

FED-STD-H28/15A
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FEDERAL STANDARD
SCREW-THREAD STANDARDS FOR FEDERAL SERVICES
SECTION 15
ROLLED THREADS FOR SCREW-SHELLS FOR ELECTRIC
LAMPHOLDERS AND LAMP BASES

This standard was approved by the Assistant Administrator,
Office of Federal Supply and Services, General Services
Administration, for the use of all Federal Agencies.

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This Federal Standard is issued in loose-leaf form to permit the insertion or removal of new or revised pages and sections.

All users of Federal Standards should keep them up to date by inserting revised or new pages as issued and removing superseded and canceled pages.

New and revised pages will be issued under Change Notices which will be numbered consecutively and will bear the date of issuance. Change Notices should be retained and filed in front of the standard until such time as they are superseded by a reissue of the entire standard.

FOREWORD

This section was developed to provide standard rolled threads for screw-shells of electric lampholders and lamp bases for the Federal Services. National standards were originally published in 1915 in Bulletin No. 1474 of the American Society of Mechanical Engineers (ASME) entitled. "Rolled Threads for Screw Shells of Electric Sockets and Lamp Bases", which was a report of the ASME Committee on Standardization of Special Threads for Fixtures and Fittings. This document originally covered miniature, candelabra, medium and mogul lamp shell threads to which was added the intermediate lamp shell thread in 1927. The first issue of FED-STD-H28/15 presented data for these 5 threads and their gages.

FED-STD-H28/15A was prepared by the Defense Industrial Supply Center (DLA-IS) and incorporates the American National Standard, Specifications for Electric Lamp Bases and Holders—Screw-Shell Types, ANSI C81.10-1976. Significant changes from the previous issue include the following:

- (1) Added midget, mini-can and skirted medium lamp shell threads.
- (2) Added dimensions for finished lamp base screw-shells.
- (3) Updated thread dimensions and gage requirements for screw-shells.

SECTION 15 - Rolled Threads for Screw-Shells of Electric
Lampholders and Lamp Bases

1. Scope. This section provides the standards for rolled threads for screw-shells of electric lampholders and lamp bases, their gages and acceptability requirements.

2. Referenced documents.

2.1 Government publications. The issue of the following document in effect on the date of invitation for bids or request for proposal forms a part of this standard to the extent specified herein.

Federal standard.

FED-STD-H28/1 Nomenclature, Definitions and Letter Symbols for Screw
Threads

(Activities outside the Federal Government may obtain copies of Federal specifications, standards and commercial item descriptions as stated in the Index of Federal Specifications, Standards and Commercial Item Descriptions. The index, including cumulative bimonthly supplements issued during the year, is sold on a subscription basis by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

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2.2 Other publications. The following document forms a part of this standard to the extent specified herein. Unless a specific issue is identified, the issue in effect on date of invitation for bids or request for proposal shall apply.

American National Standard.

ANSI C81.10-1976 Specifications for Electric Lamp Bases and Holders - Screw-Shell Types

(Applications for copies should be addressed to the American National Standards Institute, 1430 Broadway, New York, NY 10018.)

3. Definitions. The terms applicable to this standard are defined in FED-STD-H28/1.

4. General requirements. Not applicable.

5. Detailed requirements.

5.1 Form of thread. The thread form is composed of two circular segments tangent to each other and of equal radii as shown in Figure 15.1.

