

# SOLAR FRACTION CALCULATOR FOR RATED SYSTEMS

CF1R-WS-05-E

Project Title: \_\_\_\_\_ enter project name here | Date \_\_\_\_\_ enter date here

Project Address: \_\_\_\_\_ enter project address here

Total Conditioned Floor Area (CFA) ft<sup>2</sup>: 2500 | Climate Zone (1-16): 3

## INPUTS FOR SYSTEMS SRCC OG-300

1	Enter Solar Energy Factor of OG-300 solar water heating system as listed in SRCC directory	1.6
2	Enter Energy Factor of Water Heater (enter .6 for gas .9 for electric)	0.60
3	Constant - 41045 (amount of energy used in SRCC test )	41045.00
4	Constant - 3500 average parasitic loss value in SRCC test	3500.00
5	Gallons per day use value calculated as: ( 21.5+0.014*CFA (from top of page))	56.50
6	Constant - 64.3 gallons used in SRCC test method	64.30
7	Constant - Hot water supply temperature 135	135.00
8	Enter inlet water temperature (Inlet water temperature values are listed on Table 1 by climate zone )	57.69
9	Difference in supply and inlet water temperature (subtract line 7 by line 8)	77.31
10	Constant - 1500 Solar radiation value used in SRCC test	1500.00
11	Solar radiation level from Table 1	1533

## CALCULATION FOR SYSTEM

12	Multiply line 2 by line 3	24627.00
13	Divide line 12 by line 1	15391.88
14	Divide line 5 by line 6	0.88
15	Divide the result in line 9 by 77	1.00
16	Subtract 1 by line 2	0.40
17	Multiply lines 13, 14 and 15	13578.90
18	Multiply line 4 by line 16	1400.00
19	Add line 17 to line 18	14978.90
20	Divide line 19 by line 3	0.36
21	Divide line 10 by line 11	0.98
22	Multiply line 20 by line 21	0.36

23

Subtract 1 by line 22

0.64

**Solar Fraction****0.64**

TABLE 1		
Climate Zone	Water Temperature	Solar Radiation
1	53.90	1220
2	57.52	1220
3	57.69	1533
4	59.12	1601
5	57.93	1602
6	61.55	1599
7	62.63	1586
8	62.97	1682
9	63.76	1685
10	63.76	1612
11	61.00	1580
12	59.65	1670
13	63.99	1726
14	61.48	1827
15	73.55	1884
16	50.54	1513