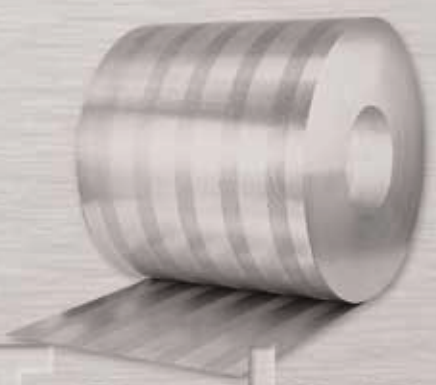
bion



Technical Data

At Bion, we are equipped to perforate a wide range of patterns in a variety of materials including stainless steels, mild and galvanised steels, aluminium, brass and plastic - as well as precoated materials.

In particular we specialise in producing interrupted perforated patterns where plain borders or internal margins are required. e.g. ceiling tiles, exhaust tubes, or cooker grille blanks.

We also concentrate on supplying customers who require fine high quality perforating for decorative products such as speaker grilles where visual appearance is critical.

The patterns included in this data sheet are a selection of the most popular patterns. However we are also pleased to work with our customers in developing patterns to meet specific applications.

Should you not be able to find a suitable pattern or require assistance, our technical sales department will be pleased to help you.

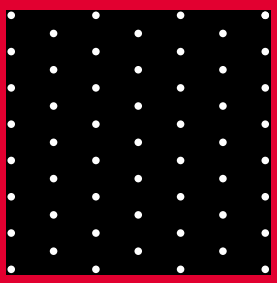
ROBERT BION & CO LTD

Loverock Road, Battle Farm Trading Estate, Reading, Berks RG30 1DF, UK

Telephone: 0044 (0) 1189 592700 Fax: 0044 (0) 1189 592701

E-mail: sales@bion.co.uk Website: http://www.bion.co.uk

Round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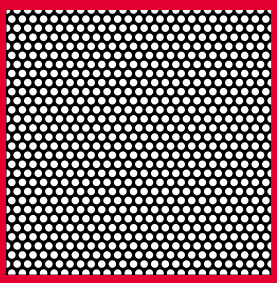
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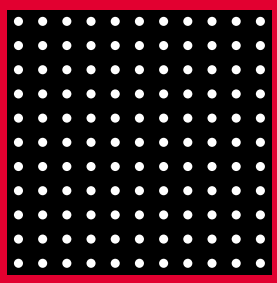
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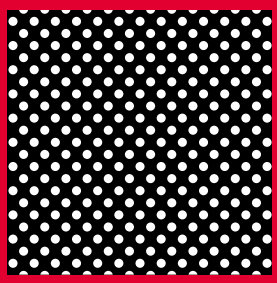
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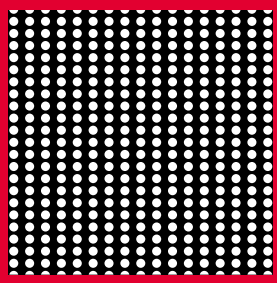
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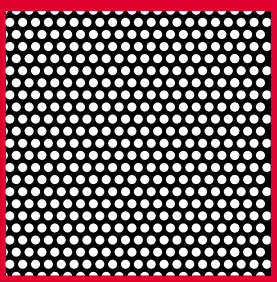
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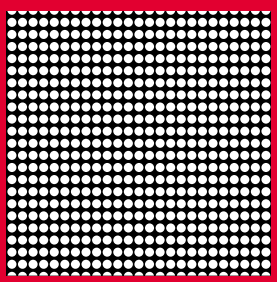
