



WALCOOM

Walcoom Corporation

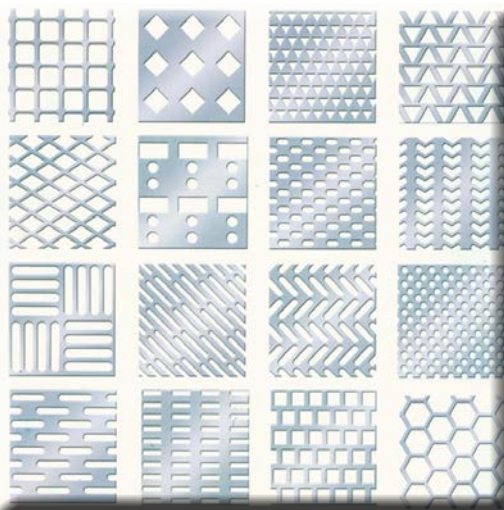
PERFORATED METAL

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Overview of perforated metal

Perforated metal, one of the most versatile and stylish metal products in our life, it is a sheet or coil of material which has various hole sizes, high strength-to-weight ratio, anti-corrosion, good ventilation, light penetration and stability. Perforated metal is made of carbon steel, stainless steel (302, 304, 304L, 316, 316L), aluminum, copper and brass. In addition, perforated metal can be galvanized or PVC coated, which gives metal additional security and anti-corrosion.

Generally, perforated metal hole patterns include round holes, square holes, slotted holes, hexagonal holes and decorative holes. Various hole patterns provide additional aesthetic performance. With various materials and hole patterns, perforated metal can be used as



architectural metal or decorative metal. It is mainly applied for screen, guard, filter, vent, signage, partition, enclosure, building facade and noise barrier.

As a leading manufacturer and supplier of perforated metal, we can provide an extensive range of perforated metal products that satisfy your requirements. Please don't hesitate to contact us.

Many different types of perforated metal holes.

Feature

- Ventilation, light and air penetration and anti-sand property.
- High strength and security.
- Perfect anti-corrosion property and rust resistance.
- Various choices in opening sizes/areas, gauges and materials, hole shapes/patterns.
- Wide application for architectural and decorative aspects.
- Aesthetic appearance.
- Low maintenance.
- Easy installation.

Specification:

• General:

- **Metal material:** plain steel, mild steel, carbon steel, stainless steel (302, 304, 304L, 316, 316L), aluminum, copper, brass, pre-galvanized steel, hot or cold galvanized steel, etc.
- **Surface treatment:** electric galvanized, hot dipped galvanized, PE/PVC coated, powder coating, oxidation treatment etc.
- **Thickness:** 0.2 – 25 mm.
- **Width by length:** 1000 × 2000 mm to 2000 × 6000 mm or according to customer's requirements.
- **Standard sizes (mm):** 1000 × 2000, 1000 × 2400, 1200 × 2400.
- **Hole patterns:** round hole, square hole, slotted hole, hexagonal hole, decorative hole.
- **Hole diameter:** 0.2 – 100 mm.
- **Margin types:** safe margins or no-margins.
- **Packing:**
 - **Coiled plate:** in water-proof plastic bags then in wood pallets.
 - **Flat plate:** in plastic film then in wood pallets.
- **SKU Type:** sheet, plank, panel, coil, piece and each.
- **Tolerances:** see table 1 – 5.

• Round hole:

- **Hole size:** 0.027" – 1.0".
- **Hole centres:** 0.05" – 1.25".
- **Hole pattern:** staggered and straight row.
- **Sheet width:** 24" – 60".
- **Sheet length:** 24" – 144".
- **Open area:** 5% – 63%.

• Square hole:

- **Thickness:** 11–22 gauge.
- **Hole size:** 0.2" – 0.75".
- **Hole centres:** 0.5" – 1".
- **Hole pattern:** staggered or straight row.
- **Open area:** 11% – 56%.
- **Width:** 36" – 48".
- **Length:** 24" – 120".

• Slotted hole:

- **Thickness:** 14–22 gauge.
- **Hole pattern:** side staggered and straight row.
- **Slot width:** 0.125" – 0.2".
- **Slot length:** 0.1" – 0.75".
- **Slot shape:** round end and square end.
- **Slot side bar:** 0.125" – 0.25".
- **Slot end bar:** 0.125" – 0.25".
- **Open area:** 41% – 74%.
- **Panel width:** 36".
- **Panel length:** 24" – 120".

