



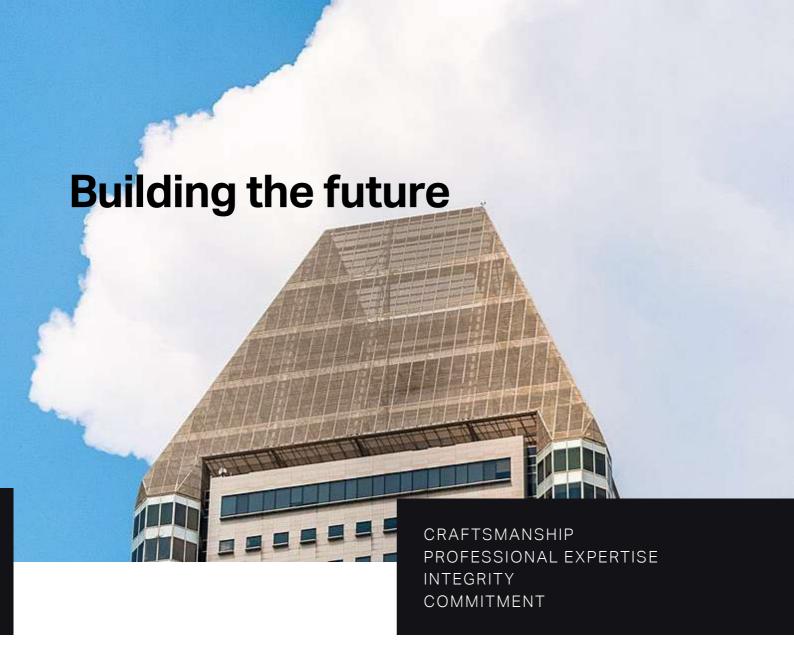
**BEST-IN-CLASS EXPANDED METALS AND PERFORATED METALS** 





## Content

ABOUT US	4
GLOSSARY	6
EXPANDED METALS	
VARIO MESH	8
ALUMINIUM FACADE MESH	10
FINE MESH	14
MEDIUM MESH	18
LOUVRE MESH	22
WALKWAY MESH	26
XG MESH	32
BALUSTRADE MESH	36
ANTI-CLIMB MESH	38
MICROMESH	40
CUSTOM	42
PERFORATED METALS	44



Established in Singapore in 1993, Bestal is one of the region's leading expanded metal suppliers. We've undertaken some of the region's most challenging and iconic projects - no project is too small or too large for us. Using our industry expertise and state-of-the-art German manufacturing capabilities, we have developed a wide range of expanded metal and perforated metal products that are high quality, durable and cost effective. We constantly invest in research and development to ensure that our products comply with international standards and have been certified to meet ISO 9001:2015.

## **Expanded** Metal

Expanded metals are produced

from a continuous sheet of metal that is slit and stretched to form uniform diamond-patterned meshes. This unique process results in the formation of double bonds, where the rows of strands converge at the apex of each diamond.



#### **CLIMATE-PROOF**

Manufactured to withstand tropical climatic conditions (high humidity, temperature and sunlight).



#### **ENERGY-SAVING**

Reduces entry of solar radiation, saving energy by maintaining interior temperature.



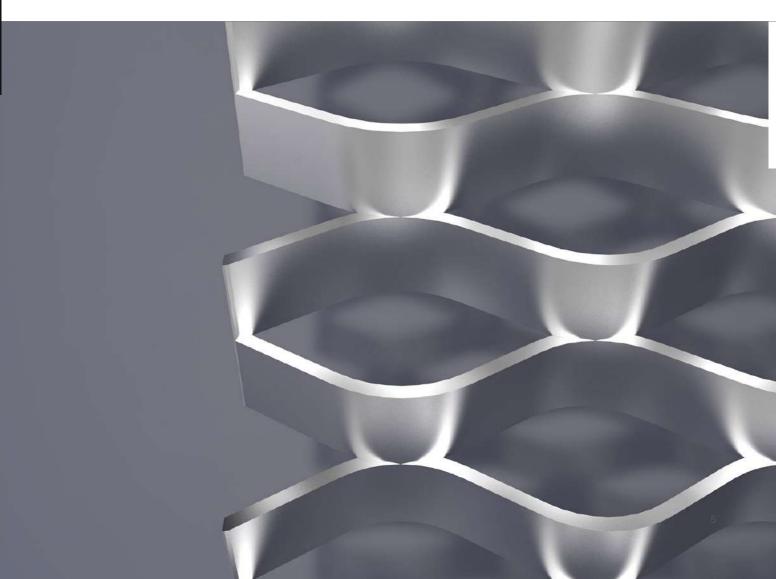
#### LIGHTWEIGHT

Provide structural support for withstanding stress better than metals that are joined or welded.



#### **CUSTOMISABLE**

Can be manufactured in different materials, colours and coating finishings.

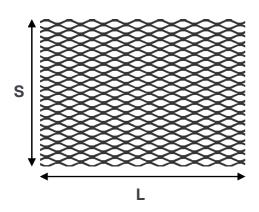


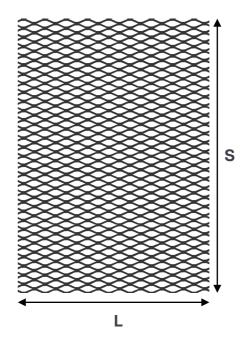
## **Technical Glossary**

#### Measurements

Expanded metals are specified first with LWM ((Long Way of Mesh) followed by SWM (Short Way of Mesh).

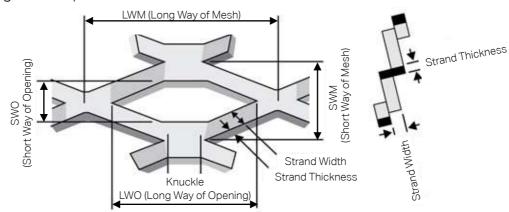
L: LWM - Length of LWM S: SWM - Length of SWM





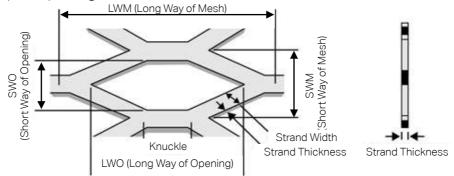
### **Regular Expanded Metal**

Expanded metal as it comes off the machine. The strands and knuckles are set at a uniform angle to the plane of the sheet.



### **Flattened Expanded Metal**

Regular expanded metal that has been rolled flat, resulting in a smooth, even surface of diamond-shaped openings.



## **Technical Glossary**

#### **Materials**

Expanded metals can be manufactured in the following materials.

- **Steel:** Manufactured using high quality, low carbon steel complying to JIS G3131 (BS 1449) SPHC. Normally hot-dipped galvanised (to BS729:1971) for anti-corrosion.
- **Stainless Steel:** Manufactured using SS304/316 grade for highly corrosive environment applications.
- **Aluminium:** Manufactured using high quality commercial grade aluminium sheets (Grade AA1100-H14) 99% pure aluminium.

### **Finishings**

Expanded metals are available in the following finishings:

- Hot-dip galvanising: Protective coating of zinc to prevent corrosion; recommended for steel.
- **Powder-coating:** Decorative and protective from oxidisation and heavy usage; recommended for aluminium. Wide range of colour selection available.
- Anodising: Decorative; provides a deep and rich metallic appearance. Wide range of colour selection available.

#### **Sheet Tolerance**

Reference to sheet size, strand width, thickness and weight are approximate only. Whilst every effort is made for these figures to be accurate, expanded metal manufactured and supplied are subject to our standard tolerances. We therefore reserve the right to alter specifications without notice.

- Short Way of Mesh (SWM): +/- 50mm
- Long Way of Mesh (LWM): +/- 10mm
- Short Way of Opening (SWO): +5mm
- Long Way of Opening (LWO): 0mm

#### **Order Procedure**

When ordering Expanded Metals, please give complete profile specifications to avoid possible error.

