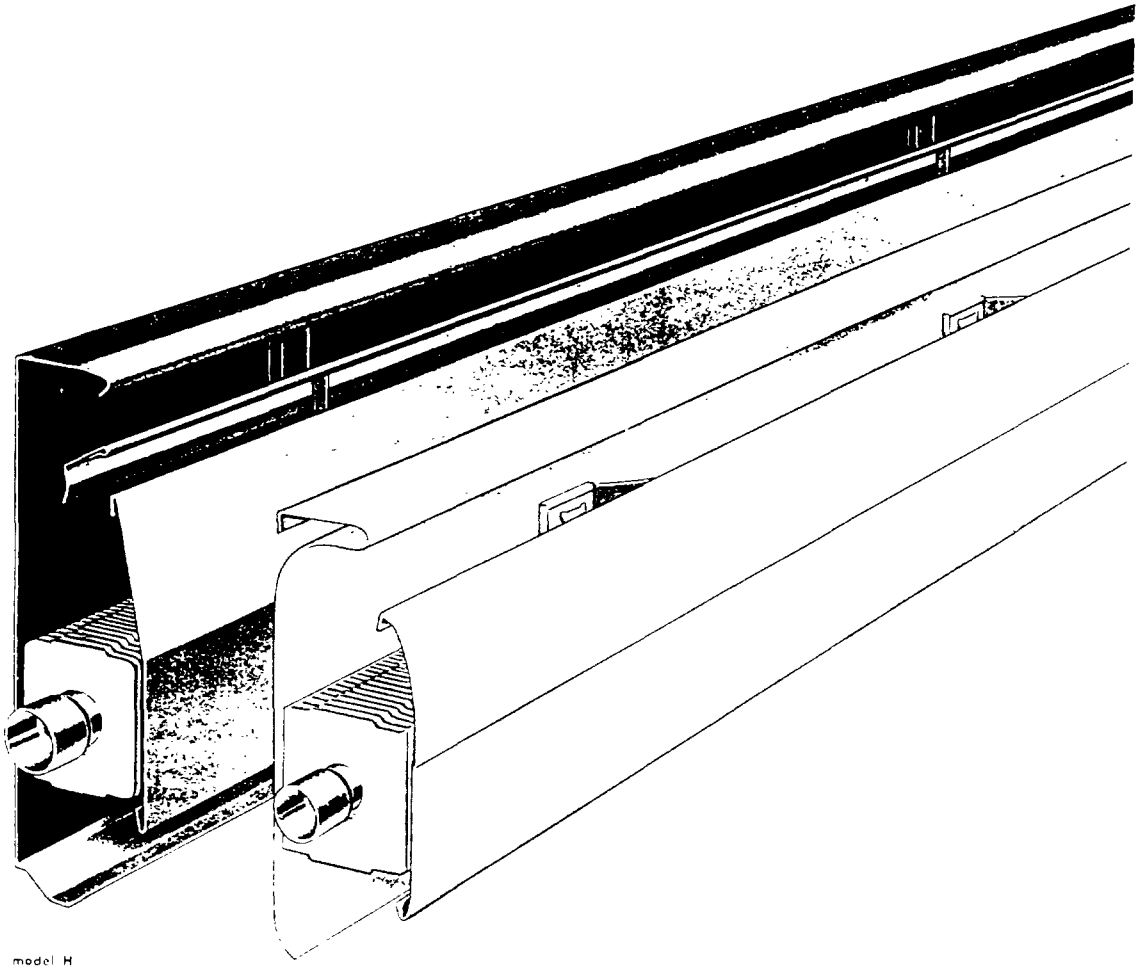
PLAINTIFF'S EXHIBIT

ASI-793



model H

model L

model H

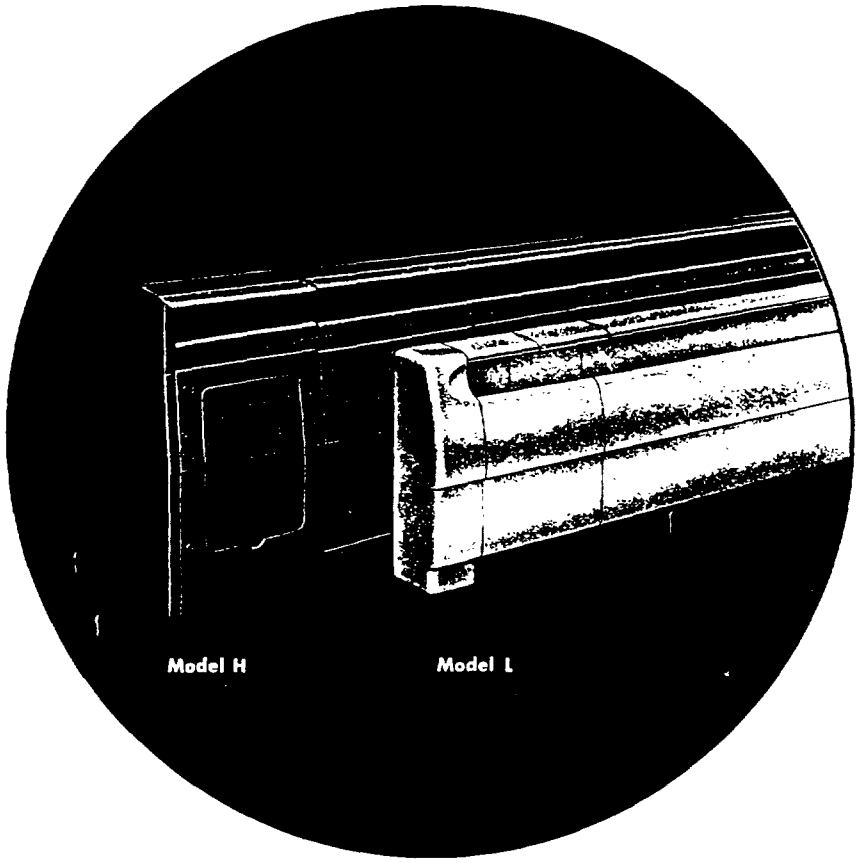
Heatrim

non-ferrous baseboard heating

23264

AMERICAN-Standard

hot water heat



▶ Heatrim — new non-ferrous baseboard panels by American-Standard

■ **New Model L Heatrim Baseboard Panels** by American-Standard are especially designed for quick, easy, low-cost installation while assuring the best in quality hydronic■ heating comfort

The smart, low-styled, 8-inch steel enclosure is ideal for installation under low windows, along glass walls and other height-restricted areas, as well as for long runs. Extending only 3 inches from the wall, Model L Heatrim takes up a minimum of space and may be recessed to depth of plaster.

Everything about the new Model L is designed to satisfy the homeowner, installer and builder. For the homeowner, Model L Heatrim offers beauty of design, decorating freedom and quiet, efficient operation.

For the installer, special features such as the multi-purpose, snap-in type support bracket, newly designed element slide cradle and handsome accessories that simply snap into place, as well as a practical variety of lengths — 4, 5, 6 and 8-foot — speed up installation and reduce costs. And the newly designed fins provide ease and safety in handling

In addition to the smart new design and versatility of Model L Heatrim, the builder will appreciate the attractive, white, satin-like prime coat, which may be easily painted for added decorating harmony, or left as is for economy in time and expense usually required for finishing

When you select Model L Heatrim, you may choose either the Model N85 (¾-inch) or Model 110 (1-inch) element. Either combination gives you two effectively different Heatrim models for a variety of uses. (See special element design features on next page.)

■ Hydronic is the science of heating and cooling with water

■ **New Model H Heatrim Baseboard Panels** by American-Standard, as with the Model L, provide easy, low-cost installation and all the comfort advantages of modern hydronic heating.

Model H Heatrim has a 10¼-inch high steel enclosure which provides high-heat capacity, making it particularly well suited to jobs where more than average heat is required and/or where installation area is limited. Model H Heatrim may be installed against the wall, or recessed to depth of plaster.

