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NAVFAC **IGS-10505 (MAY 2002)**

Preparing Activity: LANTNAVFACENGCOM **Based on UFGS-10505N**

ITALIAN GUIDE SPECIFICATIONS

Use for ITALIAN projects only
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SECTION 10505

STEEL CLOTHING LOCKERS
05/02

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NOTE: This guide specification is issued by the Atlantic Division, Naval Facilities Engineering Command for regional use in Italy.
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NOTE: This guide specification covers the requirements for permanently installed metal lockers used for temporary storage and security of personal belongings.
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NOTE: Show the following information on the drawings:

1. Location, size, quantity, and color of lockers

2. Mounting details and whether legs or base panels are required.
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NOTE: Comments and suggestion on this specification are welcome and should be directed to the technical proponent of the specification. A listing of the technical proponents, including their organization designation and telephone number, is on the Internet.

Use of electronic communication is encouraged.

Brackets are used in the text to indicate designer choices or locations where text must be supplied by the designer.
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PART 1 GENERAL

1.1 REFERENCES

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.

ITALIAN NATIONAL ASSOCIATION FOR UNIFICATION OF STANDARDS (UNI)

UNI 5961	(1984) Cold Rolled Flat Finished Unalloyed Steel Products - Strips and Cut Lengths for Cold Forming - Qualities, Requirements and Tests
UNI 9948	(1992) Metallic Coatings - Electroplated Coatings of Nickel Plus Chromium and of Copper Plus Nickel Plus Chromium
UNI EN 10130	(1991) Cold Rolled Low Carbon Steel Flat Products for Cold Forming - Technical Delivery Conditions
UNI EN 10142	(1990) Continuously Hot-Dip Zinc Coated Low Carbon Steel Sheet and Strip for Cold Forming - Technical Delivery Conditions

1.2 SUBMITTALS

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NOTE:
Submittals must be limited to those necessary for adequate quality control. The importance of an item in the project should be one of the primary factors in determining if a submittal for the item is required.
A “G” following a submittal item indicates that the submittal requires Government approval. Some submittals are already marked with a “G”. Only delete an existing “G” if the submittal item is not complex and can be reviewed through the Contractor’s Quality Control system. Only add a “G” if the submittal is sufficiently important or complex in context of the project.
For submittals requiring Government approval on Army projects, a code of up to three characters within the submittal tags may be used following the "G" designation to indicate the approving authority. Recommended codes for Army projects are "RE" for Resident Engineer approval, "ED" for Engineering approval, and "AE" for Architect-Engineer approval. Codes following the "G" typically are not used for Navy projects.
Submittal items not designated with a "G" are considered as being for information only for Army

projects and for Contractor Quality Control approval for Navy projects.

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Submit the following in accordance with section entitled "Submittal Procedures."

SD-02 Shop Drawings

Types; G

Location; G

Installation

[Numbering system]

SD-03 Product Data

Material

Finish

Locker components

Assembly instructions

SD-04 Samples

Color chips; G

1.3 DELIVERY, HANDLING, AND STORAGE

Deliver lockers and associated materials in their original packages, containers, or bundles bearing the manufacturer's name and the name of the material. Protect from weather, soil, and damage during delivery, storage, and construction.

1.4 FIELD MEASUREMENTS

To ensure proper fits, make field measurements prior to the preparation of drawings and fabrication.

1.5 QUALITY ASSURANCE

1.5.1 Color Chips

Provide a minimum of three color chips, not less than 75 mm square, of each color [scheduled] [indicated].

PART 2 PRODUCTS

2.1 TYPES

Provide [single-tier locker type equipped with top shelf and coat hanger rod] [and] [double-tier locker type equipped with two coat hooks mounted on back wall and one coat hook at each side wall] [_____] in the location, quantities and size[s] indicated. Provide locker finish color[s] [as indicated] [as scheduled]. [Provide lockers "set-up" (pre-assembled).][in single units or as sectional groups as indicated.]