• Hexagonal hole:

- **Thickness:** 14–22 gauge.
- **Hole size:** 0.25" – 0.5".
- **Hole centres:** 0.2813" – 0.5625".
- **Hole pattern:** staggered row.
- **Open area:** 35% – 80%.
- **Width:** 25" – 48".
- **Length:** 24" – 120".

• Decorative hole:

- **Open area:** 35% – 68%.
- **Thickness:** 11 – 24 gauge.
- **Width:** 36" – 48".
- **Length (span for grating):** 24" – 120".

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Perforated metal building facades.



Perforated metal building panels.

Technical information

• Steel Edge Trims:

- Providing an alternative to conventional methods of framing and installation.
- Giving a smooth continuous framework.
- Removing the danger of sharp serrated edges from cutting and fabrication.
- Can be used for decorative shop fitting.

Table 1 Steel Edge Trims

Product code	Material	Standard Length	Weight "W"	Gap "G"	Thickness "T"	Weight (kg/length)
SET 1	Steel	3000	12	2	1.0	0.61
SET 2	Steel	3000	19	4	1.2	1.22

• Technical details of holes pattern perforation:

Table 2 Round Hole Perforation Technical Details

Arrangement of Hole	Shape of Hole	Identification of Hole Pattern
Triangular Pitch	R	R T
	Calculation of open area in %	$R^2 \times 90.69/T^2$
	Number of holes per m ²	$1,154,700/T^2$
Rectangular Pitch	R	R U
	Calculation of open area in %	$R^2 \times 78.5/(U_1 \times U_2)$
	Number of holes per m ²	$1,000,000/(U_1 \times U_2)$

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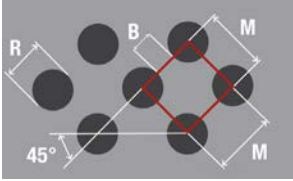
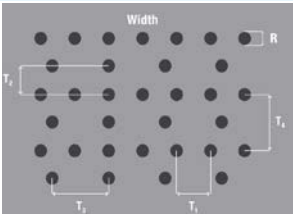
Diagonal Pitch	R	R M
	Calculation of open area in %	$R^2 \times 78.5/M^2$
	Number of holes per m ²	1,000,000/M ²
Euro Pattern	R	Euro
	$R = 4.5$ $T_1 = 15$ $T_2 = 12.5$ $T_3 = 25$ $T_4 = 25$	

Table 3 Square Hole Perforation Technical Details

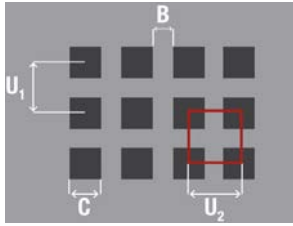
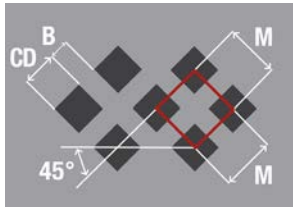
Arrangement of Hole	Shape of Hole	Identification of Hole Pattern
Rectangular Pitch	C	C U
	Calculation of open area in %	$C^2 \times 100/(U_1 \times U_2)$
	Number of holes per m ²	1,000,000/(U ₁ × U ₂)
Diagonal Staggered Pitch	CD	CD M
	Calculation of open area in %	$CD^2 \times 100/M^2$
	Number of holes per m ²	1,000,000/M ²

Table 4: Slot Hole Perforation Technical Details

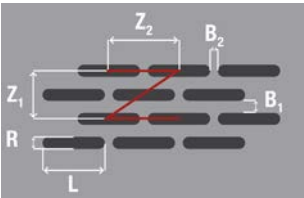
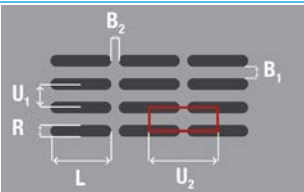
Arrangement of Hole	Shape of Hole	Identification of Hole Pattern
Staggered Pitch	LR	LR Z
	Calculation of open area in %	$(L \times R - 0.2146 R^2) \times 100/(0.5 \times Z_1 \times Z_2)$
	Number of holes per m ²	1,000,000/(0.5 × Z ₁ × Z ₂)
Rectangular Pitch	LR	LR U
	Calculation of open area in %	$(L \times R - 0.2146 R^2) \times 100/(U_1 \times U_2)$
	Number of holes per m ²	1,000,000/(U ₁ × U ₂)

