

2. The lessened steam consumption may not materially change the radiator heating performance.
3. The enclosed radiator may inadequately heat the space.

A comparison between a bare or exposed radiator (A) and the same radiator with a well-designed enclosure (B), with a poorly-designed enclosure (C), and with a cloth cover (D) will illustrate the relative heating effects. In Fig. 4 the curve (B) reveals that the enclosed radiator used less steam than the exposed radiator, but gave a satisfactory heating performance. A well-designed shield placed over a radiator gives about the same heating effect. Curve (C) shows the unsatisfactory effects produced by improperly designed enclosures. Curve (D) shows that the effect of a cloth cover extending downward 6 in. from the top of the radiator was to make the performance unsatisfactory and inadequate.

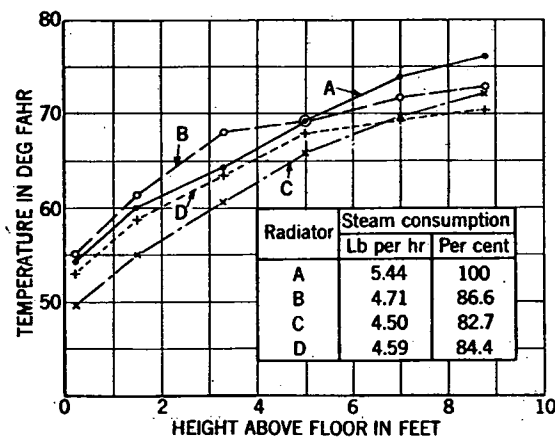
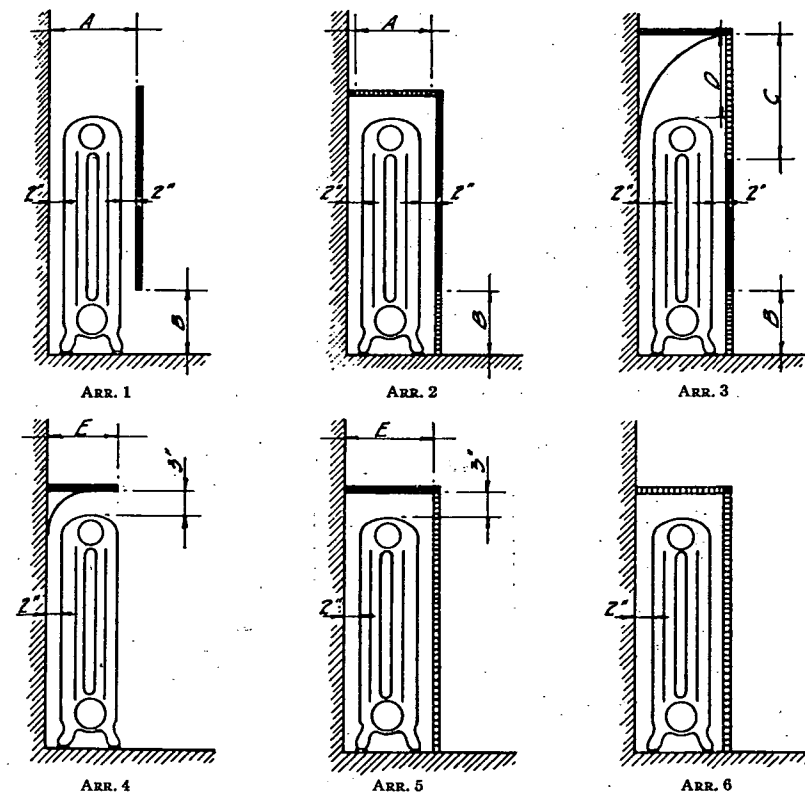


FIG. 4. DIFFERENCE IN STEAM PRESSURE ON WATER IN BOILER AND AT END OF STEAM MAIN

A practical interpretation of allowances to be made for radiator performance with various styles and forms of enclosures is shown by the diagrams and values listed in Fig. 5.

Practically all commercial enclosures and shields for use on direct radiators are equipped with water pans for the purpose of adding moisture to the air in the room. Tests⁶ show that an average evaporative rate of about 0.235 lb per square foot of water surface per hour may be obtained from such pans, when the radiator is steam hot and the relative humidity in the room is between 25 and 40 per cent. This source of supply of moisture alone is not adequate to maintain a relative humidity above 25 per cent on a zero day.

⁶University of Illinois Engineering Experiment Station Bulletin No. 230, p. 20.



TYPE	INSTALLATION CONDITIONS	HEAT EMISSION SHALL BE ALTERED BY PER-CENTAGE INDICATED
Arr. 1	When dimension A is as shown in Arr. 1 and dimension B is equal to 80 per cent of A.....	10% increase
Arr. 2	When dimension A is as shown and dimension B is equal to 80 per cent of A.....	5% increase
Arr. 3	When dimension B is equal to 80 per cent of A (as in Arr. 1), dimension C is equal to 150 per cent of A and dimension D is equal to A.....	No change
Arr. 4	When dimension E is equal to 50 per cent of A..... When dimension E is equal to A..... When dimension E is equal to 150 per cent of A.....	10% reduction 20% reduction 35% reduction
Arr. 5	When dimension E is equal to A.....	30% reduction
Arr. 6	When as shown.....	5% reduction

FIG. 5. TYPES OF ENCLOSURES AND HEAT EMISSION OF ENCLOSED RADIATORS^a

^aFrom A.S.H.V.E. Code of Minimum Requirements for the Heating and Ventilation of Buildings (edition of 1929).