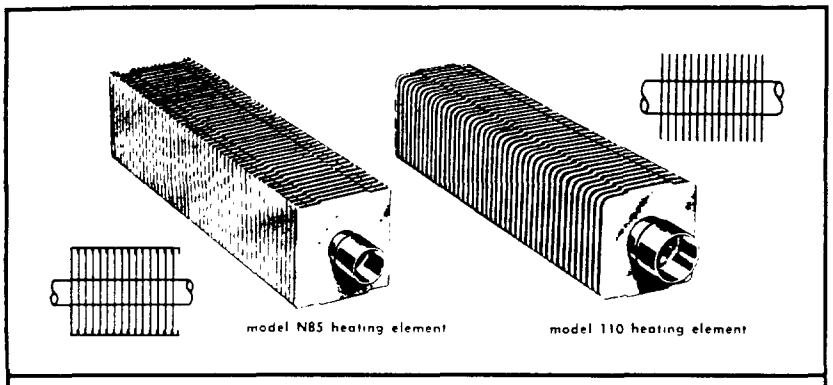
Homeowners will find the trim, modern lines and compact design of Model H Heatrim panels pleasant to live with and completely compatible for any decorating scheme. They especially will enjoy the quiet, clean, draft-free warmth these panels provide.

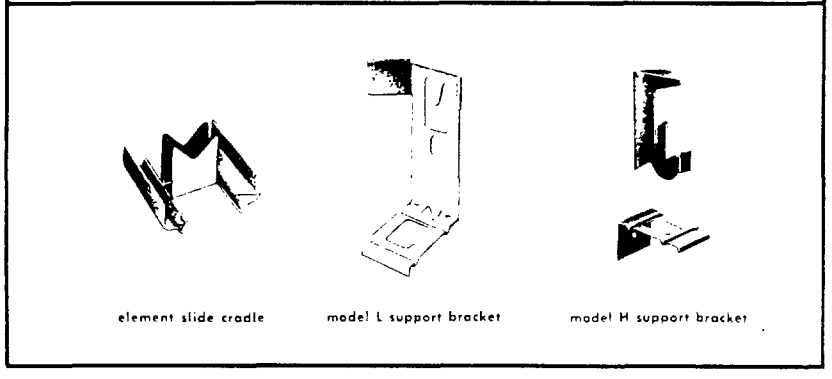
Installers will find Model H Heatrim easy and economical to install. It's available in a variety of convenient 4, 5, 6 and 8-foot panel lengths. They newly designed elements, with no sharp edges, facilitate handling on the job. Other features that provide for more efficient operation and installation are a newly designed support bracket and a special element slide cradle. Model H Heatrim is finished in a gray prime coat for easy painting or finishing.

As with Model L Heatrim panels, a choice of two heating elements is available. Model N85 (¾-inch) or Model 110 (1-inch) can be installed with equal ease and with the same basic accessory items.

With two enclosures—the Model L and Model H—and a choice of two heating elements, American-Standard gives you four completely new Heatrim models for every type installation.

two heating elements of evolutionary design





■ **Model N85 heating element** features a nominal ¾-inch copper tube on which 0.008-inch thick by 2⅝-inch square aluminum fins are collar bonded, 52 per lineal foot. These heat-reflecting fins are of a channel-edge design with one fin edge tightly butted against another. This special butt-edge design **eliminates** expansion and contraction noises. This design also results in a stronger finned-tube element with no sharp edges, making it easier and safer to handle. Output is increased because of the improved flue effect created by the channel edge design on both sides of the element. Model N85 element may be used either in the Model H or Model L enclosure and is shipped in 4, 5, 6 and 8-foot lengths.

■ **Model 110 heating element** features a nominal 1-inch copper tube with 0.032-inch thick by 2⅝-inch square aluminum fins, 48 per lineal foot. Fins are edge-bonded to tubing for permanency. All fin corners are rounded for convenience and safety in handling, plus increased rigidity. Both Models N85 and 110 heating elements are furnished with one end expanded to receive the unexpanded end of another. This permits sweating the elements **without** the use of couplings, which saves time and material. Model 110 heating element may be used either in Model H or Model L enclosure and is shipped in 6-foot lengths.

■ **Element slide cradle**, formed of terne plate for lubricant slickness, fits into a duo-grooved bracket track, providing noiseless lineal expansion of heating element and installation ease.

■ **Model L snap-in support bracket** slips into slots provided on back plate. Formed of sturdy, one-piece steel construction, it's installed in minimum time with no tools. Bracket provides both support for front panel and track for heating element.