Table 5: Hexagonal Hole Perforation Technical Details

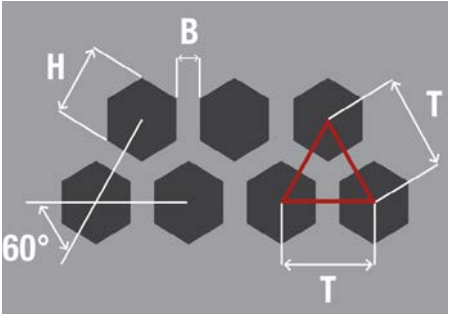
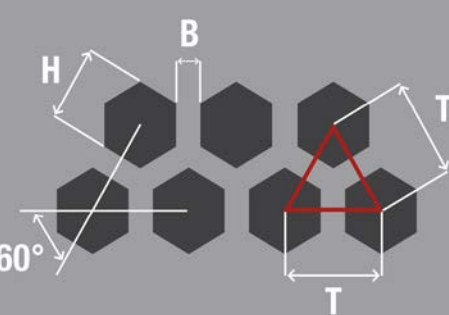
Arrangement of Hole	Shape of Hole	Identification of Hole Pattern
Triangular Pitch	H	H T
	Calculation of open area in %	$H^2 \times 100/T^2$
	Number of holes per m ²	$1,154,700/T^2$

Table 6: Decorative Hole Perforation Technical Details

Arrangement of Hole	Shape of Hole	Identification of Hole Pattern
Club Pattern	CPR	CPR M
	N/A	

• **Tolerances:**

Table 7: Standard Circle Shearing Tolerances

Heavy Gauge	Light Gauge
11 gauge carbon steel	24 gauge carbon steel
16 gauge stainless steel	24 gauge stainless steel
Maximum and minimum	3" – 48" diameter: tolerance of $\pm 1/8"$, except 11 gauge which has a tolerance of $\pm 3/16"$.

Table 8: Standard Flatness Tolerances for Sheets

Sheet Thickness	Widths	Tolerances
16 gauge and heavier	Up to and including 60"	1/2"
	Between 60" and 70"	3/4"
	Over 72"	1"
17 gauge and lighter	Up to and including 36"	1/2"
	Between 36" and 60"	3/4"
	Over 60"	1"

Table 9: Standard Flatness Tolerances for plates

Thickness	To 36"	36" to 48"	48" to 60"	60" to 72"	72" to 84"
To 1/4"	5/8"	7/8"	1-1/16"	1-3/8"	1-1/2"
1/4" to 3/8"	9/16"	3/4"	7/8"	1-1/16"	1-1/4"
3/8" to 1/2"	1/2"	5/8"	11/16"	3/4"	7/8"
1/4" to 3/4"	7/16"	9/16"	5/8"	11/16"	3/4"

Table 10: Standard Thickness Tolerance

Gauge	Plain (carbon) Steel		Stainless Steel		Aluminum	
	Decimal	Tolerance	Decimal	Tolerance	Decimal	Tolerance
30	0.0120	0.0140" 0.0100"	0.0125	N/A	0.010	N/A
28	0.0149	0.0170" 0.0130"	0.0156	0.0166 0.0136	0.012	N/A
26	0.0180	0.0200" 0.0160"	0.0178	0.0193 0.0163	0.016	0.0175" 0.0145"
24	0.0239	0.0270" 0.0210"	0.0235	0.0240 0.0220	0.020	0.0220" 0.0180"
22	0.0299	0.0330" 0.0270"	0.0293	0.0313 0.0273	0.025	0.0270" 0.0230"
20	0.0359	0.0390" 0.0330"	0.0355	0.0375 0.0335	0.032	0.0340" 0.0300"
18	0.0478	0.0520" 0.0440"	0.0480	0.0510 0.0450	0.040	0.0425" 0.0375"
16	0.0598	0.0650" 0.0550"	0.0595	0.0615 0.0565	0.050	0.0530" 0.0470"
14	0.0747	0.0817" 0.0677"	0.0781	0.0821 0.0741	0.063	0.0660" 0.0600"
12	0.1046	0.1146" 0.0946"	0.1094	0.1144 0.1044	0.080	0.0835" 0.0765"
11	0.1196	0.1296" 0.1096"	0.1250	0.1300 0.1200	0.090	0.0935" 0.0865"
10	N/A	N/A	0.1406	0.1466 0.1346	0.100	0.1040" 0.0996"
8	N/A	N/A	0.1650	0.1720 0.1580	0.125	0.1295" 0.1205"
3/16"	0.1875	0.2050" 0.1780"	N/A	N/A	N/A	N/A
1/4"	0.2500	0.2700" 0.2400"	N/A	N/A	N/A	N/A
5/16"	0.3125	0.3330" 0.3030"	N/A	N/A	N/A	N/A
3/8"	0.3750	0.3980" 0.3650"	N/A	N/A	N/A	N/A



Round-hole perforated metal ceiling applied to civic centre or subway.



