UNIFIED FACILITIES GUIDE SPECIFICATIONS

References are in agreement with UMRL dated January 2021
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11/15

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USACE / NAVFAC / AFCEC / NASA	**UFGS-26 53 00.00 40 (November 2015)**

Preparing Activity: NASA	**Superseding**
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	UFGS-26 53 00 (August 2008)

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SECTION 26 53 00.00 40

EXIT SIGNS
11/15

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NOTE: This guide specification covers the requirements for exit lighting fixtures and lamps.

Drawings should show a three-dimensional detail of each fixture with letter designation keyed to the drawings and electrical symbols describing the type, style, class, kind, and size of fixture.

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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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.

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 101	(2021) Life Safety Code

U.S. DEPARTMENT OF ENERGY (DOE)

DOE LT-4	(2005) How to Buy Energy-Efficient Exit Signs

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

29 CFR 1910	Occupational Safety and Health Standards

UNDERWRITERS LABORATORIES (UL)

UL 924	(2016; Reprint May 2020) UL Standard for Safety Emergency Lighting and Power Equipment

1.2 ADMINISTRATIVE REQUIREMENTS

1.2.1 Pre-Installation Meetings

No more than [30] [_____] days after Contract Award, the Contracting Officer will schedule a Pre-Installation Meeting. Submit material, equipment, and fixture lists for the following showing manufacturer's product data, including style or catalog numbers, specification and drawing reference numbers, warranty information, and fabrication site:

a. Exit Lighting Units

b. Contemporary Fixtures

c. Accessories

Submit exit lighting units outline drawings indicating overall physical features, dimensions, ratings, service requirements, and weights of equipment.

Submit certificates clearly indicating the energy efficiencies of each fixture type[.][,] and conformance with 42 U.S.C. 8253(f) "Use of Energy and Water Efficiency in Federal Buildings, September 2012", and DOE’s Facility Energy Management Guidelines and Criteria for Energy and Water Evaluations in Covered Facilities,

http://www1.eere.energy.gov/femp/technologies/procuring_eeproducts.html

1.3 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-01 Preconstruction Submittals

Material, Equipment, and Fixture Lists[; G[, [____]]]

SD-02 Shop Drawings

Exit Lighting Units[; G[, [____]]]

Exit Lighting Units Outline Drawings[; G[, [____]]]

SD-03 Product Data

Exit Lighting Units[; G[, [____]]]

Contemporary Fixtures[; G[, [____]]]

Accessories[; G[, [____]]]

SD-06 Test Reports

Operational Tests[; G[, [____]]]

SD-07 Certificates

Energy Efficiencies[; G[, [____]]]

1.4 WARRANTY

Provide a [five] [_____] year warranty for all components.

PART 2 PRODUCTS

2.1 SYSTEM DESCRIPTION

Provide emergency exit lighting fixtures conforming to UL 924, NFPA 101, and as specified.

Provide exit lighting fixtures completely assembled with wiring and mounting devices, ready for installation at the locations indicated. Ensure ceiling-mounted fixtures are designed to be supported independent of the ceiling and equipped with lamps.

Provide exit lighting fixtures having efficiencies in accordance with the recommended levels specified in DOE LT-4.

2.2 COMPONENTS

2.2.1 Contemporary Fixtures

Provide contemporary exit lighting fixtures having a fixture body with edge-lighted plastic exit-sign panels, face trims, lamps, lampholders, and mounting brackets for top, back, and end mounting to walls and ceilings in accordance with NFPA 101, as indicated.

Provide [single] [double] face fixtures with thin wedge-shaped vertical cross sections. Ensure top edge of double-face fixtures is not more than [70] [_____] millimeter [2-3/4] [_____]-inches thick, and top edge of single-face fixtures is not more than [50] [_____] millimeter [2] [_____]-inches thick. Provide double-face fixtures with a bottom edge of not more than [45] [_____] millimeter [1-3/4] [_____]-inches thick, and single-face fixtures not more than [32] [_____] millimeter [1-1/4] [_____]-inches thick.

Provide plastic sign panels with acrylic with [green] [_____] translucent letters and directional arrows, as required. Ensure letters [150] [_____] millimeter are [6] [_____]-inches high with stroke not less than [30] [_____] millimeter [3/4] [_____]-inch wide.

