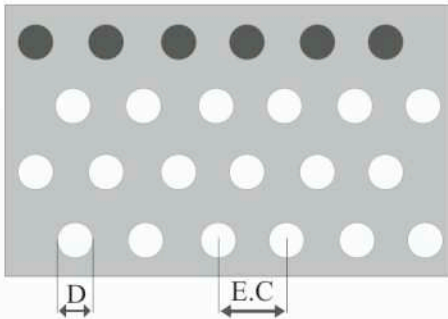




Furos Redondos

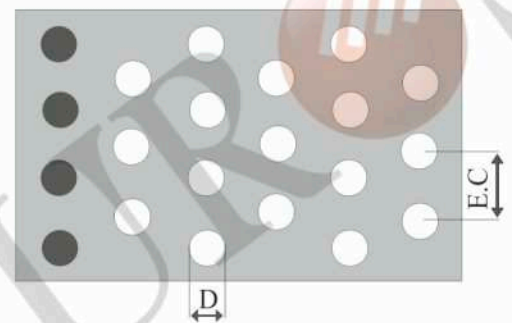
Disposição dos Furos:

Alternada Longitudinal



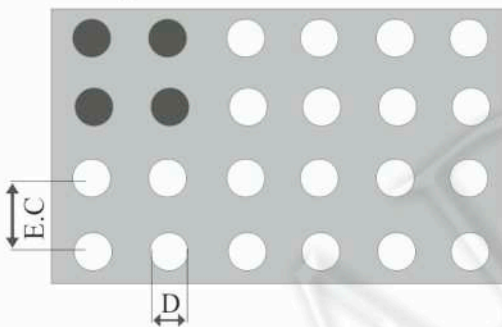
Disposição alternada longitudinal é quando o alinhamento dos furos é a paralela ao comprimento da chapa.

Alternada Transversal



Disposição alternada transversal é quando a linha de furos é paralela à largura da chapa.

Reta Quadrada



Disposição da reta quadrada é quando a ligação entre centros de quatro furos próximos formam um quadrado.

Considerações Gerais

Disposição Alternada

Mais usual em processos industriais devido ao aproveitamento da superfície a ser perfurada. Tem sua utilização freqüente e está em situação onde a vazão deve ser grande como por exemplo: Filtragens, ventilações, peneiramento, tendo como diferencial ângulo de 60° na perfuração.

Disposição da reta

Nesta perfuração a área obtida é sempre menor em relação a disposição alternada. Neste caso é pouco recomendada em processos industriais, porém tem sua eficácia comprovada em projetos onde o acabamento e estética são imprescindíveis, tendo como diferenciação ângulo de 90° na perfuração.

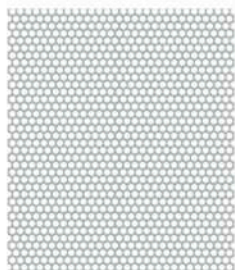
Nota

Além dos furos apresentados, podemos fazer mediante consulta prévia, outros tipos de perfuração.