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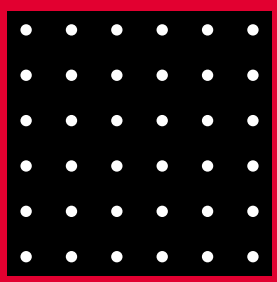
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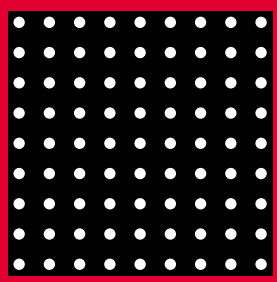
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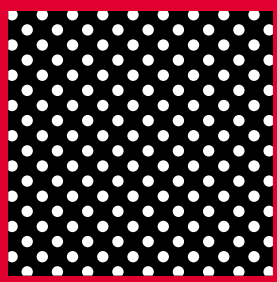
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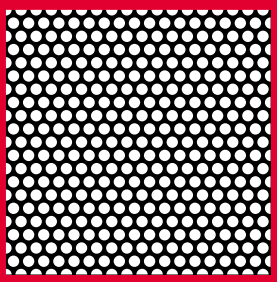
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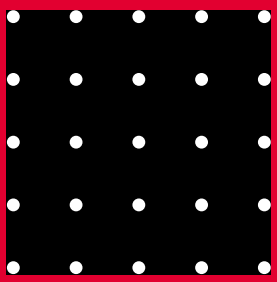
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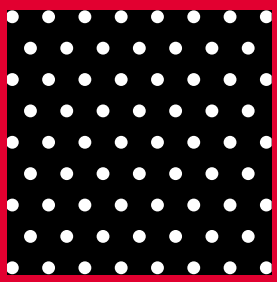
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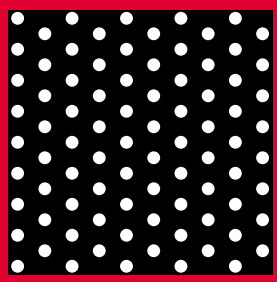
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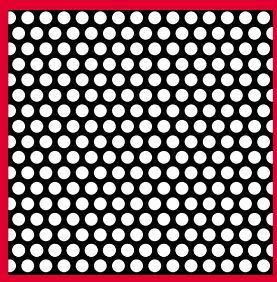
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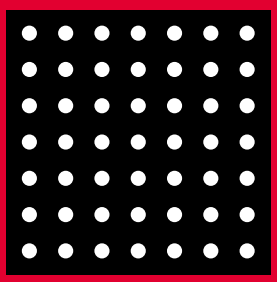
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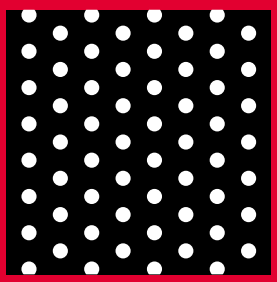
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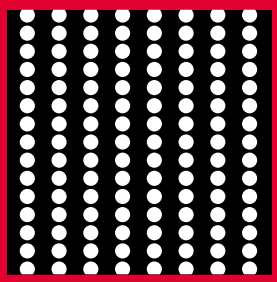
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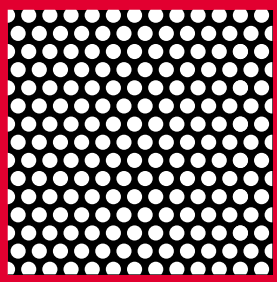
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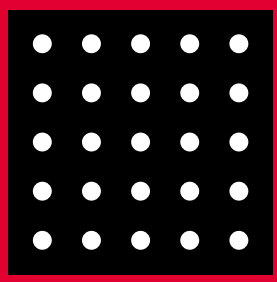
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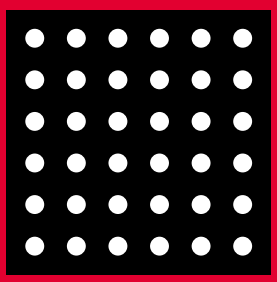
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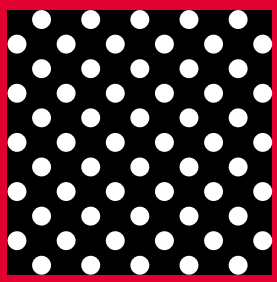
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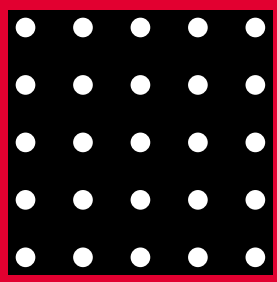
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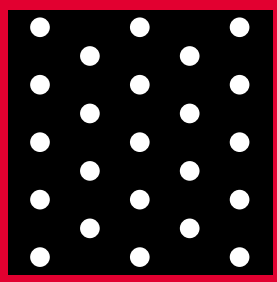
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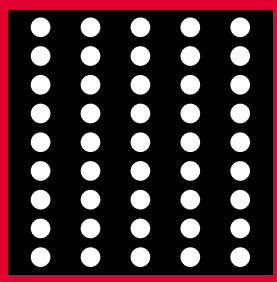
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Scale 1:1