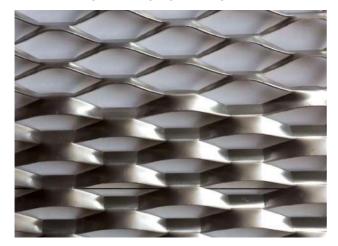
When ordering please state:

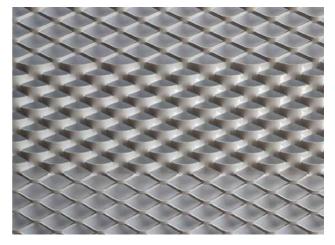
- 1. Mesh reference
- 2. Quantity of sheets
- 3. Sheet Size (LWM dimensions first followed by SWM dimensions)
- 4. Type of material e.g. Steel (M/S), Galvanised Steel (GI), Stainless Steel (SS), Aluminium (A) etc.
- 5. Finish e.g. untreated, galvanised or powder-coated etc.
- 6. Where applicable specify raised or flat



# Vario Mesh

## Product Range Corresponding mesh highlighted in grey below.





BVM50135 BVM2550

## **Specifications**

Mesh Ref.	Material	Mesh Ope	ening (mm)	Thickness (mm)	Strand Width (mm)
		SWM	LWM		
BVM2550	Aluminium	25	50	2.0 - 4.0	3.0 - 10.0
BVM42115	Aluminium	42	115	2.0 - 4.0	15.0 - 25.0
BVM45135	Aluminium	45	135	2.0 - 4.0	15.0 - 25.0
BVM50152	Aluminium	50	152	2.0 - 4.0	17.0 - 30.0
BVM70150	Aluminium	70	150	2.0 - 4.0	20.0 - 30.0
BVM86200	Aluminium	86	200	2.0 - 4.0	25.0 - 35.0
BVM89200	Aluminium	89	200	2.0 - 4.0	25.0 - 35.0
BVM100200	Aluminium	100	200	2.0 - 4.0	30.0 - 40.0
BVM100250	Aluminium	100	250	2.0 - 4.0	30.0 - 40.0
BVM120250	Aluminium	120	250	2.0 - 4.0	30.0 - 40.0

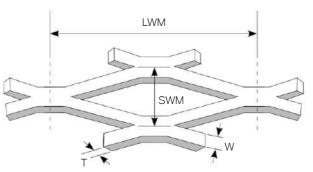
All thickness, strand width and weight are subject to +/-10% tolerance. Standard sheet is 1220 x 2440 (LWM x SWM).

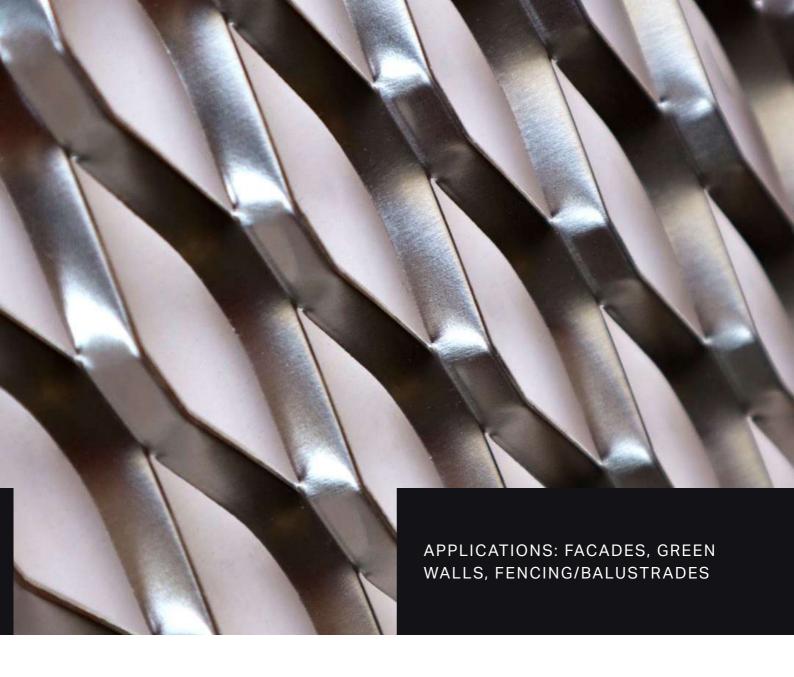
#### Customisation

Customised sizes available upon request subject to production feasibility.

Materials: Steel, Stainless Steel, Galvanised Metal, Aluminium.

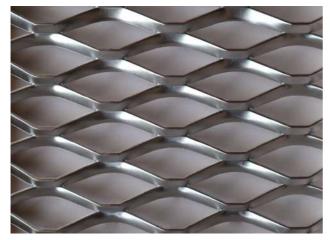
Finishings: Hot-dip galvanising, powder-coating, anodising.





# Aluminium Facade Mesh

## **Product Range**







BAF45135

## **Specifications**

Mesh Ref.	Material	Mesh Opening (mm)		Thickness (mm)	Strand Width (mm)	Weight
		SWM	LWM			(Kg/m2)
BAF20090	Aluminium	30	75	2.0	9	3.50
BAF42115	Aluminium	42	115	1.5	16	3.10
BAF45135	Aluminium	45	135	2.0	16	3.80
BAF50152	Aluminium	50	152	3.0	17	5.50
BAF70150	Aluminium	70	150	3.0	30	7.00
BAF86200	Aluminium	86	200	2.0	30	3.80
BAF89200	Aluminium	89	200	3.0	30	5.50
BAF100250	Aluminium	100	250	3.0	35	5.70
BAF100300	Aluminium	100	300	3.0	35	5.70

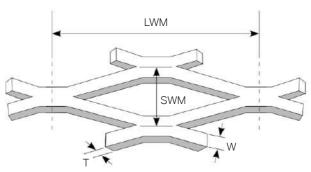
All thickness, strand width and weight are subject to +/-10% tolerance. Standard sheet is 1220 x 2440 (LWM x SWM).

### Customisation

Customised sizes available upon request subject to production feasibility.

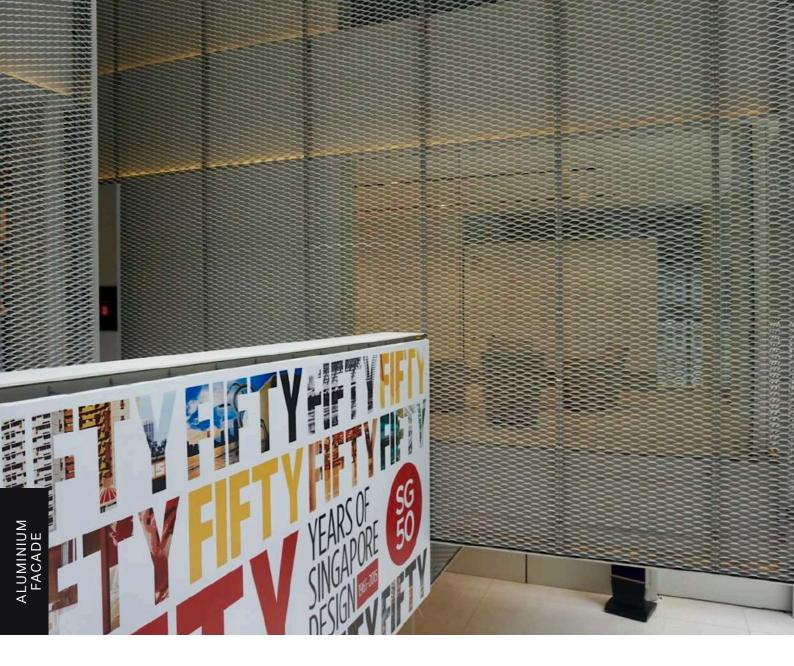
Materials: Steel, Stainless Steel, Galvanised Metal, Aluminium.

Finishings: Hot-dip galvanising, powder-coating, anodising.





# National Design Centre



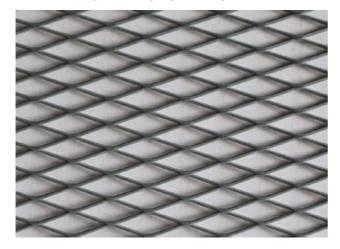
# Where function meets aesthetics

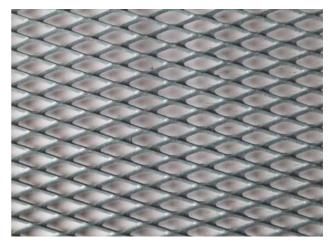
As Singapore's primary hub for design, the National Design Centre won the President's Design Award: Design of the Year 2016. Expanded metal was a key design element - the diamond-shaped apertures diffused light and air, selectively revealing some of the programmes behind yet concealing functional elements such as the required fire stair.