■ **Model H hanger bracket** is spot welded on back plate, which eliminates one step in installation. Bracket is of sturdy, two-piece steel construction. Additional brackets may be ordered if required. They are attached to back plate with screws.

two attractive encl

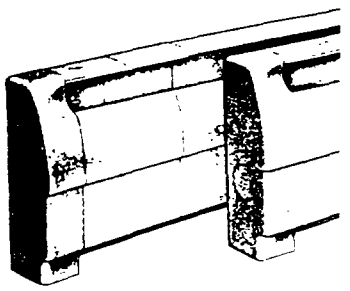
■ **Model L valve enclosure** conc piping, fittings and floor holes. The snap front cover is quickly removed with the aid of tools for easy access to va air vent or balancing fitting. The 1½-i die-formed end section permits remova front cover without interference from w en baseboard on the adjacent wall.

■ **Model L end cover** is used when a valve enclosure is not required. The slides over the entire enclosure, making installation firm and sturdy. A knockou provided to clear either ¾-inch or 1- copper tubing.

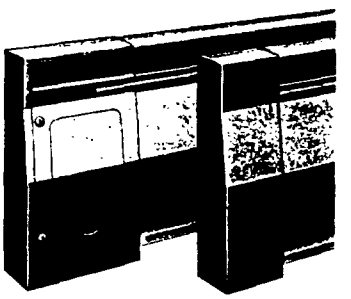
■ **Model L corner covers** are alik function to Model H corner covers require no tools to install, and the pieces can be easily removed for acces corner connections. Outside corner co consist of two pieces—a top piece slides over top of back plate, and a cu front piece that connects the enclosure panels. Inside corner covers also consi two pieces—an inverted corner piece attaches to the wall and holds top of plate, and a front piece that snaps enclosure front panels. Corner covers enclosure components are perfectly mat for utmost ease and accuracy in asse and installation.

■ **Model L telescopic and jo pieces**. A 14-inch long telescopic p breeches openings up to 12½ inches tween Model L Heatrim panels—elimir the need for costly, on-the-job encl cutting. Model L telescopic piece consis two parts—back plate and front encl piece. Made of steel and formed to m enclosure parts, it is a time and work-s on the job. Joining pieces (not shown) vide a neat, attractive cover over joints are furnished with every 4, 5, 6 and 8 length of Heatrim.

es in two heights—model L, 8"; model H, 10"



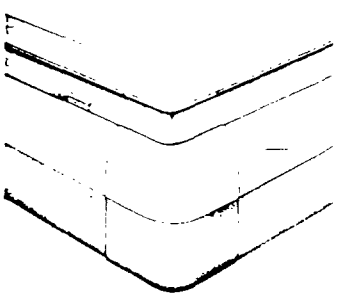
model L valve enclosure and end cover



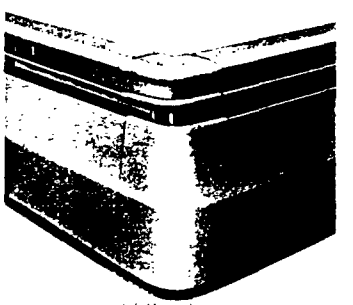
model H valve enclosure and end cover

■ **Model H valve enclosure** hides piping, fittings and floor holes. The entire front plate is removed by loosening two screws, permitting full clearance for making sweat connections. A smartly designed, hinged door provides easy access to valve, air vent or balancing fitting.

■ **Model H end cover** is used whenever a valve enclosure is not required. A knock-out to clear either a ¾-inch or 1-inch copper tube is provided.