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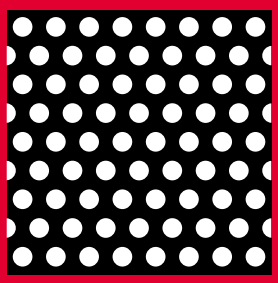
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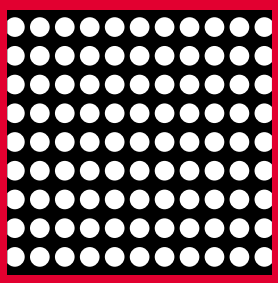
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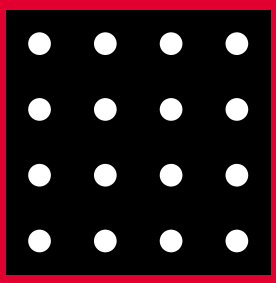
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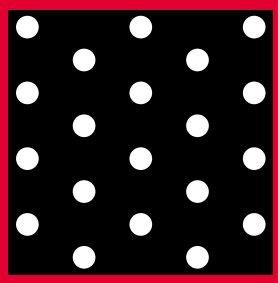
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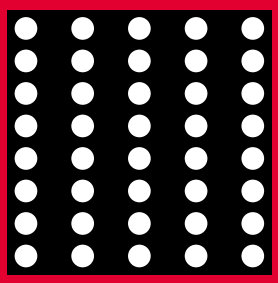
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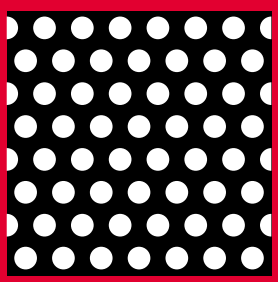
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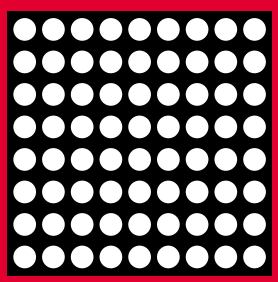
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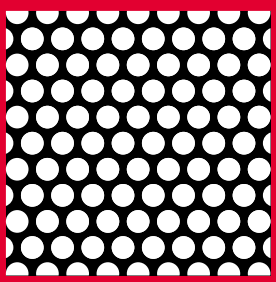
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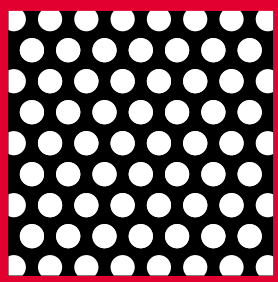
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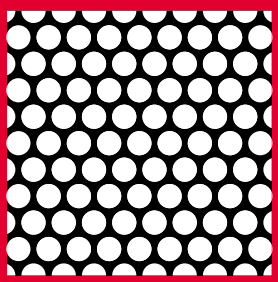
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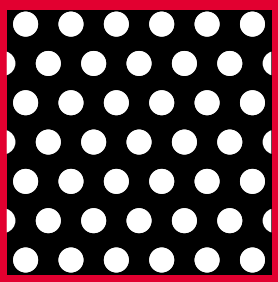
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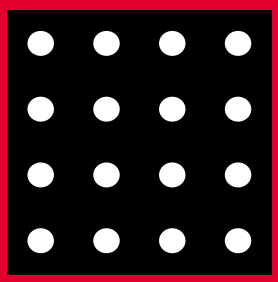
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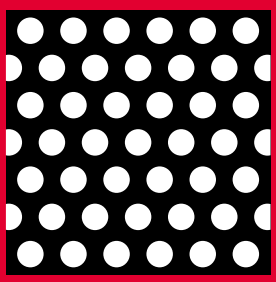
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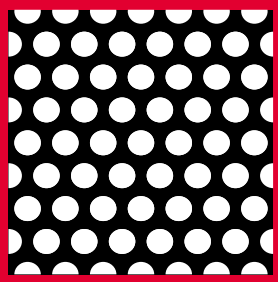
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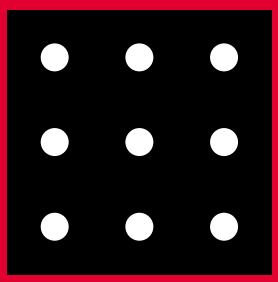
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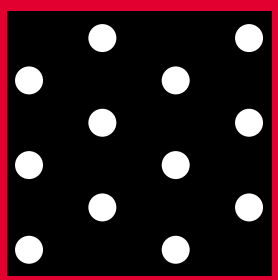