# **Fine Mesh**

## Product Range Corresponding mesh highlighted in grey below.





BFM1015 BFM2015

## **Specifications**

Mesh Ref.	Material	Mesh Opening (mm)		Thickness (mm)	Strand Width (mm)	Weight
		SWM	LWM			(Kg/m2)
BFM0816	Steel	8	16	2.0	2.8	11.00
BFM1015	Steel/GI	9	29	1.0	1.5	2.69
BFM2015	Steel	9	29	2.0	1.5	5.50
BFM1330	Steel	13	30	2.0	3.0	2.85
BFM1520	Steel	16	38	1.5	2.0	3.15
BFM1528	Steel	22	57	1.5	2.8	3.06
BFM2028	Steel	22	57	2.0	2.8	3.90

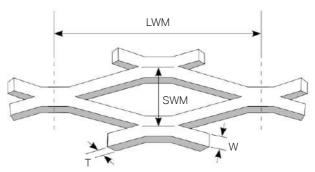
All thickness, strand width and weight are subject to +/-10% tolerance. Standard sheet is 1220 x 2440 (LWM x SWM).

#### Customisation

Customised sizes available upon request subject to production feasibility.

Materials: Steel, Stainless Steel, Galvanised Metal, Aluminium.

Finishings: Hot-dip galvanising, powder-coating, anodising.



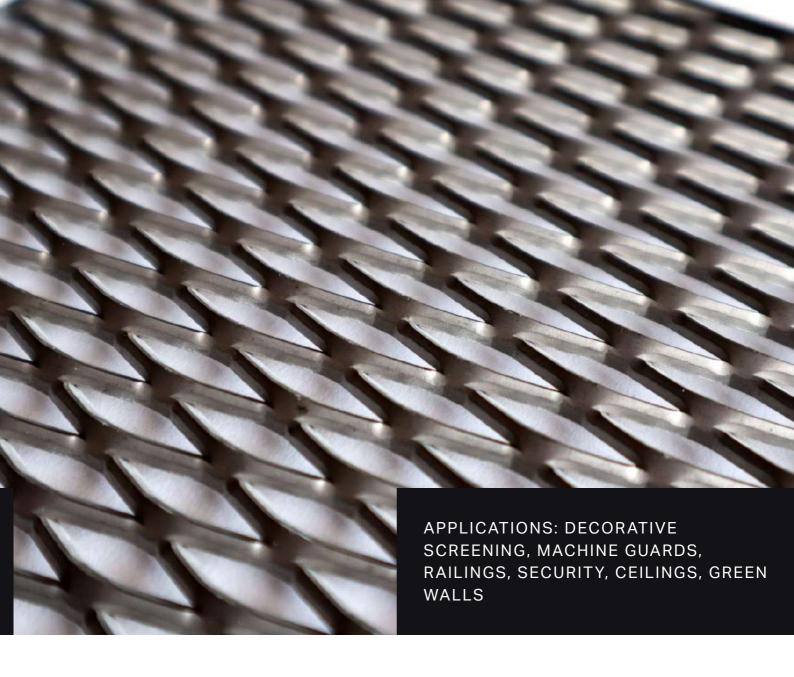


# **Great World City Mall**



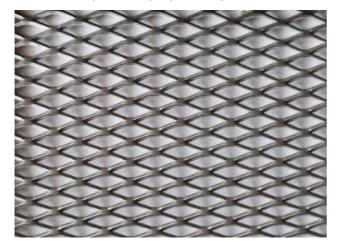
# Conceals machines and pipes

To reinvent itself as Singapore's leisure and entertainment destination, Great World City has embraced its original charm while presenting an innovative look for the future. It strategically introduced a modern palette of materials against the existing structure, using expanded metal mesh to conceal pipes and vents to provide a contemporary, edgy new look.



## **Medium Mesh**

## Product Range Corresponding mesh highlighted in grey below.







BMM3035

## **Specifications**

Mesh Ref.	Material	Mesh Opening (mm)		Thickness (mm)	Strand Width (mm)	Weight
		SWM	LWM			(Kg/m2)
BMM1230	Steel	12	30	3.0	3.0	11.80
BMM1538	Steel	15	38	3.0	5.0	15.70
BMM3035	Steel	22	57	3.0	3.0	6.90
BMM3045	Steel	35	76	3.0	4.5	6.60
BMM3060	Steel	42	115	3.0	6.0	8.00
BMM3050	Steel	50	152	3.0	5.0	4.71
BMM5050	Steel	50	152	5.0	5.0	7.05

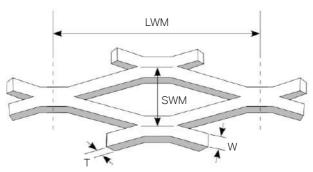
All thickness, strand width and weight are subject to +/-10% tolerance. Standard sheet is 1220 x 2440 (LWM x SWM).

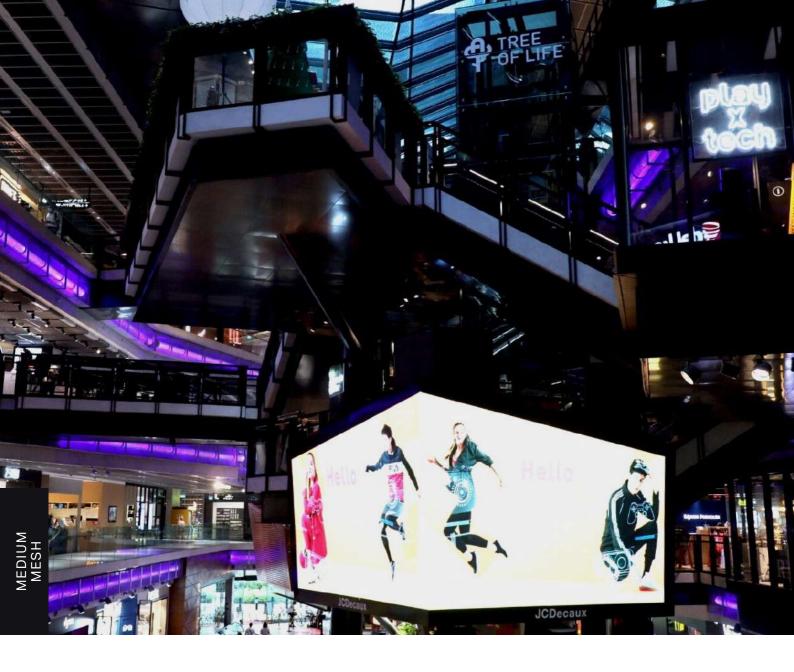
#### Customisation

Customised sizes available upon request subject to production feasibility.

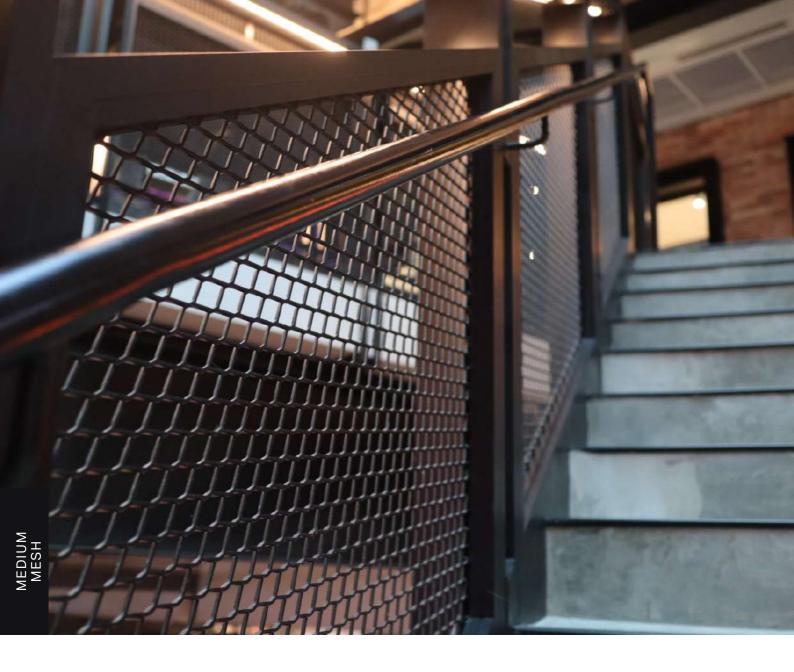
Materials: Steel, Stainless Steel, Galvanised Metal, Aluminium.