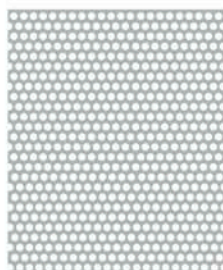
Furos Redondos



0,5mm - .020"
EC 1,0mm AA20%



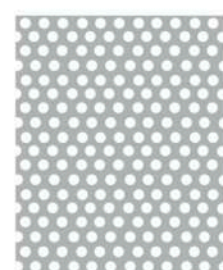
0,8mm - 1/32"
EC 1,6mm AA23%



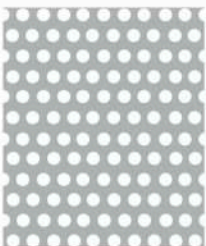
1,0mm - 0.39"
EC 2,0mm AA23%



1,2mm - 3/64"
EC 2,4mm AA22,6%



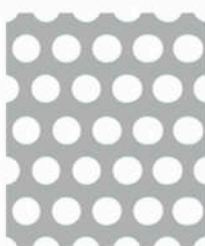
1,58mm - 1/16"
EC 3,0mm AA26%



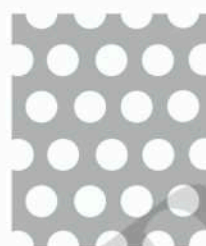
2,0mm - 5/64"
EC 3,0mm AA40%



3,17mm - 1/8"
EC 5,0mm AA36%



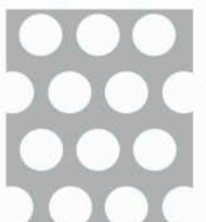
3,95mm - 5/32"
EC 6,0mm AA39%



4,76mm - 3/16"
EC 7,0mm AA 42%



5,55mm - 7/32"
EC 8,0mm AA43%



6,35mm - 1/4"
EC 9,0mm AA45%



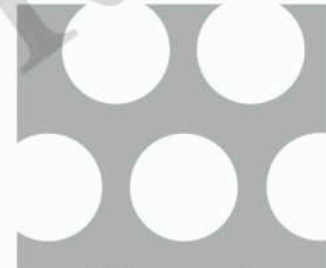
8,00mm - 5/16"
EC 11,0mm AA48%



9,53mm - 3/8"
EC 13,0mm AA48%



12,7mm - 1/2"
EC 18,0mm AA45%



15,87mm - 5/8"
EC 20,0mm AA57%

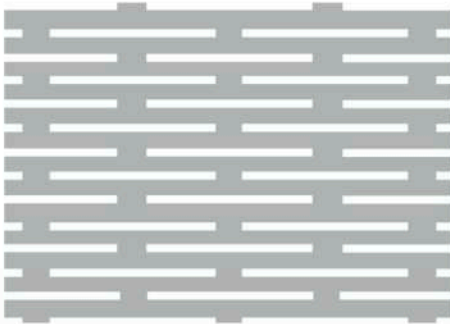
Tabelas de Furos Redondos

Ø Dos Furos		E.C. (mm)	A.A. %
mm	Polegadas		
0,5	.020"	1.0	20
0,8	1/32"	1,6	23
1.0	.040"	1,6	35
1.0	.040"	2.0	23
1,2	3/64"	2,2	27
1,2	3/64"	2,4	23
1,5	.059"	3.0	23
1,8	.071"	2,55	45
1,8	.071"	3.0	32
2.0	5/64"	3.0	40
2.0	5/64"	3,5	29
2.0	5/64"	4.0	23
2,5	3/32"	4.0	32
2,8	7/64"	4.0	44
3,17	1/8"	5.0	36
3,17	1/8"	6.0	25
4.0	5/32"	6.0	40
4.0	5/32"	7.0	29
4,8	3/16"	7.0	42
4,8	3/16"	8.0	32
4,8	3/16"	10	21
5,55	7/32"	8.0	43
5,55	7/32"	10	28
6,35	1/4"	9.0	45
6,35	1/4"	10	36
6,35	1/4"	11	30

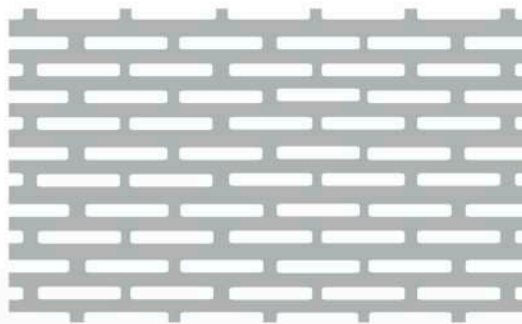
Ø Dos Furos		E.C. (mm)	A.A. %
mm	Polegadas		
9,5	3/8"	13	48
9,5	3/8"	14	41
12,7	1/2"	18	45
12,7	1/2"	20	36
12,7	1/2"	24	25
16	5/8"	20	57
16	5/8"	24	40
19	3/4"	26	48
19	3/4"	32	32
19	3/4"	34	28
22,2	7/8"	28	57
22,2	7/8"	32	43
25,4	1"	32	57
25,4	1"	38	40
28,6	1.1/8"	40	46
30,2	1.3/16"	42	46
31,8	1.1/4"	48	40
38,1	1.1/2"	56	42
44,4	1.3/4"	62	46
50,8	2"	72	45
57	2.1/4"	76	51
63,5	2.1/2"	84	51
66,7	2.5/8"	88	52
76,2	3"	96	54
82,6	3.1/4"	104	57
88,9	3.1/2"	110	59