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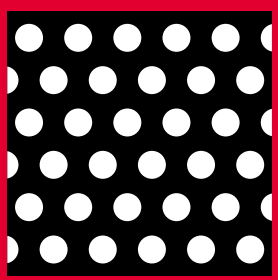
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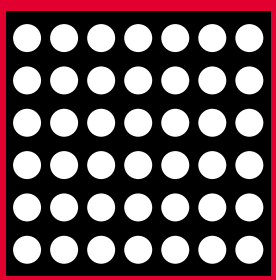
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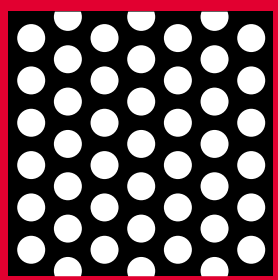
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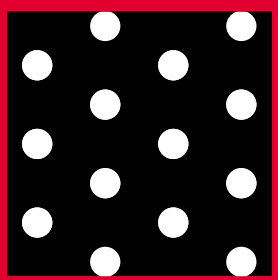
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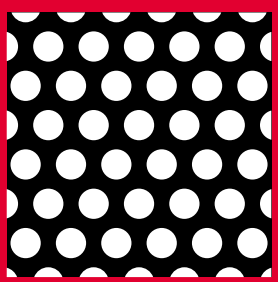
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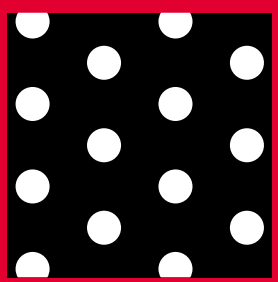
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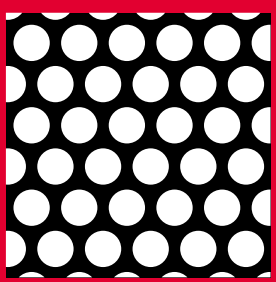
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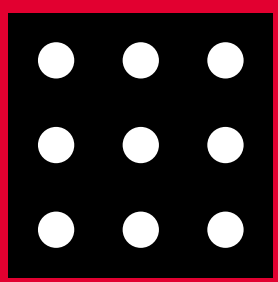
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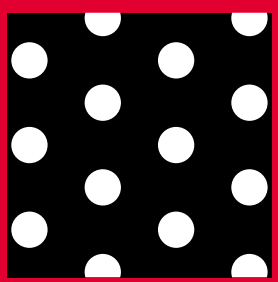
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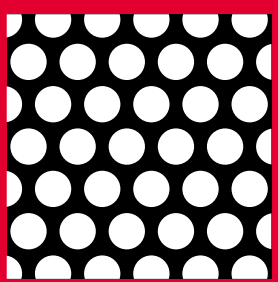
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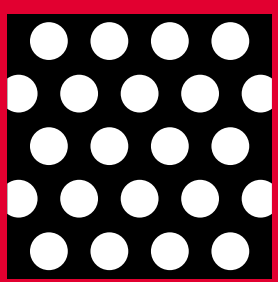
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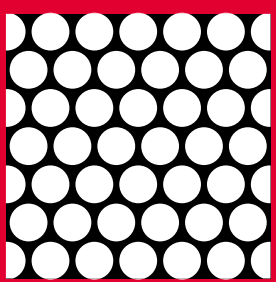
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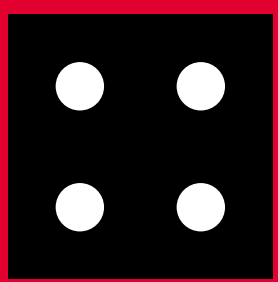
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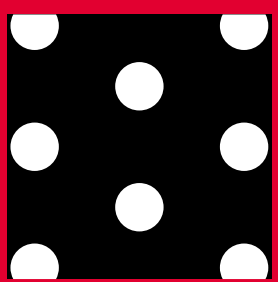
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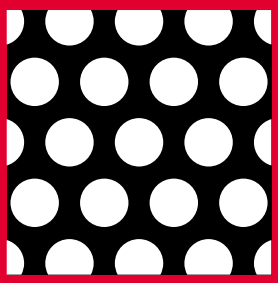
Scale 1:1