2.1.1 Product Manufacturers

Manufacturers of steel clothing lockers which comply with this specification are:

Fasma S.p.A.
Strada Provinciale pei Reggio Emilia 6
42027 Montecchio Emilia (RE)
Tel. 0522.863141
Fax. 0522.865577

Romanoni Srl
Via Schiaparelli, 6
20019 Settimo Milanese (MI)
Tel. 02.48920018
Fax. 02.48920177

2.2 MATERIAL

2.2.1 [Galvanized] Steel Sheet

****
NOTE: Choose one of the following options.
****

****
NOTE: Delete the word "Galvanized" in paragraph title and choose the first optional paragraph for normal applications where moisture is not a problem.
****

[UNI EN 10130 and UNI 5961, Commercial quality, minimized spangle material. Prepare material surfaces for baked enamel finishing. Minimum uncoated sheet thickness [2 mm] [as specified] [_____].]

****
NOTE: Include the word "Galvanized" in the paragraph title and choose this option for lockers located in high moisture areas such as shower rooms.
****

[UNI EN 10142, commercial quality, minimized spangle, galvanized steel sheet with not less than Z275 zinc coating. Prepare surface of sheet for painting. Minimum uncoated sheet thickness [2 mm][as specified] [_____].]

2.2.2 Chromium Coating

Nickel and chromium electrodeposited on the specified base metal. Conform to UNI 9948, as applicable to the base metal.

2.2.3 Finish

****
NOTE: Standard finish is gray, baked enamel. Use the first paragraph when baked enamel finish is required. Use the second paragraph for epoxy-based primer and topcoat coatings. Use third paragraph for alternate standard local finishes.
****

[a. Finish shall be the enamel baking type coating applied to a primer compatible with the enamel used.]

[b. Finish shall be VOC compliant epoxy paint applied to an epoxy-based priming chemical and solvent resistant.]

[c. Finish shall be a high corrosion resistant acrylic coating or an oven-baked epoxy dust coating applied to a cleaned phosphatized primed surfaces.]

2.2.3.1 Color

[RAL [_____]] [As selected.]

2.3 COMPONENTS

****
NOTE: Delete items from the following paragraphs that are not required on the project.
****

2.3.1 Built-In Locks

****
NOTE: Includes built-in locks as standard items. Includes built-in key locks and built-in combination locks. Includes a padlock eye in the door latching mechanism. If built-in locks are required, use the first paragraph and delete the second.
****

Provide [built-in key locks] [built-in combination locks] [and] [a padlock eye in the door latching mechanism], [as approved by the Contracting Officer.]

2.3.1.1 Built-In Key Lock

Except as otherwise specified herein, the lock component parts shall be fabricated from steel and shall be cadmium or zinc coated after fabrication and prior to assembly. All locks within the key change range specified

herein shall be master keyed. Each lock shall also have its own keys and shall not be operable by the keys of any other lock within the key range, other than the master key. In addition, the locks shall conform to the following:

a. Case shall be approximately 38 mm by 42 mm.

b. Backset shall be a maximum of 25 mm.

c. Dead bolt shall be brass, rust proof steel or die cast zinc alloy.

d. Tumblers shall consist of 3 or 5 tumblers.

e. Unless otherwise specified, 200 key changes.

f. Two keys for each lock and master keys in the specified quantity.

2.3.1.2 Built-In Combination Lock

The lock shall be set proof, pick proof, keyless, 3 point combination mechanism and capable of not less than 24,000 combinations without duplication. The mechanism shall be self-locking so that upon door closure, it will automatically throw off the combination (with or without moving the dial) and shall require complete resetting to open. A knurled rotating dial shall be incorporated and shall contain not less than 40 setting points, indicated by depressed white figures in a black dial. The lock shall not open when any individual combination number is varied 1-1/2 full points. No setting point shall be revealed in operation. The rotating dial shall be secured to resist effort to insert an instrument between the edge of the dial and escutcheon. The lock shall permit at least 4 changes in the combination setting that can be made after delivery. Each lock combination shall be different and the factory setting shall be clearly noted on a tag attached to the lock.

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NOTE: If built-in locks are not required, use the following and delete the above.