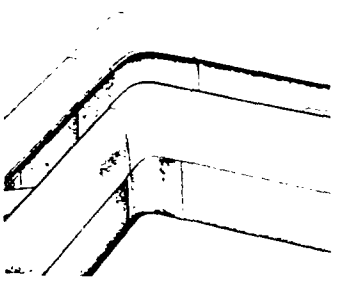


model L projecting corner cover

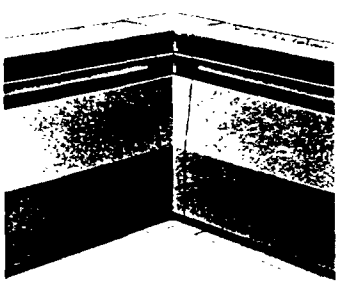


model H projecting corner cover

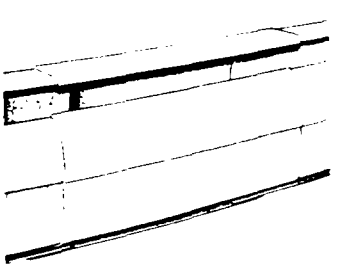
■ **Model H corner covers** are designed to provide an attractive, uninterrupted appearance around inside and outside corners. Outside corner covers consist of three pieces—a top piece that slides over top of back plate, a telescopic piece connecting air vanes and a front piece that connects the enclosure front panels. The inside corner cover, also consisting of three similar pieces, attaches in the same way. Model H corner covers are fabricated from sturdy sheet steel and are finished in a prime gray coat. Corner covers and enclosure components are perfectly matched for utmost ease and accuracy in assembly and installation.



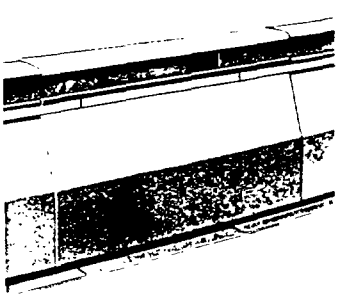
model L inverted corner cover



model H inverted corner cover



model L telescopic joining piece



model H telescopic joining piece

■ **Model H telescopic and joining pieces**—A 14-inch long telescopic piece fills in gaps up to 12½ inches between Model H Heatrim panels—eliminates the need for costly, on-the-job cutting of enclosure. Telescopic piece consists of three parts—back plate, air vane and front connecting piece. Made of steel and formed to match enclosure parts, it is a time and work-saver on the job.

Joining pieces (not shown), provide a neat, attractive cover over joints. They are furnished with every 4, 5, 6 and 8-foot length of Heatrim

1 – Newly designed support bracket – die-formed of heavy-gauge sheet steel, provides support for front panel and heating element. Snap-in type bracket on Model L; welded-on type bracket (two pieces) on Model H.

2 – Air vane – eliminates turbulence and improves chimney effect, which increases heat flow from Model H Heatrim panels.

3 – Damper – regulates flow of heat when full panel output is not needed or desired. Model L damper is of new spring-actuated design for positive, finger-trip operation – requires no knob or chain for opening or closing. Model H damper has knobbed slider assembly. Both dampers are located above heating element.

4 – Enclosure top and back panel – is formed of sturdy, one-piece sheet steel construction. Designed for most efficient flow of air, surfaces are smooth with no cracks or ridges to collect dust and lint.

5 – Enclosure front – fashioned of dent-resisting sheet steel, firmly snaps to support brackets without tools. It is easily removable for cleaning or installing damper.

6 – Air intake space – provides unrestricted air circulation for maximum heating efficiency. Enclosure front is located high enough above floor to permit easy cleaning underneath element.

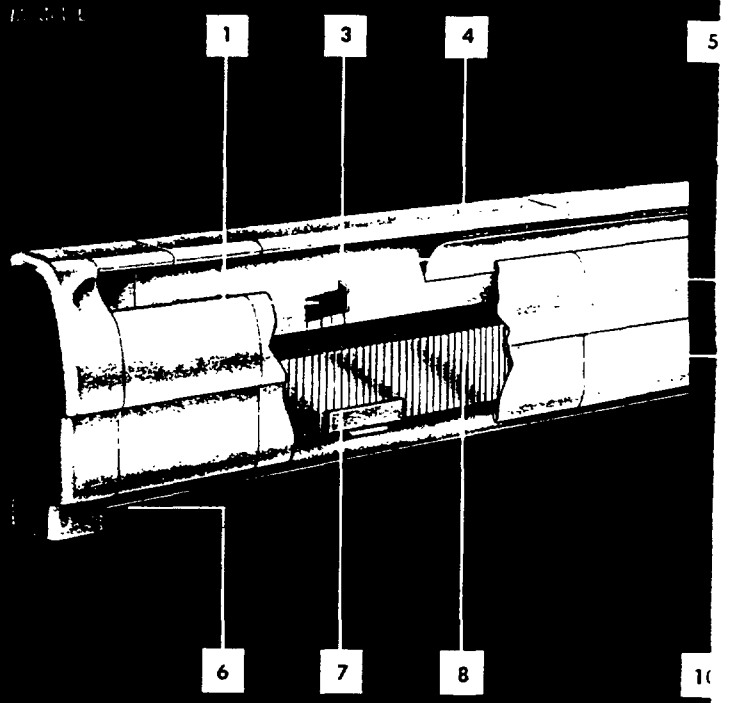
7 – Element slide cradle – formed of terne plate for lubricant slickness, rides in duo-grooved support bracket track and provides for noiseless lineal movement of heating element. Two brackets and support clips are furnished with each 4-foot and 5-foot length of panel and 3 with each 6-foot and 8-foot lengths.