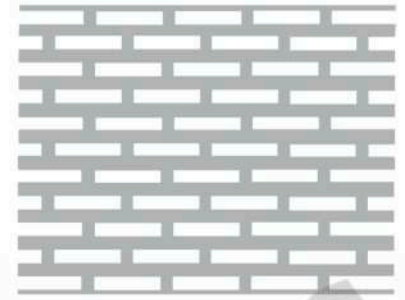
Furos Oblongos



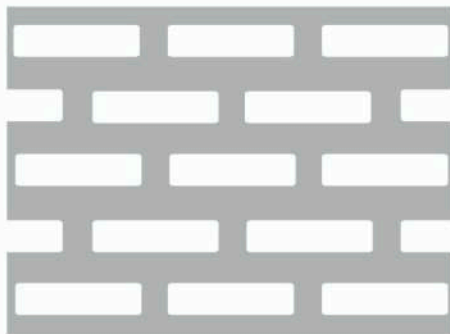
1,2 x 25mm - Alternada Lateral
ec = 3,5mm EC= 29mm AA 29%



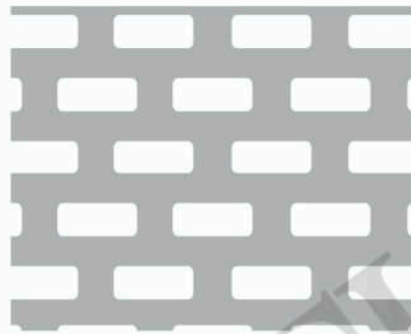
1,9 x 12,5mm - Alternada Terminal
ec = 4mm EC= 14mm AA 41%



2 x 10mm - Alternada Lateral
ec = 4mm EC= 12mm AA 40%



4,8 x 19mm - Alternada Lateral
ec = 9mm EC= 23mm AA 44%

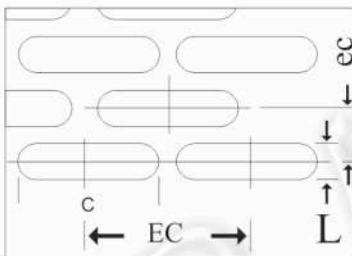


5 x 12mm - Alternada Lateral
ec = 10mm EC= 19mm AA 33%

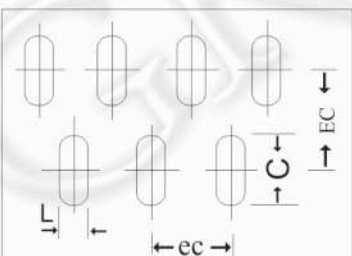


8 x 38mm - Alternada Lateral
ec = 14mm EC= 44mm AA 47%

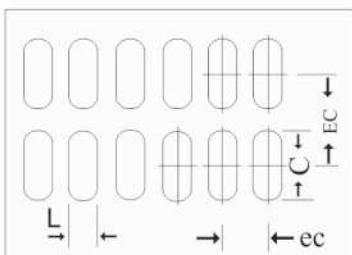
Disposição dos Furos



Alternada Lateral Longitudinal



Alternada Terminal Transversal

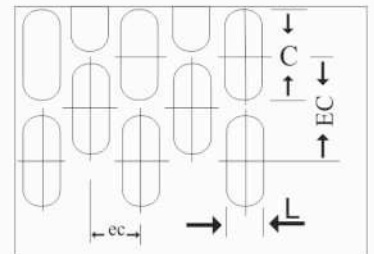


Retra Transversal

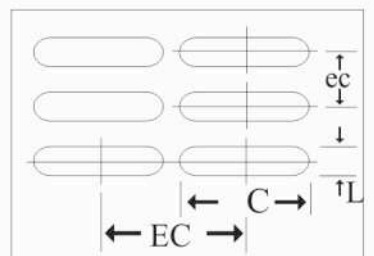
Tabela Padrão

Dimensões dos furos		Distância entre centros dos furos		Área Aberta %	Disposições dos furos
L	C	ec	EC		
2	10	4	12	40	Alt.
2	20	4,5	23	38	Alt.
2	25	5	33	30	Alt.
3	10	6,7	14	30	Alt.
3,17	16	8	21	29	Alt.
4	20	7,7	24	41	Alt.
4,8	9,5	9,6	14	30	Alt.
4,8	22,2	9,5	32	35	Alt.
6	20	12	26	36	Alt.
6	30	12,3	38	37	Alt.
6,35	25,4	12	31	41	Alt.
8	25,4	15	32	39	Alt.

