



STANDARD FOR FUEL FOR HEATING

Sources

1. Public Housing Authority Low Rent Housing Bulletin #LR11, 3/50.
2. American Society of Heating and Ventillating Guide - 1952.
3. Consumer's Research Bulletin - October 1953 - Page 16.

I. Method for Determination of Standard

$$\text{Fuel Units Consumed Annually} = \frac{\text{EDR} \times \text{Annual Degree Days} \times \text{Use Factor}}{\text{BTU per Fuel Unit} \times \text{Design Range}}$$

EDR is the equivalent direct radiation which is the number of square feet of surface, each radiating 240 BTU per hour, required to maintain the desired indoor temperature. The EDR was determined by multiplying the number of rooms by the values obtained from table listed in Source 1. Values used were as follows:

1. Square feet of EDR Per Room \*
2. Number of Stories Factor
  - 1 story - 38.2
  - 2 stories - 30.9
  - 3 stories - 27.9

Annual degree days is a summation of the number of degrees the daily average temperature falls below 65 degrees during the year. Annual degree days for New Jersey was secured from Source 2.

Use factor is a factor combining the effects of the heat losses in the connecting pipe lines, the efficiency of the heating plant, and the average daily heat impact per degree day per square foot of EDR. Factors used were obtained from Source 1 and are as follows:

Bituminous Coal - Medium Volatile	- 10,840
Fuel Oil	- 8,870
Gas	- 6,970

BTU per fuel unit is the heating value of one unit of whatever fuel is to be used. The result is expressed in the same units as fuel units. BTU used were obtained from Source 3 and were as follows:

Coal	- 26,000,000 BTU Per Ton
#2 Fuel Oil	- 141,800 BTU Per Gallon
Propane (Bottled Gas)	- 21,560 BTU Per Pound

Design range is the difference between the Design temperature of New Jersey and 70 degrees fahrenheit. Design temperature for New Jersey obtained from Source 2.

\* (Based upon an average volume of 1450 cubic feet per room - approximately 12 x 15 x 8 $\frac{1}{2}$ ).

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II. Fuel for Heating Standard

ANNUAL AMOUNTS OF FUEL

<u>Rooms</u>	<u>Coal Tons</u>	<u>Oil Gallons</u>
1	1.5	145
2	2.0	290
3	3.0	430
4	4.0	575
5	5.0	730
6	6.0	860
7	7.0	1000
8	8.0	1160
9	9.0	1290