Finishings: Hot-dip galvanising, powder-coating, anodising.





# Funan Integrated Development



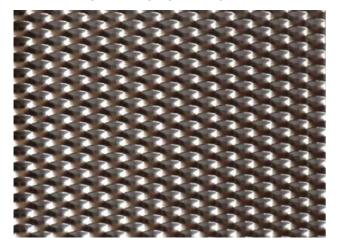
# The most versatile mesh

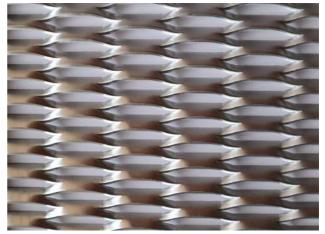
To resonate with modern consumers,
Funan pursued an industrial chic design
theme to exude contemporary and
energetic vibes. As the winner of the
Interior Design BCI Asia Awards 2019,
the interior is covered in expanded
mesh, from ceilings to decorative
screening to walkways. On the outside,
expanded metal mesh is used in the
winding walkway accessing the roof
garden, acting as a key visual point of
interest.



# Louvre Mesh

# Product Range Corresponding mesh highlighted in grey below.





BLM1024 BLM1563

## **Specifications**

Mesh Ref.	Material	Mesh Opening (mm)		Thickness (mm)	Strand Width (mm)	Weight
		SWM	LWM			(Kg/m2)
BLM0816	Steel	8	16	1.6	4.0	12.50
BLM1024	Steel	10	24	2.0	4.0	12.50
BLM1345	Steel	13.65	45	2.0	5.0	11.50
BLM1563	Steel/GI	16	76	1.5	6.3	10.40
BLM2063	Steel	16	76	2.0	6.3	12.40
BLM2040	Steel	16	76	2.0	4.0	7.88

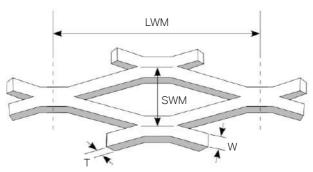
All thickness, strand width and weight are subject to +/-10% tolerance. Standard sheet is 1220 x 2440 (LWM x SWM).

#### Customisation

Customised sizes available upon request subject to production feasibility.

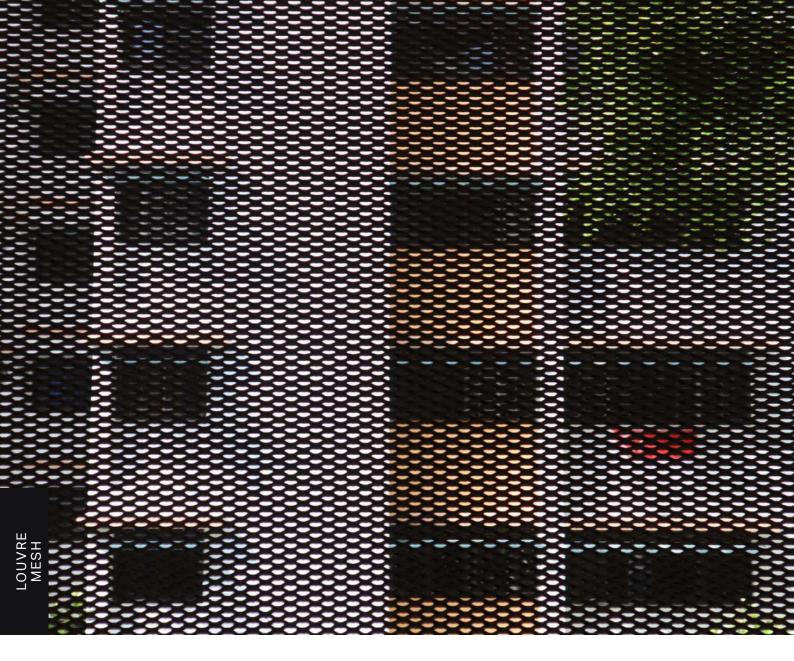
Materials: Steel, Stainless Steel, Galvanised Metal, Aluminium.

Finishings: Hot-dip galvanising, powder-coating, anodising.





# Jurong West Hawker Center



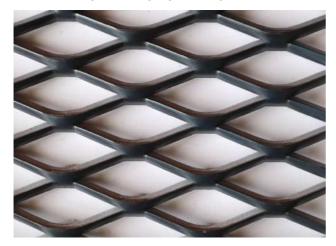
# Rainscreens that protect and maintain buildings

Louvre mesh allows for ample
ventilation and light, yet shields visitors
from heavy rain and harsh sunlight.
Expanded metal used as rain screens
also protect and extend the life of
building claddings, reducing the need
for maintenance in the long-term.
Enveloping the market in Louvre mesh
also helped to provide nearby residents
with greater privacy.

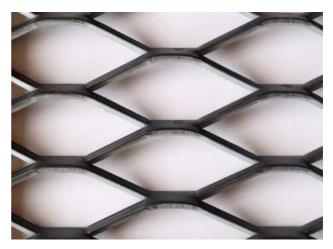


# Walkway Mesh

## Product Range Corresponding mesh highlighted in grey below.







BWK50080

## **Specifications**

Mesh Ref.	Material	Mesh Opening (mm)		Thickness (mm)	Strand Width (mm)	Weight
		SWM	LWM			(Kg/m2)
BWK30080	Steel	30	75	3.0	7.0	10.70
BWK40050	Steel	34	76	4.0	5.0	8.80
BWK50075	Steel	30	75	5.0	7.5	23.00
BWK50080	Steel	42	135	5.0	8.0	14.05
BWK50105	Steel	30	75	4.7	10	27.00
BWK50110	Steel	45	135	4.7	11.0	19.00

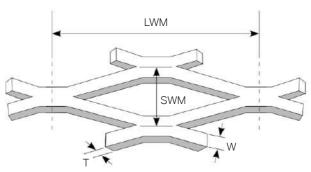
All thickness, strand width and weight are subject to +/-10% tolerance. Standard sheet is 1220 x 2440 (LWM x SWM).

#### Customisation

Customised sizes available upon request subject to production feasibility.

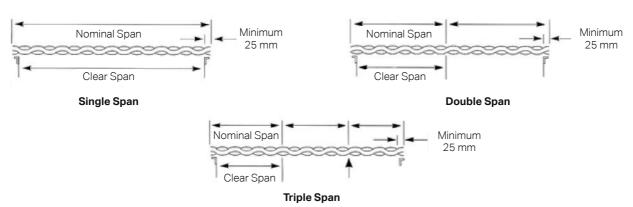
Materials: Steel, Stainless Steel, Galvanised Metal, Aluminium.

Finishings: Hot-dip galvanising, powder-coating, anodising.



## Load/Span Table

Walkway Mesh Ref.	Types of Loads	Simple Span (mm)			Double Span (mm)			Triple Span (mm)		
		600	900	1200	300	450	600	200	300	400
BWK30080	Uniform Load (KN/m²)	NI-+ D			7.25	2.61	1.82	19.13	8.50	4.78
BWK40050	Point Load (KN)	NOI K	ecomme	enaea	1.32	0.53	0.44	1.43	0.96	0.72
BWK50075	Uniform Load (KN/m²)	5.70	2.50	1.50	23.50	10.70	6.00	51.00	25.00	14.00
BWK50110A	Point Load (KN)	1.30	0.80	0.60	2.80	1.90	1.40	4.40	3.00	2.20
BWK50080	Uniform Load (KN/m²)	4.80	2.20	1.20	20.00	9.00	5.10	43.00	21.00	12.00
BWK50075A	Point Load (KN)	1.10	0.74	0.54	2.50	1.68	1.27	4.00	2.68	2.04
BWK50105	Uniform Load (KN/m²)	8.20	3.65	2.02	33.80	15.30	8.66	70.00	36.10	20.50
BWK60075A	Point Load (KN)	1.80	1.22	0.92	4.20	2.80	2.12	6.40	4.56	3.45
DWK50110	Uniform Load (KN/m²)	6.30	2.90	1.70	26.00	11.70	6.70	55.00	28.20	16.00
BWK50110	Point Load (KN)	1.44	0.96	0.70	3.30	2.20	1.68	5.00	3.56	2.70



Load capacities given in the table are the heaviest possible loads that will cause no permanent deformation, with a safety factor of 1.2 times. If some permanent deformation is allowed, load can be increased by 20%.