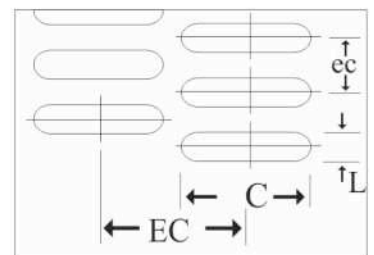
Legenda	
C	Comprimento do furo
L	Largura do Furo
ec	Distância entre centros de furos - lateral
EC	Distância entre centros de furos - terminal



Alternada Lateral Transversal

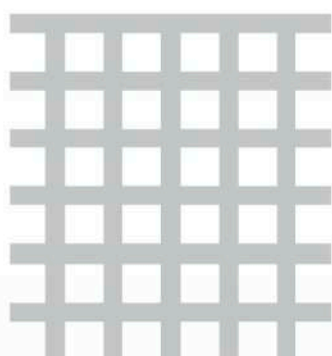


Retra Longitudinal

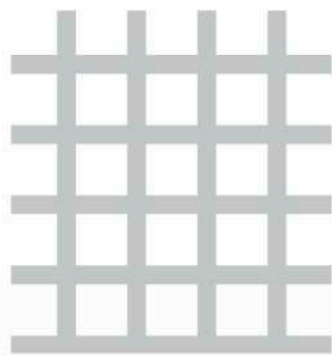


Alternada Terminal Longitudinal

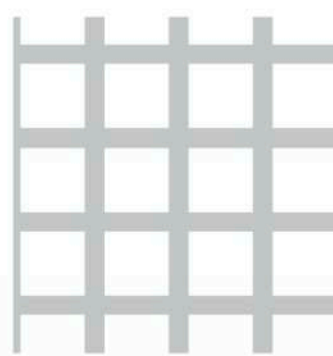
Furos Quadrados



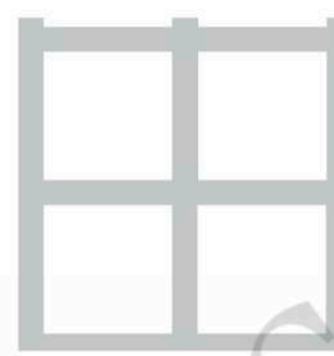
☑ 6mm - EC= 9mm - Reta
AA 39%



☑ 8mm - EC= 11mm - Reta
AA 53%

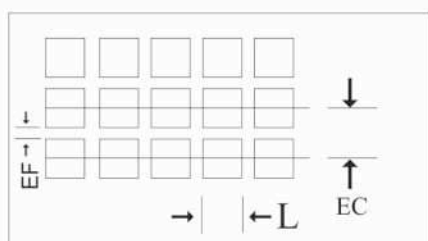


☑ 10mm - EC= 13mm - Reta
AA 59%

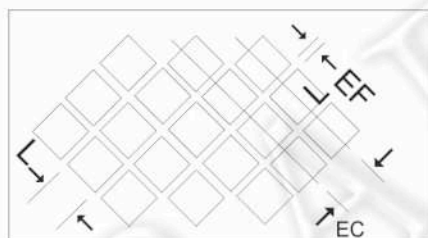


☑ 20mm - EC= 24mm - Reta
AA 69%

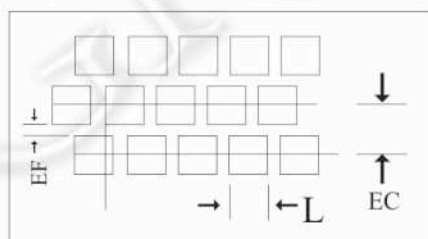
Disposição dos Furos



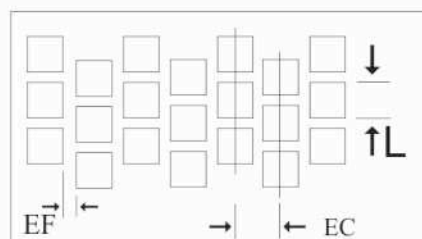
Reta



Diagonal



Alternada Longitudinal



Alternada Transversal

Tabela Padrão

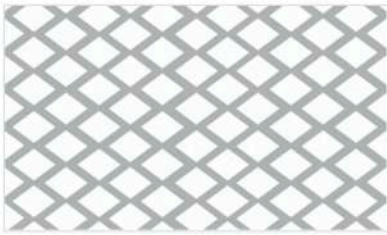
Lado dos Quadrados	Distância entre Centros		Área Aberta	Disposições dos furos
L	EC	EF	%	
4	6	2	45	R
6	9	3	45	R
8	11	3	53	R
10	13	3	59	R
20	24	4	69	R