Round & Square



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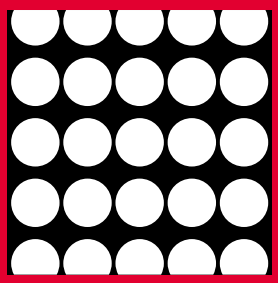

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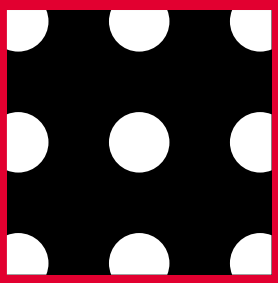
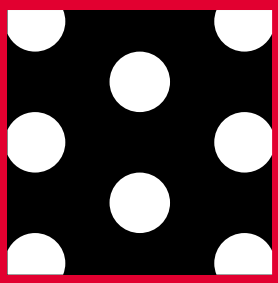


RB8020



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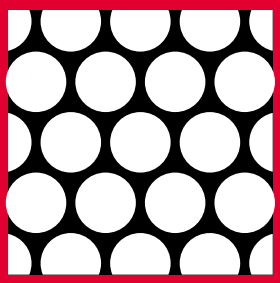

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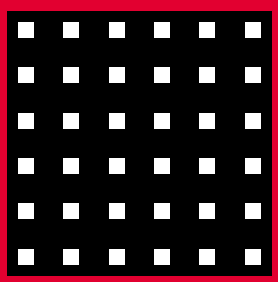

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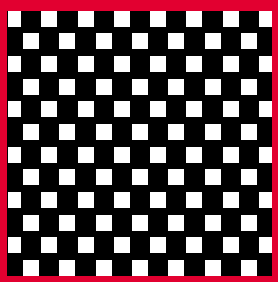

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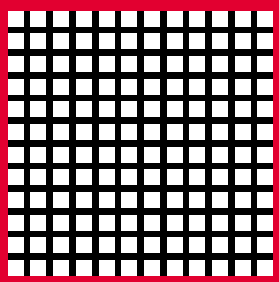

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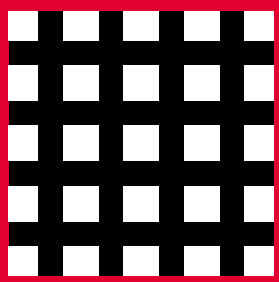

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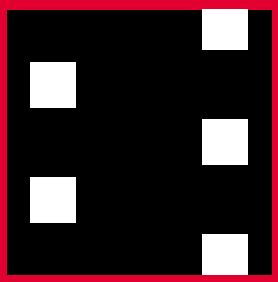

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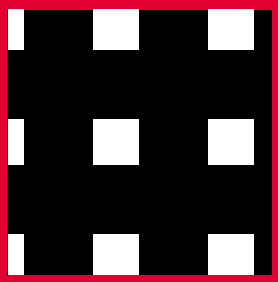

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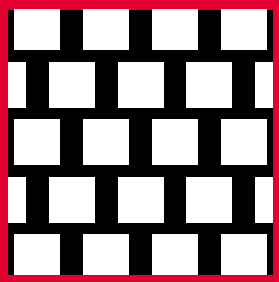