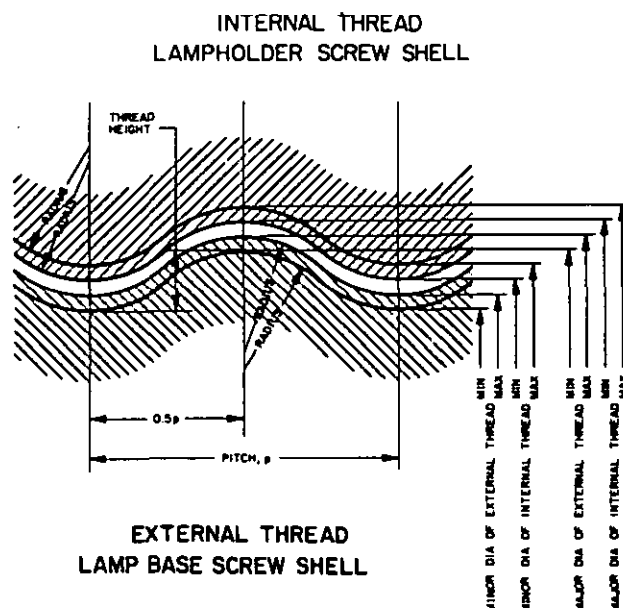


FIGURE 15.1 ILLUSTRATION OF THREADS FOR ELECTRIC LAMP BASES AND LAMP HOLDERS

5.2 Lamp base screw-shells.

5.2.1 Data for lamp base screw-shells, which are used on lamp bases, plug type fuses (medium lamp base thread), and similar devices, shall be in accordance with the applicable standard sheets in ANSI C81.10-1976. These data are tabulated in Table XV.1 for reference. For each screw base, the lamp base thread and applicable standard sheet appear in Table XV.2.

5.2.2 Gaging for lamp screw base conformance, including conformance of threads, shall be in accordance with ANSI C81.10-1976 Part 1 and the applicable standard sheets in ANSI C81.10-1976 Part 2. These gages and the applicable standard sheets are tabulated in Table XV.2 for reference.

5.3 Lampholder screw-shells.

5.3.1 Data for lampholder screw-shells, which are used for lampholders, fuseholders (medium lampholder thread), and similar devices, shall be in accordance with the applicable standard sheets in ANSI C81.10-1976. These data are tabulated in Table XV.3 for reference. For each lampholder, the lampholder thread and applicable standard sheet appear in Table XV.4.

5.3.2 Gaging for lampholder screw-shell conformance, including conformance of threads, shall be in accordance with ANSI C81.10-1976 Part 1 and the applicable standard sheets in ANSI C81.10-1976 Part 2. These gages and the applicable standard sheets are tabulated in Table XV.4 for reference.

MILITARY INTERESTS:

Custodians

Army - AR
Air Force - 11

Review Activities

Army - CR, ME, MI
Air Force - 82
DLA - GS

User Activities

Navy - EC, OS, SH, YD

CIVIL AGENCY COORDINATING ACTIVITY:

GSA-FSS

PREPARING ACTIVITY:

DLA - IS

(DoD Project THDS -0046)

TABLE IV.1 ROLLED THREADS FOR LAMP BASE SCREW-SIZES. SEE 5.2.1.

THREAD DESIGNATION	THREADS PER INCH	PITCH, P	HEIGHT (DEPTH) OF THREAD	RADIUS, r	UNFINISHED				ON FINISHED LAMP			
					MAJOR DIA, d		MINOR DIA, d ₁		MAJOR DIA, d		MINOR DIA, d ₁	
					MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
Midgait lamp base thread	25.4	0.07937	0.011	0.0115	0.210	0.206	0.188	—	0.210	0.206	0.188	—
Miniature lamp base thread	14	0.07143	0.020	0.0210	0.375	0.365	0.355	—	0.375	0.365	0.355	—
Mini-Can lamp base thread	14	0.07143	0.020	0.0210	—	—	—	—	0.425	0.415	0.395	—
Candelabra lamp base thread	10	0.10000	0.025	0.0312	0.465	0.455	0.415	—	0.468	0.455	0.418	—
Intermediate lamp base thread	9	0.11111	0.027	0.0353	0.651	0.641	0.597	—	0.655	0.641	0.601	—
Medium lamp base thread	7	0.14286	0.033	0.0469	1.071	1.029	0.971	—	1.043	1.029	0.977	—
Skirted medium lamp base thread	7	0.14286	0.033	0.0469	1.042	1.029	0.976	—	1.042	1.029	0.976	—
Mogul lamp base thread	4	0.25000	0.050	0.0906	1.555	1.542	1.455	—	1.560	1.542	1.460	—

TABLE IV.2 ELECTRIC LAMP SCREW BASE REQUIREMENTS. SEE 5.2.1 AND 5.2.2.