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[Built-in locks are not required.] [Padlocks: Combination dial design.]

2.3.2 Coat Hooks

[Chromium], [zinc] plated.

2.3.3 [Hanger Rods

Not less than 10 mm diameter round steel bar, tubing and pipe, with protective hot-dipped galvanized coating or electron deposited zinc, cadmium, nickel or chrome plating.]

2.3.4 Door Handles

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NOTE: Allows aluminum alloy, zinc alloy or steel handles. Aluminum handles are required to have satin anodized finish. Zinc alloy and steel handles are required to have chromium or nickel plated finish.

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[Provide zinc alloy or steel pull handles, minimum 85 x 50 mm, with a chromium coating.]

2.3.5 Doors

Doors shall be louver type, formed from not less than 1.5 mm steel, and shall close within a door frame or against formed edges of the locker side panel, top and bottom. The doors shall be hinged on the right hand side and shall latch on the left hand side. Each door shall be equipped with a handle and built-in lock unless a combination lock is specified. Door handles and built-in locks shall be attached by concealed fasteners, slot-less truss head bolts, rivets, or other methods equally secure against removal from the outside of the closed door.

2.3.6 Hinges

Provide 5-knuckle hinges, minimum 50 mm high. Fabricate knuckle hinges from not less than 2 mm thick steel sheet. [A full height piano hinge may be provided if standard with the manufacturer.] Weld or bolt hinges to the door frame. Weld, bolt, or rivet hinges to the door. Hinges shall permit 160 degree opening.

2.3.6.1 Door Flanges and Reinforcements

All edges of the door shall be flanged not less than 20 mm. The flanges shall be of the closed square bead type, or 90 degree flanges with an additional return flange of not less than 60 mm in channel formation on the hinge and latch sides. The inside of doors of all lockers 450 mm wide shall have a minimum 0.8 mm thick reinforcing hat section, or a similar formation, centrally located laterally and extending the full distance between the top and bottom. Reinforcing shall be spot welded to the door with welds located not more than 200 mm on center and starting within 25 mm of the top and bottom edges. Additional flanging, will be permitted when considered necessary by the manufacturer.

2.3.6.2 Louvers

Each door shall have 2 sets of louvers not less than 127 mm wide. Louvers shall be centrally located laterally and shall start not less than 50 mm not more than 150 mm from the top and bottom of the door. Single-tier locker types shall have door louver sets consisting of from 6 to 9 louvers each. Double-tier locker types shall have door louver sets consisting of from 3 to 6 louvers each.

2.3.6.3 Latching Mechanism

The door latching mechanism shall be of the prelocking type, permitting the

latching-mechanism to be locked with the door open, by means of a padlock through the padlock eye of the handle and, when furnished, a built-in lock as well as a padlock. The entire mechanism shall be fully or partially enclosed and mounted inside the door on the vertical latching edge.

2.3.6.4 Latch Strikes

Provide not less than 3 latch strikes for the single-tier locker and not less than 2 for each compartment of the double-tier locker. The strikes shall be permanently fixed to engage the latching mechanism near the top and bottom of the door. The remaining strikes shall be located between the top and bottom strikes. The strikes shall be further positioned to preclude any free motion of the closed door greater than 3 mm and to be shielded from view when the door is closed.

2.3.6.5 Silencers

Provide replaceable silencers of rubber or a comparable material on each locker to minimize the noise and metal to metal contact when the locker door is closed. The silencers shall be incorporated at or in close proximity to each latching point of the locker.

2.3.7 Back and Side Panels

Back and side panels shall each be formed of one piece of sheet metal, formed to eliminate exposed sheet metal edges directly at the exterior corners of the assembled locker or at the locker door opening. The sides may have at least, but not more than, the number of holes necessary to permit interchangeability between single-tier and double-tier lockers plus one additional set of coat hook mounting holes. Unless a flush condition is provided between the back panel flanges and side panel, any seam resulting from the joining of sides to the back shall be at the back of the locker. There shall be no sharp edges along the exterior of seams.

2.3.8 Tops

Tops shall be flat and formed as required to secure the top to the back, front and side walls.