Decorative-hole perforated metal applied to wall of walkway.

Application

In the agricultural industry, perforated metal application as sieves for grain sorting and drying. In addition, it's also widely used in commercial, industrial and domestic sites, and it's vital for the following applications:

- Screens.
- Diffusers.
- Balustrades.
- Filter.
- Vent.
- Signage.
- Partitions.
- Enclosures.
- Noise barriers.
- Protective fences.
- Sunshade.
- Decoration.



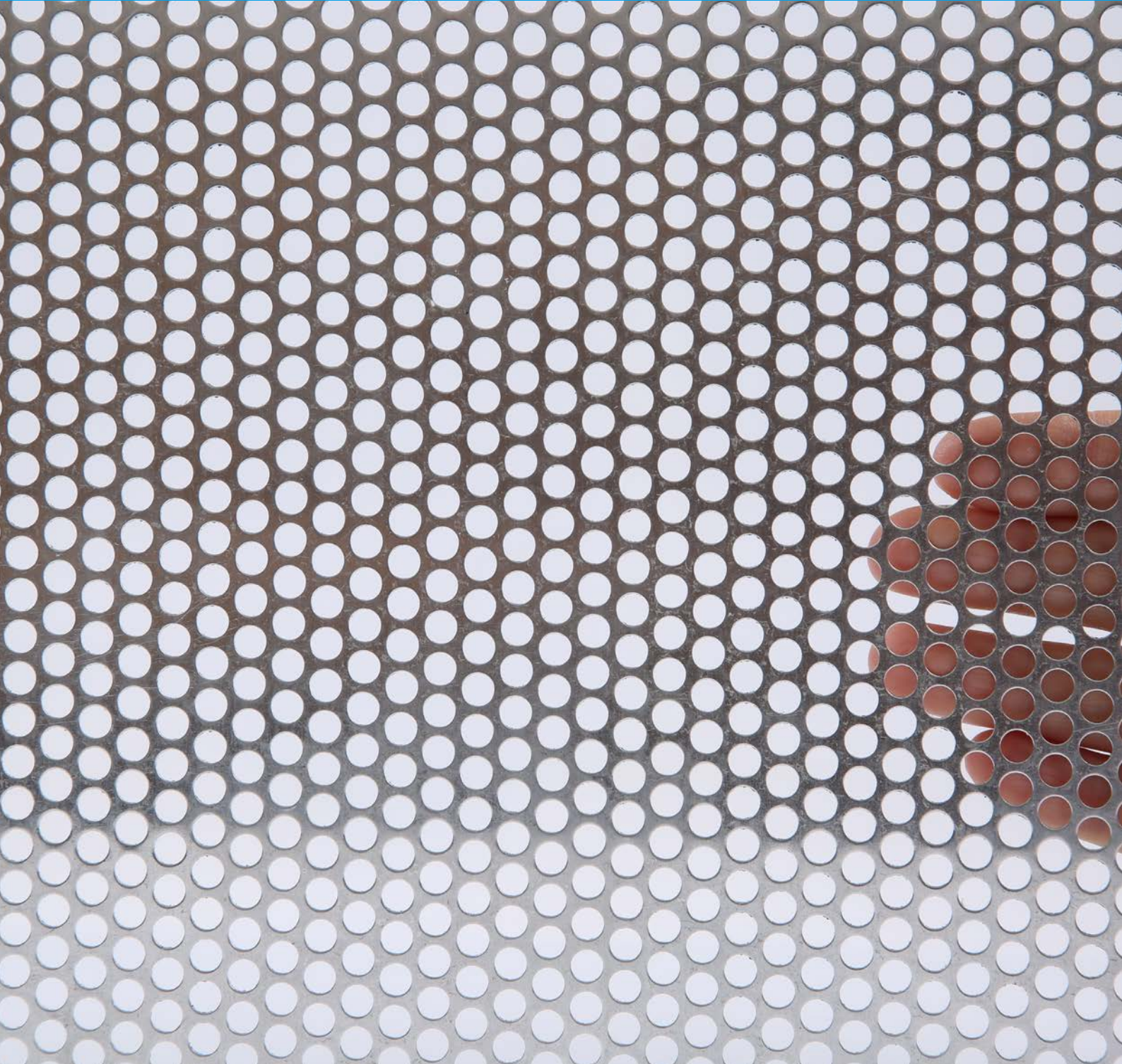
Perforated metal applied in agriculture industry as sieves.



Perforated metal with decorative-holes for decoration object.

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