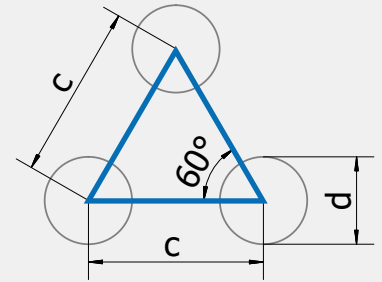


## Round Hole (60 °C Staggered)

Perforation diameter (d)

Center distance (c)

$$\text{Open area (\%)} = 0.91 \times \frac{d^2}{c^2} \times 100$$



d (mm)	c (mm)	Open area (%)
0.4	1.5	6.5
0.5	1.5	10.1
0.6	1.2	22.8
0.8	1.5	25.9
1	2	22.8
1.2	2.5	21.0
1.5	2.5	32.8
1.5	3	22.8
1.6	2.5	37.3
1.6	3	25.9
1.6	3	25.9
1.8	2.5	47.2
1.8	3	32.8
2	3	40.4
2	3.5	29.7
2	4	22.8
2	5	14.6
2	5.5	12.0
2	14	1.9
2.25	3.5	37.6
2.25	4	28.8
2.5	3.5	46.4
2.5	3.6	43.9
2.5	4	35.5
2.5	5	22.8
2.5	6	15.8
2.5	9	7.0
3	4	51.2
3	4.5	40.4
3	5	32.8
3	6	22.8
3	7	16.7
3	10	8.2
3	12	5.7
3.2	4.5	46.0
3.2	4.76	41.1
3.2	5	37.3
3.2	7	19.0
3.5	5	44.6
3.6	5	47.2

d (mm)	c (mm)	Open area (%)
3.6	5.5	39.0
3.6	6	32.8
3.6	7	24.1
4	5	58.2
4	6	40.4
4	7	29.7
4	8	22.8
4	8	22.8
4	12.5	9.3
4.5	6	51.2
4.5	6.5	43.6
4.5	7	37.6
4.5	8	28.8
4.5	15	8.2
5	6	63.2
5	7	46.4
5	7	46.4
5	8	35.5
5	9	28.1
5	10	22.8
5	12	15.8
5	19.5	6.0
5.5	8	43.0
5.5	9	34.0
5.5	10	27.5
6	7	66.9
6	8	51.2
6	10	32.8
6	12	22.8
6	12	22.8
6	16	12.8
6	17.5	10.7
6.2	7.5	62.2
6.3	9	44.6
6.3	12	25.1
6.4	12	25.9
6.5	9	47.5
6.5	24	6.7
7	9	55.0
7	10	44.6
7	11	36.9

d (mm)	c (mm)	Open area (%)
7	11.25	35.2
7	14	22.8
7	20	11.1
8	10	58.2
8	10.6	51.8
8	11	48.1
8	11.25	46.0
8	12	40.4
8	13.5	32.0
8	15	25.9
8	16	22.8
8	20	14.6
8	31.2	6.0
9	12	51.2
9	18	22.8
10	12	63.2
10	13	53.8
10	13.5	49.9
10	14	46.4
10	15	40.4
10	17.5	29.7
10	18	28.1
10	20	22.8
10	22	18.8
10	25	14.6
11	16	43.0
11	17	38.1
12	14	66.9
12	15	58.2
12	16	51.2
12	18	40.4
12	19.5	34.5
12	20	32.8
12	22	27.1
12	26	19.4
13	18	47.5
13	30	17.1
14	20	44.6
14	22	36.9
14	26	26.4
14	30	19.8
15	20	51.2

d (mm)	c (mm)	Open area (%)
15	21	46.4
15	24	35.5
16	18	71.9
16	20	58.2
16	24	40.4
16	30	25.9
16	35	19.0
17	20	65.7
17	22	54.3
18	22	60.9
18	24	51.2
19	22	67.9
19	25.4	50.9
19.5	28	44.1
20	28	46.4
20	30	40.4
20	35	29.7
21	30	44.6
22	30	48.9
22	32	43.0
22	80	6.9
22	96	4.8
23	35	39.3
24	35	42.8
25	30	63.2
25	35	46.4
25	50	22.8
25.4	38.1	40.4
29	45	37.8
30	38	56.7
30	40	51.2
30	45	40.4
32	45	46.0
35	47	50.5
35	50	44.6
40	56	46.4
45	64	45.0
50	65	53.8
50	80	35.5
50.8	63.5	58.2
60	128	20.0
65	90	47.5