The load table is applicable based on spanning in LWM direction and spot-weld at every 3rd stand on support and minimum 25mm landing on both ends.

Spans are recommended based on the assumption that deflection is not greater than 1/200 span.

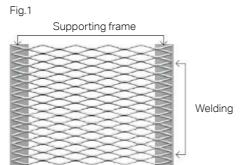
Spans stated in the table are nominal. Clear spans are obtained by deducting 25mm landing on both ends.

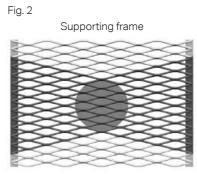
<sup>\*</sup>Load/Span Table is only a guide - please consult a Professional Engineer.

## Installation: Walkway Mesh

### **Direction Arrangement**

Arrange direction of long way of mesh (LWM) to conform to span direction (Fig. 1 and Fig. 2)



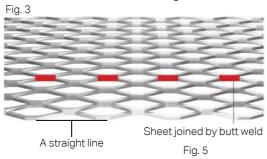


### **Jointing**

Distribution of load produced in the mesh by working load on expanded metal is considered to be similar to Fig. 2. Thus, there are 2 standard methods of joining sheets together:

- Sheet joined by butt welding (Fig. 3)
- Sheet joined by overlapping and welding for at least 1 mesh (Fig. 4)

When joining mesh in short way of mesh (SWM) direction, arrange meshes in a straight line and in a direction of angle of each strand in the same way (Fig. 5)



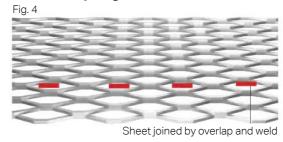
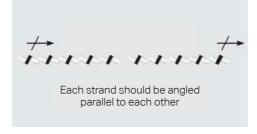


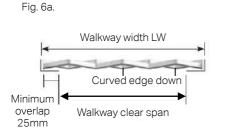
Fig. 6c.

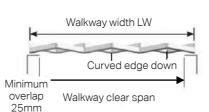


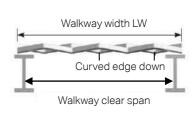
#### Installation

When fixing the side of expanded metal and welding to the steel beams/steel sections, weld the side as shown in Fig. 6 (a, b, c). According to different application conditions, the weld spot may be at every 2 meshes or every 4 meshes (as shown in Fig. 1). For safety

Fig. 6b.







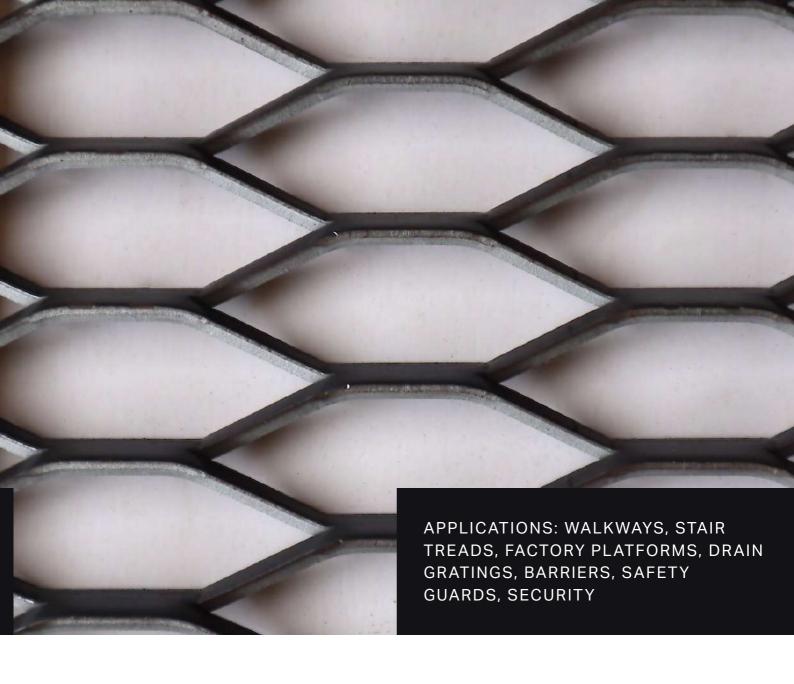


# Pingtung Bridge



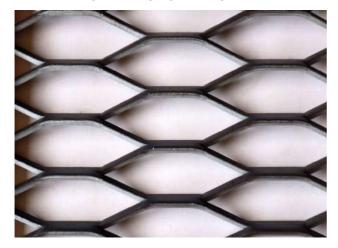
# Anti-slip & resilient in all types of weather

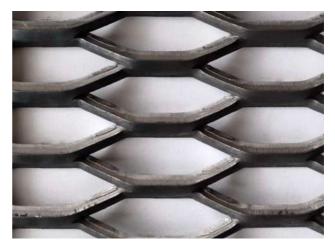
Walkway Mesh was used in an iconic water pipeline bridge in Pingtung,
Southern Taiwan. Expanded metal was the perfect material of choice, given its ability to withstand the region's extreme weather conditions and monsoon season. The anti-slip properties and structural reliability of the mesh help ensure the safety of maintenance staff, helping achieve an accident-free workplace.



## **XG Mesh**

## Product Range Corresponding mesh highlighted in grey below.





XG-14 XG-11

## **Specifications**

Mesh Ref.	Material	Mesh Opening (mm)		Thickness (mm)	Strand Width (mm)	Weight
		SWM	LWM			(Kg/m2)
XG-11	Steel	34	135.4	4.5	7.0	14.5
XG-12	Steel	34	135.4	6.0	7.0	19.40
XG-13	Steel	34	135.4	6.0	9.0	24.90
XG-14	Steel	34	135.4	8.0	9.0	33.20
XG-21	Steel	36	101.6	4.5	7.0	13.70
XG-22	Steel	36	101.6	6.0	7.0	18.30
XG-23	Steel	36	101.6	6.0	9.0	23.60
XG-24	Steel	36	101.6	8.0	9.0	31.40

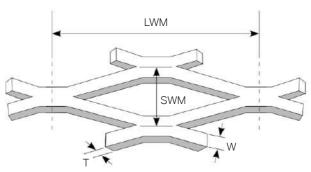
All thickness, strand width and weight are subject to +/-10% tolerance. Standard sheet is 1220 x 2440 (LWM x SWM).

#### Customisation

Customised sizes available upon request subject to production feasibility.

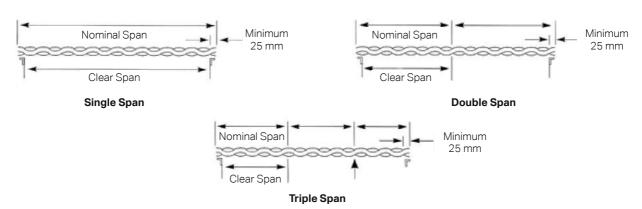
Materials: Steel, Stainless Steel, Galvanised Metal, Aluminium.

Finishings: Hot-dip galvanising, powder-coating, anodising.



## Load/Span Table

XG Mesh Ref.	Types of Loads	Simple Span (mm)			Double Span (mm)			Triple Span (mm)		
		600	900	1200	300	450	600	200	300	400
XG11	Uniform Load (KN/m²)	4.90	2.25	1.22	20.00	9.00	5.21	43.85	21.40	12.14
XG21	Point Load (KN)	1.10	0.74	0.54	2.50	1.68	1.27	4.00	2.68	2.04
XG12	Uniform Load (KN/m²)	6.43	2.90	1.73	26.37	11.93	6.83	56.00	28.75	16.12
XG22	Point Load (KN)	1.44	0.96	0.72	3.30	2.22	1.68	5.06	3.56	2.70
XG13	Uniform Load (KN/m²)	5.80	2.50	1.50	23.80	10.70	6.10	51.00	25.40	14.60
XG23	Point Load (KN)	1.30	0.85	0.64	2.95	1.97	1.50	4.55	3.18	2.42
XG14	Uniform Load (KN/m²)	8.20	3.65	2.02	33.80	15.30	8.66	70.00	36.10	20.50
XG24	Point Load (KN)	1.80	1.22	0.92	4.20	2.80	2.12	6.40	4.56	3.45



Load capacities given in the table are the heaviest possible loads that will cause no permanent deformation, with a safety factor of 1.4 times. If some permanent deformation is allowed, load can be increased by 40%.

