

INCH-POUND

A-A-50545  
 September 30, 1991  
 SUPERSEDING  
 MIL-R-17772C(YD)  
 17 December 1982

## COMMERCIAL ITEM DESCRIPTION

RADIATOR, HEATING, BASEBOARD PANEL,  
 STEAM AND HOT WATER

This Commercial Item Description (CID) is approved by the  
 Commissioner, Federal Supply Service, General Services Administration,  
 for the use of all Federal agencies.

1. Abstract. This CID covers baseboard panel radiators of the combined  
 radiation and convection heating type for use on hot water or two-pipe steam  
 system. These baseboard heating radiators are intended for the heating of  
 barracks, warehouses, dining halls, and residential and office buildings.  
 Assembly sizes (lengths) are as follows:

Size 1	Assembly length	1 foot	(0.30 meter (m))
Size 1-1/2	" "	1-1/2 feet	(0.46 m)
Size 2	" "	2 feet	(0.61 m)
Size 2-1/2	" "	2-1/2 feet	(0.76 m)
Size 3	" "	3 feet	(0.91 m)
Size 3-1/2	" "	3-1/2 feet	(1.07 m)
Size 4	" "	4 feet	(1.22 m)
Size 4-1/2	" "	4-1/2 feet	(1.37 m)
Size 5	" "	5 feet	(1.52 m)
Size 5-1/2	" "	5-1/2 feet	(1.68 m)
Size 6	" "	6 feet	(1.83 m)

## 2. Salient characteristics.

2.1. Description. The baseboard panel radiator shall be an assembly of  
 cast-iron or nonferrous finned tube heating element with die-formed sheet metal  
 enclosures. The radiator shall be for use with hot water or steam, as  
 specified (see 6.1), and shall be designed for installation along the base of  
 walls or for replacing conventional baseboard molding. The length of each

Beneficial comments (recommendations, additions, deletions) and any pertinent  
 data which may be of use in improving this document should be addressed to:  
 Commanding Officer (Code 156), Naval Construction Battalion Center, 1000 23rd  
 Avenue, Port Hueneme, CA 93043-4301.

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assembly shall be specified (see 6.1). The radiator shall include necessary component parts, including panel accessories, for a complete installation. Suitable fasteners shall be provided by the installing contractor.

2.2 Standard compliance. All radiators shall meet the requirements of the IBR Testing and Rating Code for Baseboard Type Radiation of The Hydronics Institute.

2.3 Design. The radiators will be designed to withstand, without deformation, leakage or damage, a minimum pneumatic pressure of 45 pounds per square inch gage (psig) (310.26 kilopascals (kPa) (gage)), or a minimum hydrostatic pressure of 60 psig (413.68 kPa (gage)).

2.4 Capacity rating. The heat emission steam or hot water capacity shall be as specified (see 6.1). The ratings shall be an approved IBR rating.

2.5 Construction. The radiator shall be of the combined radiant and convector type with suitable openings at top and bottom of the assembly. A removable enclosure cover shall be provided for access to vents, valves, and pipe connections. The back of the cast-iron section shall have finned surfaces cast integrally with the steam or hot water distribution section. Sections shall be in such lengths as to provide for radiator assemblies in linear multiples of 1 foot (0.30 m), the shortest length to be not less than 2 feet (0.61 m). The overall height of each assembly shall not exceed 12 inches (304.80 millimeters (mm)), and depth shall not exceed 4 inches (101.60 mm).

2.6 Dampers. When specified (see 6.1), full-length dampers formed from sheet steel for nonferrous type baseboard, with provisions for adjustment in any position between fully opened and closed, shall be provided. Dampers over 5 feet (1.52 m) long shall be in multiple sections. When dampers provided are an integral component of the unit's enclosure, the dampers shall be constructed of not less than 20 gage steel. When dampers provided are within the enclosure, the dampers shall be constructed of not less than 20 gage steel.

2.7 Connections. Push nipples connecting the cast-iron sections shall be not less than 0.750-inch (19.05 mm) in diameter and connections shall be at both the top and bottom of the sections. The assembled sections shall be secured with tie bolts. Nonferrous heating elements shall have tubing sized for standard sweat solder type copper fittings for field joining.

2.8 Tappings. The end of cast-iron sections shall have 0.750-inch (19.05 mm) tappings directly opposite the bottom nipple ports for supply and return connections. Air vent tappings at top of each end section shall be 0.125-inch (3.18 mm).