2.3.9 Shelves

The front edge of shelves shall be formed to one of the following configurations:

a. 1.25 mm diameter, 270 degree coiled bend.

b. Channel formed and flanged, with a minimum 20 mm front face.

2.3.10 Bottoms

Locker bottoms shall serve as reinforcing components for the lower section of the lockers. Bottoms shall be formed for secure assembly to the units.

2.3.11 Base Panels

Supply back and end base panels. The four panels shall close the spaces that extend between the legs of the lockers and between the bottom of the locker and the floor. The bottom edges of the base panels shall have a channel formation. Provision shall be made for secure attachment of the base panels.

2.3.12 Legs

All lockers shall be provided with legs. Single-tier and double-tier single unit lockers shall have a leg at each of the four corners. Sectional groups shall have not less than one front leg and one back leg for each side panel. The legs shall elevate the lockers 150 mm above the floor and shall incorporate a vertical adjustment feature having a range of not less than 50 mm to compensate for irregular floor surfaces. Base pads and floor mounting holes shall be incorporated for use in securing the lockers to the floor. [Provide lockers without legs, as indicated.]

2.3.13 Number Plates

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NOTE: Choose one of the following.
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****
NOTE: Include requirements for number plates. Select material requirement and range of numbers.
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In accordance with steel clothing locker manufacturer. [Aluminum] [Brass] [Zinc]. Provide consecutive numbers from [_____] to [_____].]

****
NOTE: If number plates are not required, use this paragraph and delete the above.
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[Number plates are not required.]

2.3.14 [Label Holders

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NOTE: Include if label holders are required. Otherwise, delete.
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In accordance with steel clothing locker manufacturer.]

2.3.15 Fastening Devices

Bolts, nuts, washers, and rivets shall be commercially available items, fabricated from steel. Steel fastening devices shall be cadmium, zinc, or nickel plated. Bolts shall be tamper resistant and shall be locknut or lock washer type.

PART 3 EXECUTION

3.1 ASSEMBLY AND INSTALLATION

Assemble lockers according to the locker manufacturer's instructions. Align lockers horizontally and vertically. Secure lockers to wall [and base] with screws as indicated. Bolt adjacent lockers together. Adjust doors to operate freely without sticking or binding and to ensure they close tightly. Vertical and horizontal spacing of the fasteners shall not exceed 30 cm. Except for door hinges all bolts shall pass through round bolt holes which shall not exceed the diameter of the bolt by more than 1.5 mm. Bolt holes in door hinges may be elliptical instead of round. The minor axis shall not exceed the diameter of the bolt by more than 1.5 mm and the major axis shall not exceed the diameter of the bolt by more than 3 mm. All assembly joints on the exterior of the lockers shall be designed so that sheet metal edges shall not be exposed directly at the exterior vertical edges of assembled lockers.

3.1.1 Locker Arrangement

The lockers shall be furnished in single units or sectional groups. Sectional groups shall consist of 2 or more lockers, side by side, and assembled as an integral unit. Single-tier locker sectional groups shall not exceed 10 lockers (10 openings) per sectional group. Double-tier sectional groups shall not exceed 10 lockers (20 openings) per sectional group. Single partitions may be used between each locker of the sectional groups.

3.1.2 Locker Dimension Tolerance

The following tolerances shall be applicable to the overall dimension.

Width - plus or minus 1.5 mm.
Depth - plus 3 mm, minus 1.5 mm.
Height - plus or minus 1.5 mm.

3.2 [NUMBERING SYSTEM

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NOTE: If lockers require number plates, identify the system of numbering. Otherwise, delete this paragraph.
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Install number plates on lockers consecutively [with odd numbers on top and even numbers on bottom] [as indicated] [_____].]

3.3 FIELD QUALITY CONTROL

3.3.2 Repairing

Remove and replace damaged and unacceptable portions of completed work with new.

3.3.3 Cleaning

Clean surfaces of the work, and adjacent surfaces soiled as a result of the work, in an approved manner. Remove equipment, surplus materials, and rubbish from the site.

-- End of Section --