The load table is applicable based on spanning in LWM direction and spot-weld at every 4th stand on support and minimum 25mm landing on both ends.

Spans are recommended based on the assumption that deflection is not greater than 1/200 span.

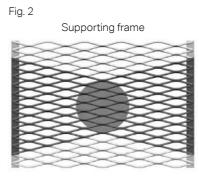
Spans stated in the table are nominal. Clear spans are obtained by deducting 25mm landing on both ends.

## **Installation: XG Mesh**

### **Direction Arrangement**

Arrange direction of long way of mesh (LWM) to conform to span direction (Fig. 1 and Fig. 2)

Fig.1
Supporting frame
Welding

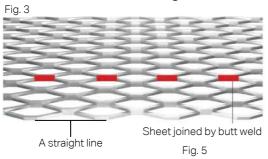


### **Jointing**

Distribution of load produced in the mesh by working load on expanded metal is considered to be similar to Fig. 2. Thus, there are 2 standard methods of joining sheets together:

- Sheet joined by butt welding (Fig. 3)
- Sheet joined by overlapping and welding for at least 1 mesh (Fig. 4)

When joining mesh in short way of mesh (SWM) direction, arrange meshes in a straight line and in a direction of angle of each strand in the same way (Fig. 5)



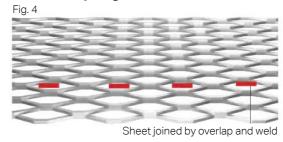
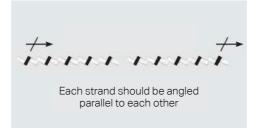


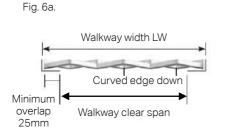
Fig. 6c.

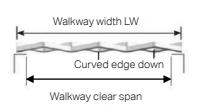


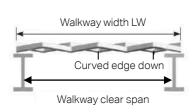
#### Installation

When fixing the side of expanded metal and welding to the steel beams/steel sections, weld the side as shown in Fig. 6 (a, b, c). According to different application conditions, the weld spot may be at every 2 meshes or every 4 meshes (as shown in Fig. 1). For safety

Fig. 6b.





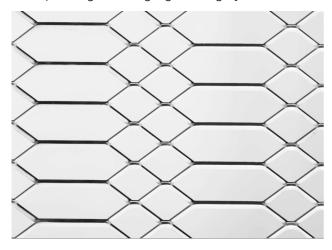




# Balustrade Mesh

## **Product Range**

Corresponding mesh highlighted in grey below.



BBM3032

### **Specifications**

Mesh Ref.	Material	Mesh Opening (mm)		Thickness (mm)	Strand Width (mm)	Weight
		SWM	LWM			(Kg/m2)
BBM3032	Steel	25	40/81	3.0	3.2	6.05
BBM3032A	Aluminium	25	40/81	3.0	3.2	2.09
BBM3033	Steel	30	50/110	3.0	3.3	5.90

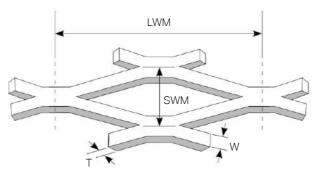
All thickness, strand width and weight are subject to +/-10% tolerance. Standard sheet is 1220 x 2440 (LWM x SWM).

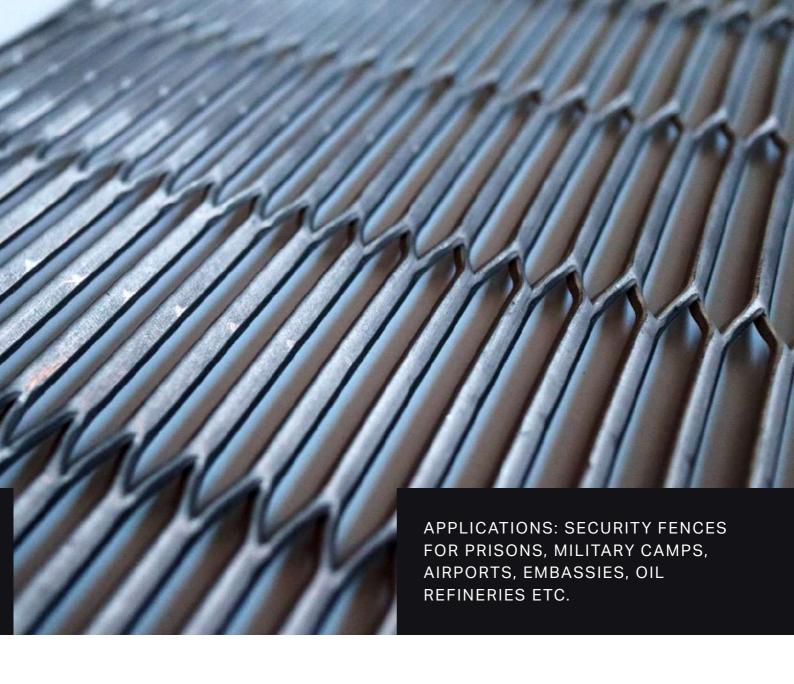
#### Customisation

Customised sizes available upon request subject to production feasibility.

Materials: Steel, Stainless Steel, Galvanised Metal, Aluminium.

Finishings: Hot-dip galvanising, powder-coating, anodising.

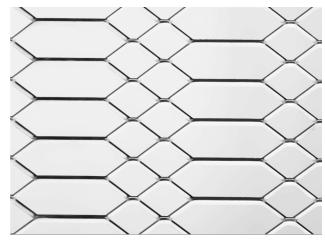




## Anti-Climb Mesh

## Product Range Corresponding mesh highlighted in grey below.





BBM3032

## **Specifications**

Mesh Ref.	Material	Mesh Ope	ening (mm)	Thickness (mm)	Strand Width (mm)
		SWM	LWM		
BSM3030S	Steel	12.5	75	3.0	3.0
BSM3030L	Steel	12.5	160	3.0	3.0
BBM3032	Steel	25	40/81	3.0	3.2

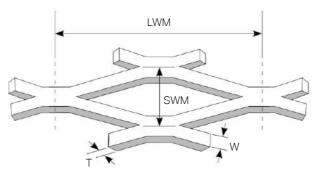
All thickness, strand width and weight are subject to +/-10% tolerance. Standard sheet is 1220 x 2440 (LWM x SWM).

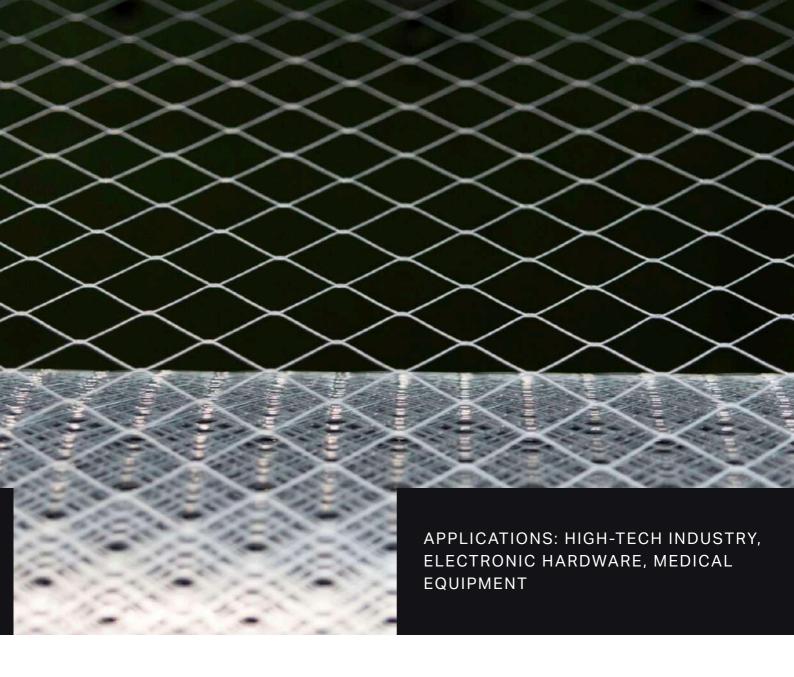
#### Customisation

Customised sizes available upon request subject to production feasibility.