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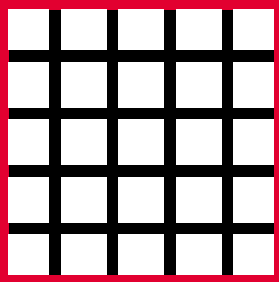

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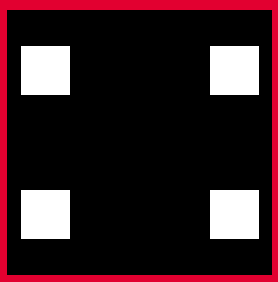

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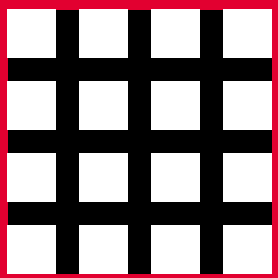

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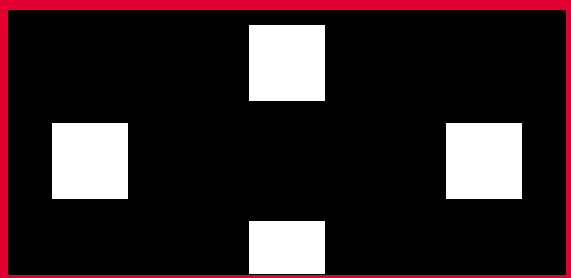

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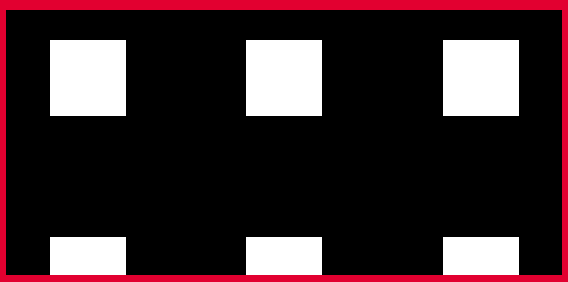

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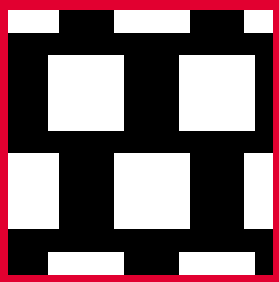

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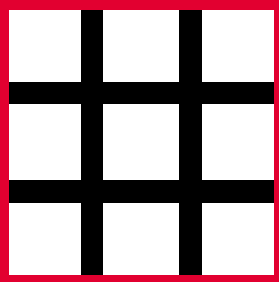
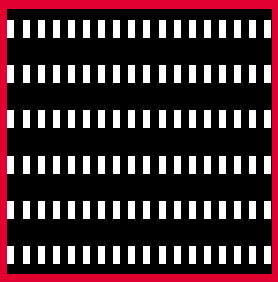


RBS10059

Scale 1:1

Rectangular & Hexagonal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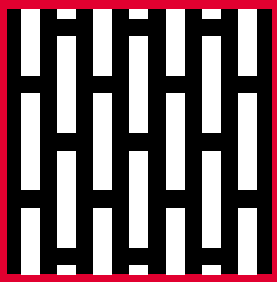
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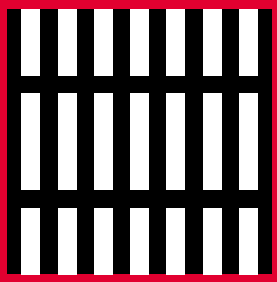
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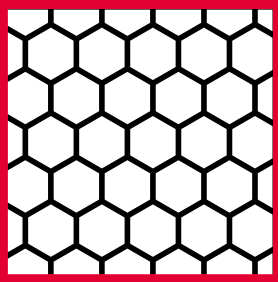
RBH6079

Scale 1:1

Round & Square Patterns

SEE INSIDE

Specials

At Bion's, we specialise in providing interrupted perforated patterns, examples of which are shown below. Figure 1 shows and example of a 'filled in' pattern with external borders and an internal unperforated area. Figure 2 is the same example but with the pattern not filled in.