8 – Model N85 heating element – consists of a nominal ¾-inch copper tube to which 2⅝-inch square by 0.008-inch thick aluminum fins of channel-edge design are collar bonded. Model N85 element may be used in either Model H or Model L enclosure.

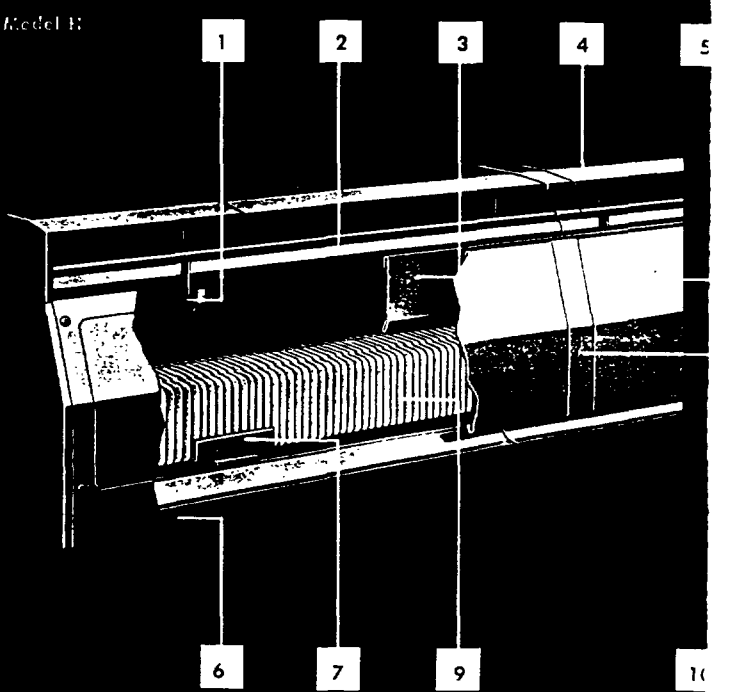
9 – Model 110 heating element – consists of a nominal 1-inch copper tube to which 2⅝-inch square, die-stamped fins (0.032-inch thick) are edge bonded. Model 110 element may be used in either Model H or Model L enclosure.

10 – Joiner covers – 1½ inches wide for Model H and 2 inches wide for Model L, provide neat, attractive covering for joints and are furnished with every 4, 5, 6 and 8-foot length of Heatrim.

Model L Heatrim enclosures and accessories are finished in a white, satin-like prime coat. Model H Heatrim enclosures and accessories are painted a prime gray coat.



Model H



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Heatrim ratings and data

Approved I=B=R water ratings – capacities Btu per lineal foot – 65° entering air

model number	water flow rate lbs/hr	element tube size	enclosure height	average water temperature–°F					
				220°	210°	200°	190°	180°	170°
N85-L	500	¾" (N85)	8" (L)	800	730	670	610	540	480
	2000			850	770	710	640	570	510
N85-H	500	¾" (N85)	10¼" (H)	970	890	820	740	670	600
	2000			1030	930	870	780	710	630
110-L	500	1" (110)	8" (L)	760	700	640	580	520	460
	2500			810	750	680	620	550	490
110-H	500	1" (110)	10¼" (H)	980	900	820	740	660	590
	2500			1050	960	870	790	700	630

Approved I=B=R water ratings shown above for American-Standard Heatrim Panels (with Model N85 element) are based on a water flow of 500 pounds per hour with a pressure drop of 0.047 inches of water per lineal foot and a water flow of 2000 pounds per hour with a pressure drop of 0.530 inches of water per lineal foot.

Heatrim panels (with Model 110 element) are based on a water flow of 500 pounds per hour with a pressure drop of 0.013 inches of water per lineal foot and a water flow of 2500 pounds per hour with a pressure drop of 0.220 inches of water per lineal foot. As allowed by the Institute of Boiler and Radiator Manufacturers (I=B=R) Testing and Rating Code for Baseboard Type of Radiation, 15% is added to water heat capacity.