Materials: Steel, Stainless Steel, Galvanised Metal, Aluminium.

Finishings: Hot-dip galvanising, powder-coating, anodising.





# Micromesh

### **Micromesh**

Mesh Ref.	Mesh Opening (mm)		Thickness (mm)	Strand Width (mm)	
	SWM	LWM			
MEM0102	1	2	0.3 - 0.4	0.3 - 0.4	
MEM0203	2	3	0.3 - 0.6	0.4 - 0.6	
MEM0305	3	5	0.3 - 0.6	0.4 - 0.8	
MEM0408	4	8	0.4 - 0.8	0.6 - 1.2	
MEM0510	5	10	0.4 - 0.8	0.6 - 1.8	
MEM0610	6	10	0.4 - 0.8	0.6 - 1.8	
MEM0612	6	12	0.4 - 1.0	0.6 - 1.8	
MEM0714	7	14	0.4 - 1.0	0.6 - 2.0	
MEM0820	8	20	0.4 - 1.0	0.6 - 1.8	

## **Super-thin Micromesh**

Mesh Ref.	Mesh Opening (mm)		Thickness (mm)	Strand Width (mm)	Coil Size (mm)
	SWM	LWM			
STM0052	0.5	1.0	0.03 - 0.3	0.1 - 0.5	305 Max x coil
STM0102	1.0	2.0	0.03 - 0.4	0.1 - 0.8	305 Max x coil
STM0203	2.0	3.0	0.03 - 0.6	0.1 - 1.0	1000 Max x coil
STM0204	2.0	4.0	0.03 - 0.7	0.1 - 1.2	1220 Max x coil
STM1535	1.5	3.5	0.03 - 0.5	0.1 - 0.8	1000 Max x coil

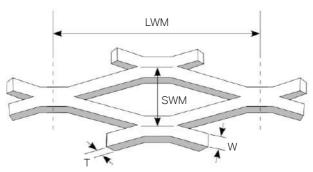
All thickness, strand width and weight are subject to +/-10% tolerance. Standard sheet is  $1220 \times 2440$  (LWM x SWM).

#### Customisation

Customised sizes available upon request subject to production feasibility.

Materials: Steel, Stainless Steel, Galvanised Metal, Aluminium, Copper, Titanium, Silver.

Finishings: Hot-dip galvanising, powder-coating, anodising.

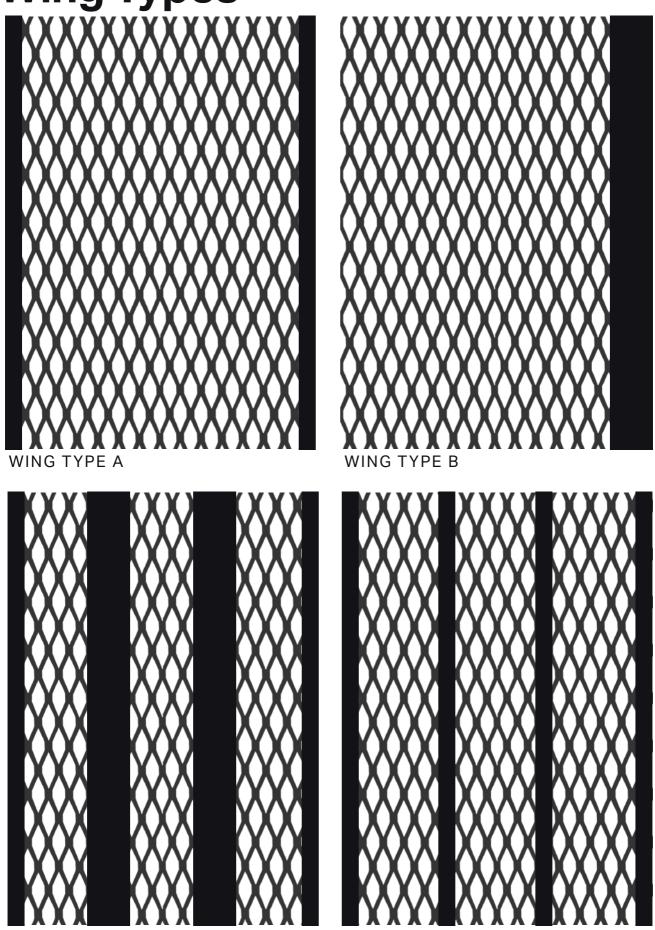




# Customisation

# Wing Types

WING TYPE C



WING TYPE D

# Perforated Metal

Perforated metals are sheet metals that have been manually or mechanically stamped or punched to create a pattern of holes, slots, or decorative shapes. Bestal perforated metals are available in a wide array of hole shapes, sizes, gauges, and material types, making them versatile and functional for all architectural applications.



#### **VERSATILE**

Can be used for a wide variety of applications as it is easily bent and configured. Examples of creative applications include sunscreens, railing infills, column covers and more.

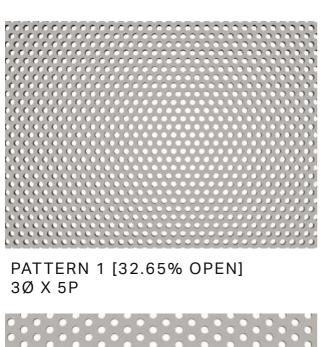


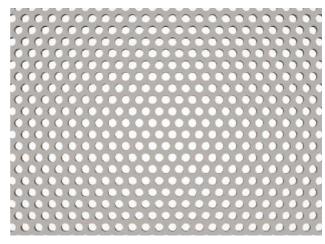
#### **CUSTOMISABLE**

Can be manufactured in different materials, hole shapes, sizes and gauges.