2.9 Resistance to water flow. The pressure drop per foot of cast-iron heating elements, exclusive of entrance and exit losses, shall not exceed that of a 0.750-inch (19.05 mm) pipe 7.5 inches (190.50 mm) long. The pressure drop of a nonferrous type heating element shall be as shown in the IBR rating data.

2.10 Commercial manual. When specified (see 6.1), a commercial off-the-shelf manual with parts list shall be provided for each baseboard heating radiator.

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3. Regulatory requirements. The offerer/contractor is encouraged to use recovered materials in accordance with Public Law 94-580 to the maximum extent practical.

4. Quality assurance.

4.1. Contractor certification. The contractor shall certify and maintain substantiating evidence that the product offered meets the salient characteristics of this CID and that the product conforms to the producer's own drawings, specifications, standards, and quality assurance practices. The Government reserves the right to require proof of such conformance prior to first delivery and thereafter as may be otherwise provided for under the provisions of the contract.

4.2. Metric Products. Products manufactured to metric dimensions will be considered on an equal basis with those manufactured using inch-pound units, provided they fall within specified tolerances using conversion tables contained in the latest revision of FED-STD-376, and all other requirements of this document are met. If a product is manufactured to metric dimensions and those dimensions exceed the tolerances specified in the inch-pound units, a request should be made to the specification preparing activity for changes to this document.

5. Packaging. Unless otherwise specified in the contract or order (see 6.1), the preservation, packing, and marking shall be in accordance with ASTM D 3951.

6. Notes.

6.1 Ordering data. Acquisition documents should specify the following:

- a. Title, number, and date of this CID.
- b. Whether radiators will be used with hot water or steam and assembly length required (see 1 and 2.1).
- c. Steam or hot water capacity (see 2.4).
- d. When damper shall be provided (see 2.6).
- e. When commercial manual shall be provided (see 2.10).
- f. When packaging and marking are to be other than as specified (see 5).

6.2 Document sources.

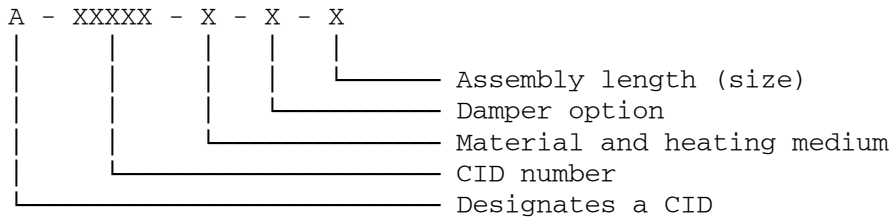
FED-STD-376 is available from Standardization Documents Order Desk, Bldg. 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.

ASTM D 3951 is available from ASTM, 1916 Race Street, Philadelphia, PA 19103-1187.

IBR Standard, "IBR Ratings for Baseboard Radiation and Finned Tube (Commercial) Radiation," is available from the Hydronics Institute (IBR), P.O. Box 218, 35 Russo Place, Berkeley Heights, NJ 07922.

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6.3 CID-based-part identification numbers. The following part identification numbering procedure is for Government purposes and does not constitute a requirement for the contractor.



6.3.1 Material and heating medium. The material of construction and the heating medium of the baseboard radiator assemblies are identified by a single number (see Table I).

TABLE I. Code number to material and heat medium.

Heating medium	Material of construction	
	Cast iron	Sheet metal enclosure-fin tube
Steam	1	2
Hot water	3	4

6.3.2 Damper. The damper option of the baseboard radiator assemblies is identified as follows:

With damper	-----	1
Without damper	-----	0

6.3.3 Assembly length (size). The length (size) of various baseboard assemblies is identified by a single alphabetic character (see table II).

TABLE II. Code number to length (size).

Size	Length		Code
1	1 foot	(0.30 m)	A
1-1/2	1-1/2 feet	(0.46 m)	B
2	2 feet	(0.61 m)	C
2-1/2	2-1/2 feet	(0.76 m)	D
3	3 feet	(0.91 m)	E
3-1/2	3-1/2 feet	(1.07 m)	F
4	4 feet	(1.22 m)	G
4-1/2	4-1/2 feet	(1.37 m)	H
5	5 feet	(1.52 m)	J
5-1/2	5-1/2 feet	(1.68 m)	K
6	6 feet	(1.83 m)	L

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MILITARY INTERESTS:

Custodians

Navy - YD1

Air Force - 99

Review Activities

Army - CE

DLA - CS

CIVIL AGENCY COORDINATING ACTIVITY:

GSA - FSS

PREPARING ACTIVITY:

Navy - YD1

(Project 4520-0342)