Legenda

L	Lado dos quadrados
EC	Distância entre centros de furos
EF	Distância entre furos



Furos Losangulares



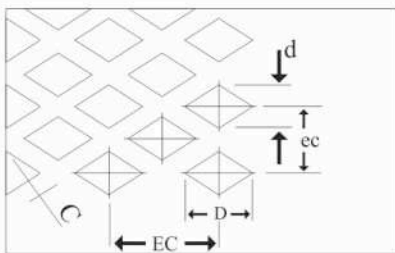
4,7 x 6,35mm - Alternada
ec = 7mm EC= 10mm AA 45%

Tabela Padrão				
Diagonal dos Furos		Distância entre centros		Barras
d	D	ec	EC	C
4,7	6,35	7	10	1,3
7	14	9,5	21	2
8	24	13,5	34	3,3
11	29	23	56	12
13	30	23	54	7
15	40	21,6	60	5



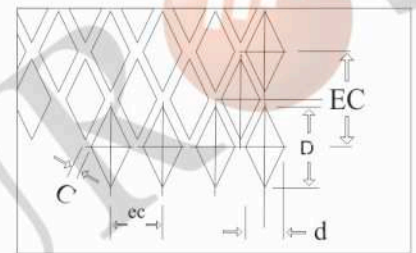
7 x 14mm - Alternada
ec = 9,5mm EC= 21mm AA 49%

Disposição dos Furos



Longitudinal

Legenda	
d	Diagonal Menor
D	Diagonal Maior
ec	Distância entre centros de furos - lateral
EC	Distância entre centros de furos - terminal
C	Distância entre furos - barra



Transversal



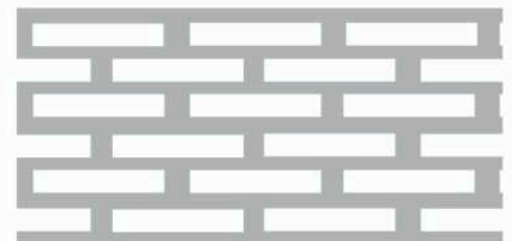
Furos Retangulares



4 x 10mm - Reta
ec= 5,5 EC= 13mm AA 56%

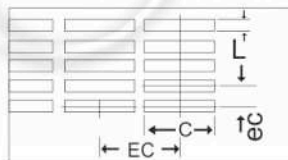


8 x 15mm - Reta
ec= 13 EC= 20mm AA 46%

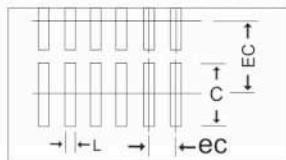


3,5 x 20mm - Reta
ec= 7,0 EC= 24mm AA 41%

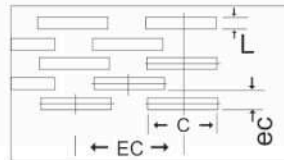
Disposição dos Furos



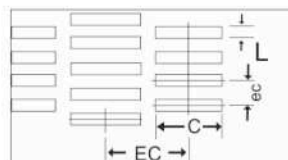
Reta Longitudinal



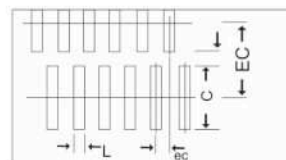
Reta Transversal



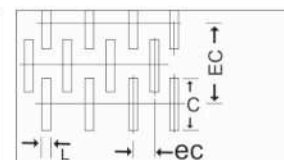
Alternada Terminal Longitudinal



Alternada Terminal Transversal



Alternada Lateral Longitudinal



Alternada Lateral Transversal

Tabela Padrão				
Dimensões dos furos		Distância entre centros		Área aberta %
L	C	ec	EC	%
4	10	5,5	13	56
8	15	13	20	46
8	40	11	43	68
15	30	18	33	76

Legenda	
C	Comprimento do furo
L	Largura do furo
ec	Distância entre centros de furos - lateral
EC	Distância entre centros de furos - terminal