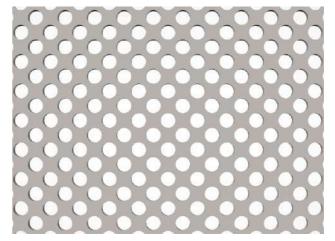
### **Round Holes**





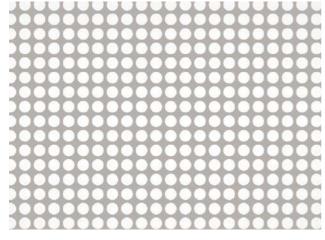
PATTERN 2 [35.42% OPEN] 5Ø X 8P

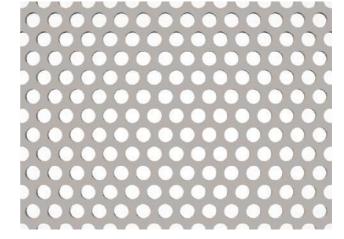




PATTERN 3 [22.84% OPEN] 5Ø X 10/17.32P

PATTERN 4 [40.2% OPEN] 8Ø X 12P

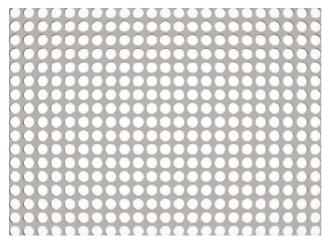




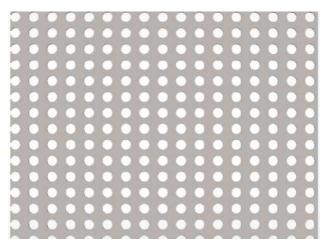
PATTERN 5 [50.2% OPEN] 8Ø X 10P

PATTERN 6 [40.2% OPEN] 10Ø X 15P

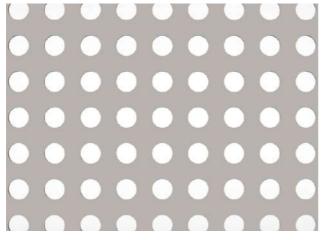
### **Round Holes**



PATTERN 7 [50.27% OPEN] 10Ø X 12.5P

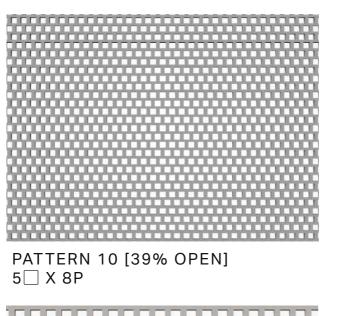


PATTERN 8 [26.59% OPEN] 13Ø X 20.8/24P

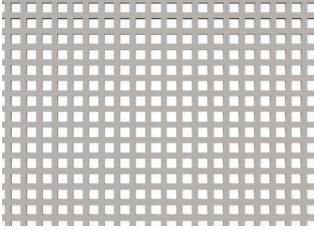


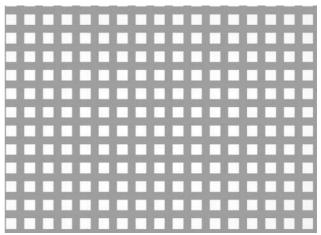
PATTERN 9 [25.65% OPEN] 20Ø X 35P

## **Square Holes**



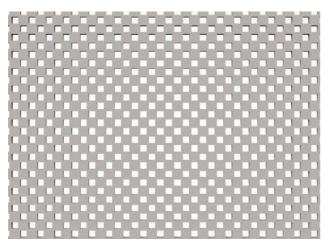
PATTERN 11 [49% OPEN] 7 X 10P





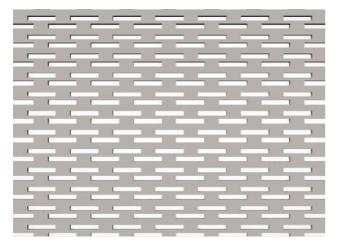
PATTERN 12 [37.9% OPEN] 8□ X 13P

PATTERN 13 [32.65%] 8 X 14P

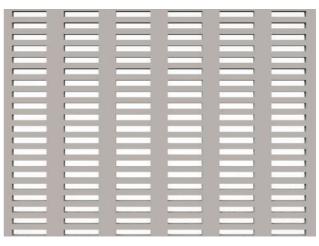


PATTERN 14 [29.59%] 5 X 13P

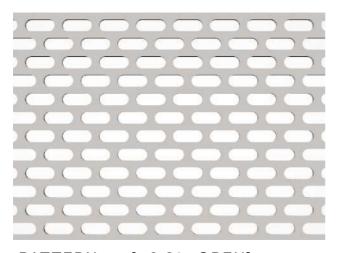
### **Slotted Holes**



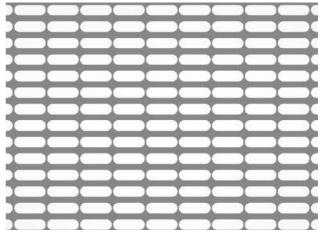
PATTERN 15 [33.3% OPEN]



PATTERN 16 [33.3% OPEN]

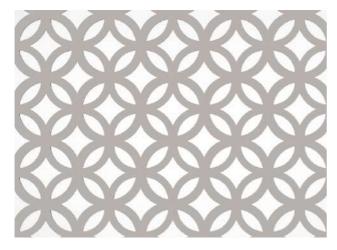


PATTERN 17 [46.8% OPEN]

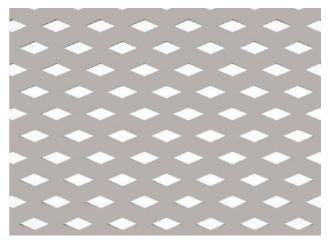


PATTERN 18 [46.8% OPEN]

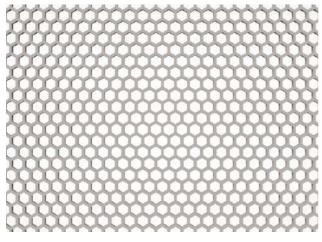
## **Unique Holes**



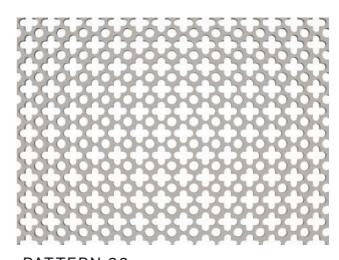
PATTERN 19 [42.13% OPEN]



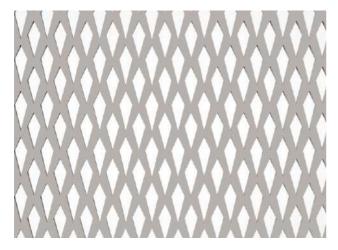
PATTERN 20 [20.43% OPEN]



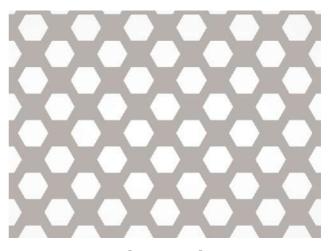
PATTERN 21 [60% OPEN] 12.5" X 14.5"



PATTERN 22

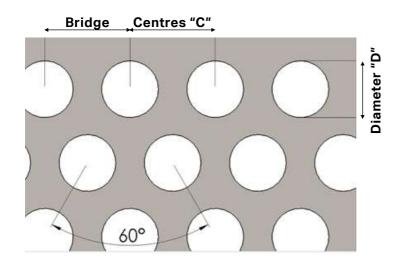


**PATTERN 23 [43.9% OPEN]** 



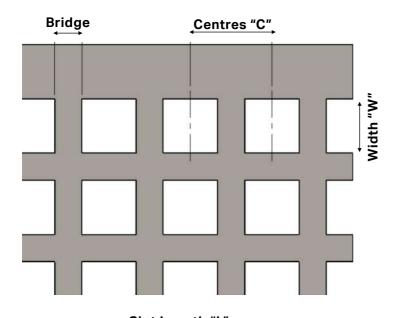
PATTERN 24 [43.29%]

## **Technical Glossary**



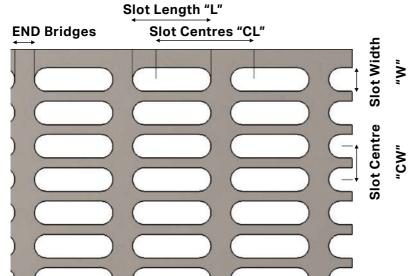
#### **Open Area Formula**

$$\frac{D^2 \times 90.69}{C^2} = \%$$



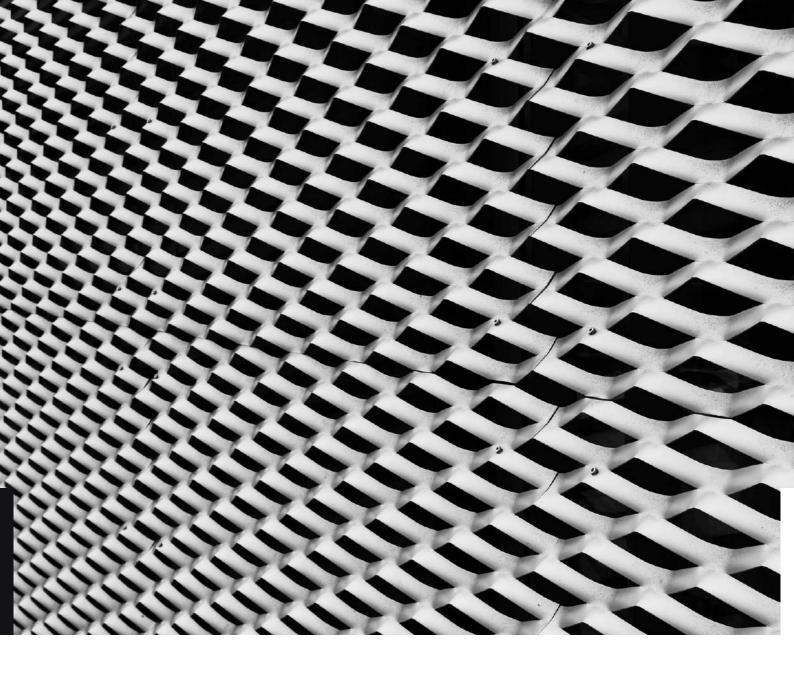
#### **Open Area Formula**

$$\frac{W^2 \times 100}{C^2} = \%$$



#### **Open Area Formula**

$$\frac{W(L - 0.215W)}{C_L \times C_W} \times 100 = \%$$



#### **Contact Us**

5 Gul Crescent Singapore 629521

Tel: (65) 6863 2939 Fax: (65) 6863 2995