SCREW BASE	LAMP BASE THREAD	ANSI C81.10 STD SHEET FOR BASE	APPLICABLE GAGES	ANSI C81.10 STD SHEETS FOR GAGES
Midgait (IEC E5)	Midgait	1-1*	G0 thread gage NOT-G0 plain gage	3-1* 3-2*
Miniature (IEC E10/12)	Miniature	1-3*	G0 thread gage NOT-G0 plain gage	3-11* 3-13*
Mini-Can	Mini-can	1-5*	G0 thread gage	3-21*
Candelabra (IEC E12/15)	Candelabra	1-7*	G0 contact (plain) gage G0 thread gage NOT-G0 plain gage	3-31* 3-32* 3-33*
Intermediate (IEC E17/20)	Intermediate	1-9*	G0 contact (plain) gage G0 thread gage NOT-G0 plain gage	3-51* 3-52* 3-53*
Single contact medium (IEC E26/24) Double contact medium (IEC E26d)	Medium	1-11* 1-13*	G0 contact (plain) gage-single & double G0 thread gage-finished lamp G0 thread gage-unmounted base NOT-G0 plain gage Double contact base gages	3-61* 3-62* 3-64* 3-63* 3-65* 3-66*
Skirted medium (E26/50 x 39)	Skirted medium	1-15*	G0 contact (plain) gage G0 thread gage NOT-G0 plain gage	3-67* 3-68* 3-63*
Mogul (IEC E99)	Mogul	1-17*	G0 contact (plain) gage G0 thread gage NOT-G0 plain gage	3-81* 3-82* 3-83*
Position-oriented Mogul (IEC E799)	Mogul	1-19*	G0 contact (plain) gage G0 thread gage NOT-G0 plain gage	3-93* 3-94* 3-83*

* Third number indicates the issue number - latest issue applies.

TABLE XV.3 ROLLED THREADS FOR LAMPHOLDER SCREW SHELLS. SEE 5.3.1.

THREAD DESIGNATION	THREADS PER INCH	PITCH, P	HEIGHT (DEPTH) OF THREAD	RADIUS, R	MAJOR DIA, D		MINOR DIA, D ₁	
					MIN	MAX	MIN	MAX
Midget lampholder thread	25.4	0.07937	0.011	0.0115	0.212	0.216	0.190	0.194
Miniature lampholder thread	14	0.07143	0.020	0.0210	0.3775	0.3875	0.3375	0.3435
Mini-Can lampholder thread	14	0.07143	0.020	0.0210	0.4275	0.4375	0.3875	0.3935
Candelabra lampholder thread	10	0.10000	0.025	0.0312	0.470	0.476	0.420	0.426
Intermediate lampholder thread	9	0.11111	0.027	0.0353	0.657	0.664	0.603	0.610
Medium lampholder thread	7	0.14286	0.033	0.0469	1.045	1.053	0.979	0.987
Mogul lampholder thread	4	0.25000	0.050	0.0906	1.565	1.577	1.465	1.477

TABLE XV.4 SCREW-SHELL REQUIREMENTS FOR ELECTRIC LAMP HOLDERS. SEE 5.3.1 AND 5.3.2.

LAMP HOLDER	LAMP HOLDER THREAD	ANSI C81.10 STD SHEET FOR LAMP HOLDER	APPLICABLE GAGES	ANSI C81.10 STD SHEETS FOR GAGES
Midget (IEC E5)	Midget	2-1-*	GO thread gage NOT-GO plain gage	3-6- 3-7-*
Miniature (IEC E10)	Miniature	2-3-*	GO contact (threaded) gage GO thread gage NOT-GO plain gage	3-15- 3-16- 3-17-*
Mini-Can	Mini-Can	2-5-*	GO contact (threaded) gage	3-23-*
Candelabra (IEC E12)	Candelabra	2-7-*	GO contact (threaded) gage GO thread gage NOT-GO plain gage	3-35- 3-36- 3-37-*
Intermediate (IEC E17)	Intermediate	2-9-*	GO contact (threaded) gage GO thread gage NOT-GO plain gage	3-55- 3-56- 3-57-*
Single contact medium (IEC E26)	Medium	2-11-*	GO contact (threaded) gage GO thread gage NOT-GO plain gage	3-71- 3-74- 3-76-*
Double contact medium (IEC E26d)	Medium	2-13-*	GO contact (threaded) gage for metal-shell paper lined holder GO contact (threaded) gage for porcelain or molded holder GO thread gage NOT-GO plain gage GO/NOT-GO contact (plain) gage for radial position of intermediate contact	3-72- 3-73- 3-75- 3-76-*
Mogul (IEC E29)	Mogul	2-17-*	GO contact (threaded) gage GO thread gage NOT-GO plain gage	3-85- 3-86- 3-87-*
Position-oriented Mogul	Mogul	2-19-*	GO contact (threaded) gage GO thread gage NOT-GO plain gage Insertion clearance gage	3-96- 3-98- 3-97-*

* Third number indicates the issue number - latest issue applies.

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