Provide [anodized sheet aluminum with a matte finish] [_____] wireway cover and plastic sign backup plate, with face trims formed from [sheet

aluminum and shall have a brushed-satin finish] [_____]. [Ensure fixture bodies formed from sheet steel are not less than [1] [_____] millimeter [20] [_____] gage and painted.]

Provide plastic sign panels which are edge-lighted from the top with at least two low-voltage miniature incandescent lamps that will illuminate the plastic sign panels and floor. Wire exit signs for two-circuit service at [120] [277] volts and include a diode circuit that provides a minimum of [50,000] [_____] hours of lamp life.

Provide mounting plates and brackets formed from sheet aluminum or plate with a brushed-satin finish, not less than [115] [_____] millimeter [4-1/2] [_____]-inches square and designed to secure the fixture to a [100] [_____] millimeter [4] [_____]-inch square outlet box.

2.2.2 Emergency Power Loss Exit Lighting Units

Provide each self-contained unit with an automatic power failure device, test switch, pilot light, and fully automatic high/low solid-state trickle charger in a self-contained power pack. Provide with [sealed-wet] [gelled-electrolyte] type battery, maintenance-free for a period of not less than [10] [_____]-years under normal operating conditions. Ensure normal operation is with [120] [277]-volts. [Connect to Emergency lighting panel.]

[2.2.3 Light Emitting Diodes (LEDs) Exit Lighting Fixtures

Provide [single] [double] faced exit lighting fixtures with sheet metal enclosures, including frames, battery charger, batteries, [green] [red] light emitting diodes (LEDs), and mounting brackets with mounting plates suitable for securing the fixture to a 100 millimeter 4-inch outlet box. Ensure fixture features include:

a. Continuous charging

b. Automatic switching to standby batteries upon loss of power

c. Overload protection

d. Short circuit protection

e. Test switch

f. Low voltage disconnect

g. Switch controlled left and right LED directional arrows

h. Field connectable to operate from [115] [277] volts

i. Brightness not less than ten (10) candela candlepower

Provide unit battery system with minimum operating time of three (3) hours for double faced fixtures and seven (7) hours for single faced fixtures.

][2.2.4 Self Luminous Exit Signs

Provide internally illuminated non-electric (light source is independent of electrical power and is generated by the action of tritium gas on a phosphorescent material) units, conforming to UL 924, 29 CFR 1910, Section

37, Part (G), Subparts (6) and (7), and NFPA 101, Section 5-10.3.3.. Ensure signs are licensed by the United States Nuclear Regulatory Commission with a 20 year normal use guarantee for integrity and performance.

2.2.4.1 Enclosure

Provide units with[3 millimeter 1/8-inch high impact ABS plastic][0.5 millimeter 0.20-inch thickness metal], assembled tamperproof enclosure, framed with 1.3 millimeter 0.50-inch thick extruded aluminum.

Ensure each sign has a permanently attached [metal] [plastic] nameplate bearing the Manufacturer's Name and Address and Date of Manufacture (in addition to information required by listed authorities.

2.2.4.2 Face

Ensure each face of the sign has a non-colored translucent panel covered by an opaque 3 millimeter 1/8 inch red ABS plastic stencil bearing the word "EXIT" in 150 by 20 millimeter 6 by 3/4-inch letters and including a universal directional arrow which indicates the direction of the exit (left, right or both ways).

2.2.4.3 Illumination

Provide sign which has illumination by means of sealed glass tubes, internally phosphor coated and filled with tritium gas, with tubes securely bonded to the enclosure and cushioned against mechanical shock. Ensure luminous areas have a minimum initial brightness of 0.51 candela per square meter 0.15-foot lamberts and a guaranteed minimum brightness after ten years of 0.27 candela per square meter 0.080-foot lamberts.

2.2.4.4 Mounting Accessories

Supply each sign with tamperproof hardware for wall mounting; edge on for double face, flat for single face or double face for ceiling mount.

]PART 3 EXECUTION

3.1 INSTALLATION

Connect fixtures to the main panel bus through overcurrent protection. Use emergency lighting panel where available.

3.2 FIELD QUALITY CONTROL

3.2.1 Tests

Field test exit lighting to demonstrate satisfactory operation in the presence of the Contracting Officer.

Perform and submit operational tests in accordance with referenced standards in this section.

-- End of Section --