3/4 by 1/8 inch channel with all wires woven through, or two 32 by 10 by 3 mm 1-1/4 by 3/8 by 1/8 inch channels bolted together with mesh in between.

2.3.4 Capping Bar

Structural steel channel, 75 mm by 1.9 kg 3 inch by 4.1 pounds.

2.3.5 Corner Posts

Structural steel angles, 45 by 45 by 3 mm 1-3/4 by 1-3/4 by 1/8 inch.

2.3.6 Line Posts

Unless otherwise indicated, provide partitions with flat bar line posts bolted between vertical frame channels. Sizes of posts must be as follows:

Partition Height	Size of Posts
2100 to 3600 mm	62 by 7.9 mm
3600 to 4800 mm	75 by 7.9 mm or 62 by 10 mm
4800 to 6000 mm	87 by 7.9 mm

Partition Height	Size of Posts
7 feet to 12 feet	2-1/2 by 5/16 inch
12 feet to 16 feet	3 by 5/16 inch or 2-1/2 by 3/8 inch
16 feet to 20 feet	3-1/2 by 5/16 inch

2.3.7 Hinged Doors

Frames must be 38 by 20 by 3 mm 1-1/2 by 3/4 by 1/8 inch channels with 38 by 3 mm 1-1/2 by 1/8 inch flat bar cover on top and bottom rails and on hinge stile and a 41 by 22 by 3 mm 1-5/8 by 7/8 by 1/8 inch angle riveted to the lock stile. Provide 1-1/2 pairs of heavyweight, wrought steel, non-removable pin, butt hinges riveted or welded to the door and the door opening frame for each door.

2.4 SLIDING DOORS

Frames must be 38 by 20 by 3 mm 1-1/2 by 3/4 by 1/8 inch channels with 38 by 3 mm 1-1/2 by 1/8 inch flat bar cover all around. Provide two four-wheel, roller bearing hangers and steel box track for each door.

2.5 DOOR OPENING FRAMES

Provide frames the same size and shape as the vertical frames for the mesh panels.

2.6 LOCKS

Provide each door with a mortise type lock with a six-pin tumbler lock cylinder on the outside and a recessed knob on the inside.

2.7 SERVICE WINDOWS

Slide up type, mounted in standard mesh panel reinforced with channel tracks. Opening must be 600 mm wide by 450 mm high 24 inches wide by 15 inches high unless otherwise indicated. Provide two spring loaded latches, operable only from the inside, to lock window in open and closed positions. [Form shelf of 12 gage sheet steel, 300 mm deep by 625 mm wide 12 inches deep by 25 inches wide, unless otherwise indicated.]

2.8 FABRICATION

2.8.1 Standard Panels

Wire must be woven into diamond mesh, intermediate crimped, and securely clinched to frames. Joints must be mortised and tenoned. Wire must be continuous at center reinforcing bars, either woven through a single channel or bolted between two channels. Panel vertical frames must have [6 mm 1/4 inch bolt holes 300 mm 12 inches o.c. for normal duty partitions] [10 mm3/8 inch bolt holes 450 mm 18 inches o.c. for heavy duty partitions].

2.8.2 Sheet Metal Base Panels

Upper portion must be as specified for standard panels, except that the wire must be clinched into the center reinforcing bar. Form sheet steel to fit between the panel frames and securely bolt to the frames.

2.8.3 Doors [and Service Windows]

Construction must be similar to that specified for panels. Wire mesh must be the same as that used in the adjacent partition panels.

2.8.4 Finish

Thoroughly clean ferrous metal, treat with phosphate, and paint with [green] [black] [gray] enamel in the shop.

PART 3 EXECUTION

3.1 INSTALLATION

3.1.1 Wire Mesh Partitions

Install plumb, level, and true to line, within a tolerance of 3 mm in 3 m

1/8 inch in 10 feet or the height or run of the partition, if less than 3 meters 10 feet. Anchor floor sockets to the floor with expansion bolts. Bolt vertical frames and posts together with [6 mm bolts 300 mm o.c.1/4 inch bolts 12 inches o.c. for normal duty partitions] [10 mm bolts 450 mm o.c.3/8 inch bolts 18 inches o.c. for heavy duty partitions]. Secure top frames to a continuous capping bar with 6 mm 1/4 inch diameter U bolts not more than 650 mm 28 inches o.c.

3.1.2 Doors [and Service Windows]

Install in accordance with the manufacturers' recommendations. Adjust as required so that doors [, windows,] and hardware operate freely and properly.

3.1.3 Bracing

Brace free standing partitions more than 6 meters 20 feet in length, at intervals not greater than 6 meters 20 feet [with a steel channel brace connected to the capping bar and anchored to the building wall or framing member] [with a structural steel I section or tube post welded to a 225 by 225 mm 9 by 9 inch steel base plate anchored to the floor with 4 expansion bolts] [or as indicated].

3.1.4 Touch-Up

Clean and paint scratches, abrasions, and other damage to shop painted surfaces to match the shop-applied finish.

Repair minor surface rust areas. Clean and prime with rust inhibitive primer paint. Apply final paint to match shop-applied finishes.

-- End of Section --