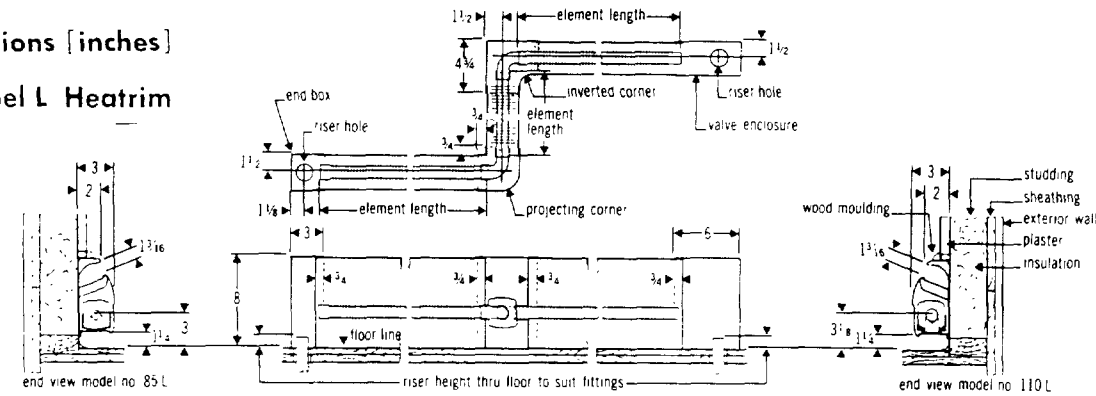
These ratings are based on active (finned) Heatrim lengths. Difference between active length and total length of the standard Heatrim heating elements is 2-11/32 inches for the Model N85 element and 2⅜ inches for the Model 110 element. Elements are unpainted.

Non-ferrous fins on Model N85 elements measure 2⅝ x 2⅝ x 0.008 inches, spaced 52 fins per foot. Non-ferrous fins on Model 110 elements measure 2⅝ x 2⅝ x 0.032 inches, spaced 48 fins per foot.

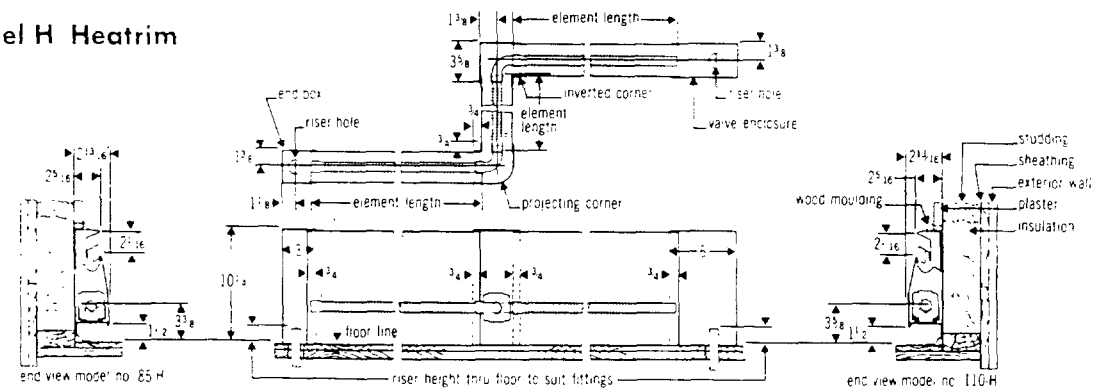
The use of I=B=R ratings at water flow rates of 2000 or 2500 pounds per hour is limited to installations where the water flow rate through the baseboard unit is equal to or greater than 2000 or 2500 pounds per hour. Where the water flow rate through the baseboard unit is not known, the I=B=R rating at the standard water flow rate of 500 per hour must be used.

dimensions [inches]

model L Heatrim



model H Heatrim



American-Standard Models L and H Heatrim Baseboard Panels are another development in hydronics, the science of heating and cooling with water.

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AMERICAN-Standard PLUMBING AND HEATING DIVISION
AMERICAN RADIATOR & STANDARD SANITARY CORPORATION
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Form No. 179.2