

Should you box those radiators?

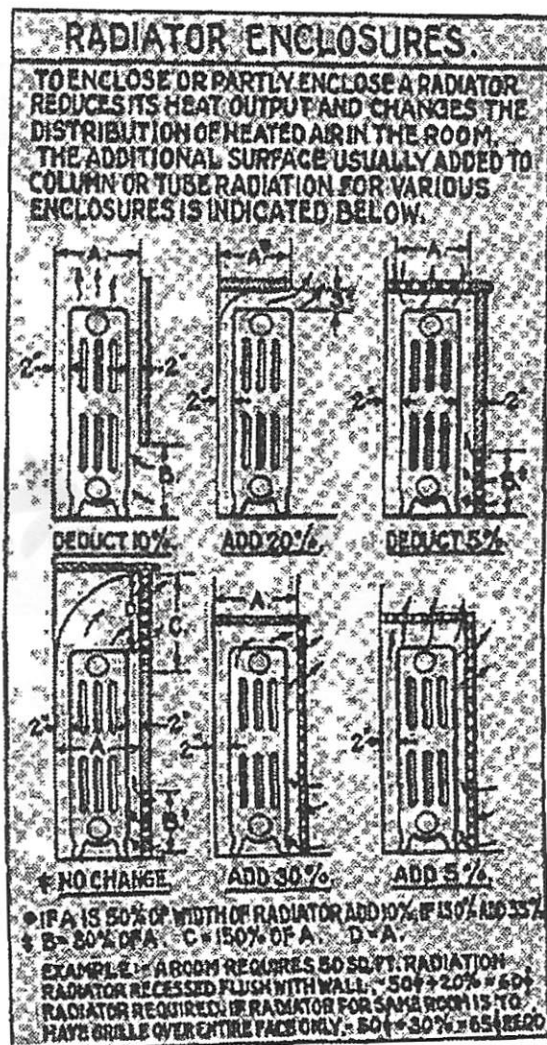
Let's take a look at radiator enclosures. Some people use them because they think old radiators are ugly (I sure don't). Others use them to protect children from burns (I recall touching a red-hot steam radiator when I was a kid growing up in New York City, but I only touched it once). Still others think that by using an enclosure, they'll get more heat from the radiator, and this will be true if it's the right enclosure. The folks who market enclosures often claim that their products will increase a radiator's output, but that's not always true. Often, the enclosure will decrease the output. It all depends on how the air flows through the enclosure.

Here's a chart from the old days that shows what's going on.

Let's look at each drawing, starting from the top, left to right. First, we have a radiator with a solid board in front of it. That board is going to create a chimney effect for this radiator. The air that comes in contact with the hot metal will quickly rise, drawing in cool air from the bottom of the board. Because more air will come in contact with more hot metal, the chart tells us to deduct 10%. What that means is that if you have a room that needs a radiator capable of putting out, say, 100 Square Feet E.D.R., you could use a radiator rated at 90 Square Feet E.D.R. in this case because the board is increasing the air flow across the radiator. It's similar to what happens when you start a fan and allow it to blow across a radiator. More air flow means more heat output.

Okay, move to the right. This next radiator has a simple shelf across its top. That shelf is impeding the air flow off the hot metal, so we're going to have less convection with this one. If we needed 100 Square Feet E.D.R., we'd have to size the radiator for 120 Square Feet E.D.R. to compensate for the lesser convection. Make sense? (This could actually help you if the radiator is too big for the room.)

The radiator to the right of that one has an enclosure that's similar to the first one. We have a solid front and a top and bottom that are perforated with lots of holes, giving air a way in



to heat the house, they may be repainted with non-metallic paint, and it should then be possible to heat the house with the water in the system not quite so hot. There will be no noticeable saving of fuel.

Application 4: Since basements are usually overheated so that much of the heat supplied there is wasted, some economy can be effected by painting the heater and pipes, with metallic paint. This cannot, however, serve as anything more than a poor substitute for a covering of good insulating material about one-inch thick; which is capable of making an appreciable saving in the coal bill. The insulating material will remain effective for years, while the paint becomes ineffective if covered with dust.

Application 5: If a radiator is situated next to an outside wall, as most of them are, it is evident that the heat supplied directly to this wall is more or less wasted. Some slight economy may be obtained, therefore, by using metallic paint on the side facing the wall and non-metallic paint on the visible portions. The gain is not large enough to be important, but on the other hand, in putting non-metallic paint over metallic, it is not worth while to go to the trouble of repainting the side next the wall.

Pick a color!

Here's a chart that shows the effect different colors and types of paint will have on a radiator's ability to radiate heat. Keep in mind; this doesn't affect the radiator's ability to pass heat to the air by convection. That's coming up next.

Surface color	Percent Effectiveness	Btu's per Square Foot E.D.R.
Cast Iron (not painted)	100	240
Terra Cotta	103.8	249
White Zinc or Enamel	101	242
Maroon Japan or Flat Black	100	240
White Lead	99	238
Green Enamel, Dull	96	230
Gold Bronze	81	194
Aluminum Bronze	80	192

Can you see why so many old radiators are painted silver? Check out that last rating. The silver paint cuts the radiator's ability to radiate by 20%. It's a nice and easy way to cut the output of an oversized radiator.