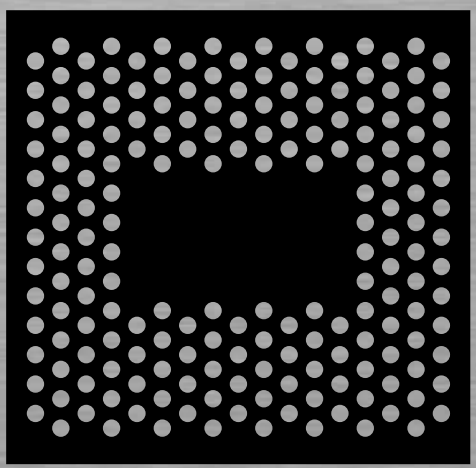
FIGURE 1

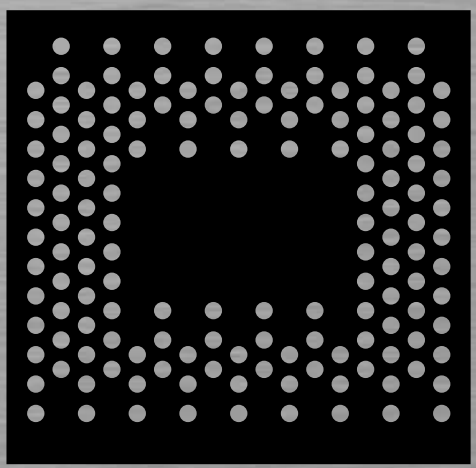
FIGURE 2

The main requirements in determining which pattern to use is hole size and the open area required, details of which are given for each pattern overleaf. The following formulas can be used to determine free areas:

Round Hole

$$\% \text{ FREE AREA} = \frac{1.57\ D^2}{P(i)\ P(ii)} \times 100 \text{ FOR STAGGERED PITCH}$$

$$\% \text{ FREE AREA} = \frac{0.79\ D^2}{P(i)\ P(ii)} \times 100 \text{ FOR SQUARE/RECTANGULAR PITCH}$$

Square or Rectangular Hole

$$\% \text{ FREE AREA} = \frac{2(W \times L)}{P(i)\ P(ii)} \times 100 \text{ FOR STAGGERED PITCH}$$

$$\% \text{ FREE AREA} = \frac{(W \times L)}{P(i)\ P(ii)} \times 100 \text{ FOR SQUARE/RECTANGULAR PITCH}$$

In the interests of continual pattern development, hole size and pitch specifications may vary to that stated.

Technical Specification

PATTERN	HOLE DIA (MM)	% OPEN AREA	PITCH i	PITCH ii	PATTERN CONFIGURATION
RB1003	1.0	3	4.8	11.2	STAGGERED
RB1046	1.0	46	1.4	2.4	60 DEGREE
RB1211	1.2	11	3.2	3.2	SQUARE
RB1225	1.2	25	2.8	3.2	STAGGERED
RB1234	1.2	34	2.1	1.6	RECTANGULAR
RB1242	1.2	42	1.7	3.2	60 DEGREE
RB1251	1.2	51	1.4	1.6	RECTANGULAR
RB1505	1.5	5	6.0	6.0	SQUARE
RB1510	1.5	10	4.0	4.0	SQUARE
RB1522	1.5	22	4.0	4.0	45 DEGREE
RB1550	1.5	50	2.0	3.5	60 DEGREE
RB1703	1.7	3	8.3	8.3	SQUARE
RB1711	1.7	11	4.8	8.3	60 DEGREE
RB1715	1.7	15	4.1	7.2	60 DEGREE
RB1745	1.7	45	2.4	4.1	60 DEGREE
RB2014	2.0	14	4.8	4.8	SQUARE
RB2016	2.0	16	4.8	8.3	60 DEGREE
RB2031	2.0	31	4.2	2.4	RECTANGULAR
RB2047	2.0	47	2.8	4.8	60 DEGREE
RB2512	2.5	12	6.5	6.5	SQUARE
RB2516	2.5	16	5.5	5.5	SQUARE
RB2523	2.5	23	6.5	6.5	45 DEGREE
RB2609	2.6	9	7.6	7.6	SQUARE
RB2611	2.6	11	7.6	13.2	60 DEGREE
RB2621	2.6	21	6.6	3.8	RECTANGULAR
RB2632	2.6	32	4.4	7.6	60 DEGREE
RB2642	2.6	42	3.3	3.8	RECTANGULAR
RB3009	3.0	9	8.7	8.7	SQUARE
RB3011	3.0	11	8.7	15.0	60 DEGREE
RB3022	3.0	22	7.5	4.3	RECTANGULAR
RB3033	3.0	33	5.0	8.7	60 DEGREE
RB3043	3.0	43	3.8	4.3	RECTANGULAR
RB3501	3.0	01	4.0	6.9	60 DEGREE
RB3241	3.2	41	4.8	8.2	60 DEGREE
RB3327	3.3	27	6.0	10.4	60 DEGREE
RB3256	3.2	56	4.0	7.0	60 DEGREE
RB3513	3.5	13	8.7	8.7	SQUARE
RB3534	3.5	34	5.7	9.9	60 DEGREE
RB3544	3.5	44	5	8.7	60 DEGREE
RB3709	3.7	9	11.2	11.2	SQUARE
RB3710	3.7	10	11.2	19.4	60 DEGREE
RB3730	3.7	30	6.5	11.2	60 DEGREE
RB3739	3.7	39	4.9	5.6	RECTANGULAR
RB3740	3.7	40	5.6	9.7	60 DEGREE
RB4013	4.0	13	10.4	18.0	60 DEGREE
RB4040	4.0	40	6.0	10.4	60 DEGREE

PATTERN	HOLE DIA (MM)	% OPEN AREA	PITCH i	PITCH ii	PATTERN CONFIGURATION
RB4515	4.5	27	18.9	10.9	60 DEGREE
RB4546	4.5	46	6.3	10.9	60 DEGREE
RB4814	4.8	14	11.2	11.2	SQUARE
RB4817	4.8	17	11.2	19.4	60 DEGREE
RB4850	4.8	50	6.5	11.2	60 DEGREE
RB5035	5.0	35	8.0	13.9	60 DEGREE
RB5067	5.0	67	5.8	10.1	60 DEGREE
RB6412	6.4	12	16.0	16.0	SQUARE
RB6414	6.4	14	16.0	27.7	60 DEGREE
RB6443	6.4	43	9.2	16.0	60 DEGREE
RB6457	6.4	57	6.9	8.0	RECTANGULAR
RB8020	8.0	20	16.0	16.0	SQUARE
RB8023	8.0	23	16.0	27.7	60 DEGREE
RB8068	8.0	68	9.2	16.0	60 DEGREE

PATTERN	W L				
RBS2011	2.0 x 2.0	11	6.0	6.0	SQUARE
RBS2028	2.0 x 2.0	28	4.8	6.0	STAGGERED
RBS2044	2.0 x 2.0	44	3.0	3.0	SQUARE
RBS4735	4.7 x 4.7	35	8.0	8.0	SQUARE
RBS6010	6.0 x 6.0	10	15.2	45.6	STAGGERED
RBS6016	6.0 x 6.0	16	15.2	15.2	SQUARE
RBS6052	6.0 x 6.0	52	9.1	15.2	STAGGERED
RBS6062	6.0 x 6.0	62	7.6	7.6	SQUARE
RBS6408	6.4 x 6.4	8	25	19.1	RECTANGULAR
RBS6445	6.4 x 6.4	45	9.5	9.5	SQUARE
RBS10015A	10.0 x 10.0	15	26.0	52.0	STAGGERED
RBS10015	10.0 x 10.0	15	26.0	26.0	SQUARE
RBS10044	10.0 x 10.0	44	17.3	26.0	STAGGERED
RBS10059	10.0 x 10.0	59	13.0	13.0	SQUARE
RBR0918	0.9 x 2.3	16	6.0	2.0	RECTANGULAR
RBR2440	2.4 x 12.7	40	15.1	9.5	STAGGERED
RBR2434	2.4 x 12.7	34	15.1	4.8	RECTANGULAR
RBH6079	6.0 ACROSSFLAT	79	6.8	11.7	60 DEGREE