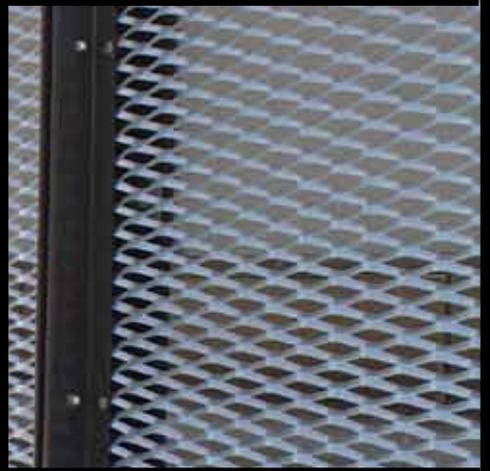
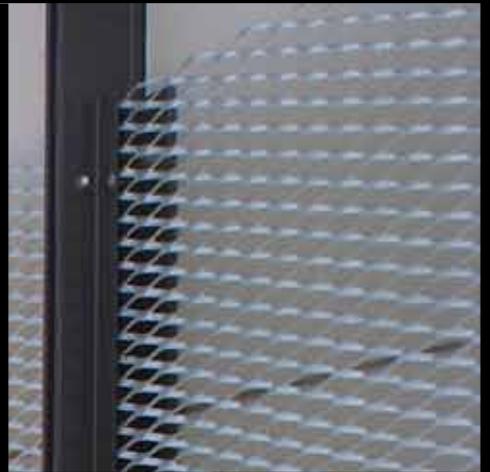


**NEPEAN**  
Building &  
Infrastructure

TM

## Mastermesh® Expanded Metal



# NEPEAN™ Building & Infrastructure

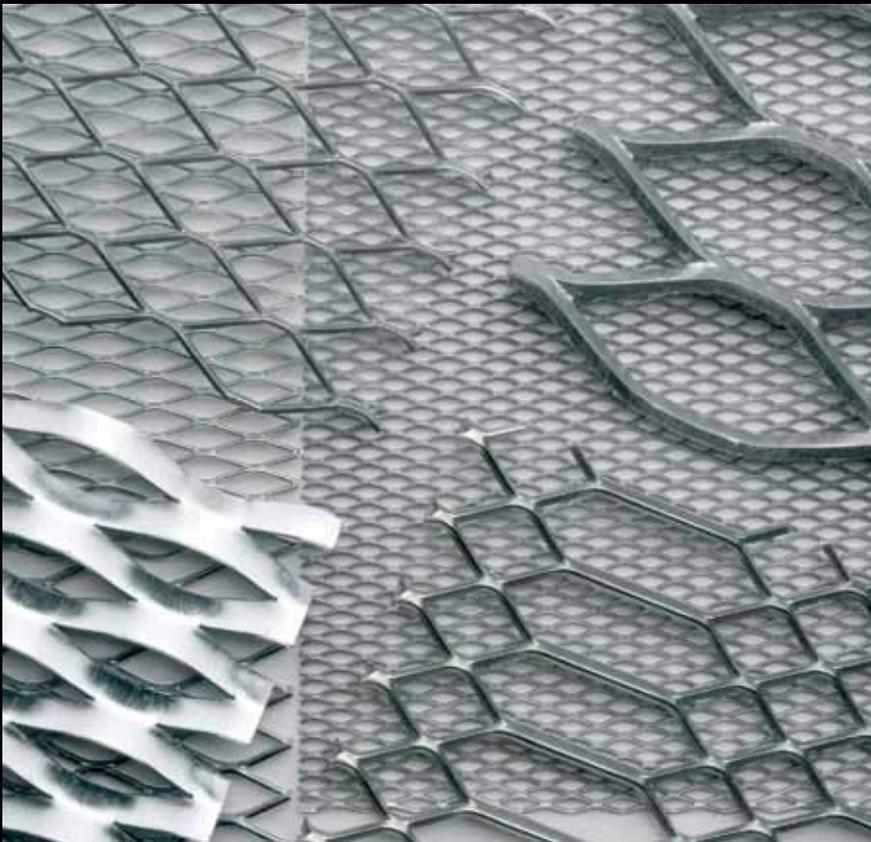
NEPEAN Building & Infrastructure is a division of NEPEAN, Australia's largest privately owned engineering, mining services and industrial manufacturing organisation.

Under the Mastermesh® brand, NEPEAN Building & Infrastructure manufactures and supplies an extensive range of expanded and perforated metal products that are widely used in architectural, commercial, industrial and resources projects Australia-wide. Materials include galvanised mild steel, stainless steel and aluminium.

This brochure is designed to assist the architect, draughtsperson, engineer, fabricator and specifier in the correct selection of our range of expanded metal products.

## CONTENTS

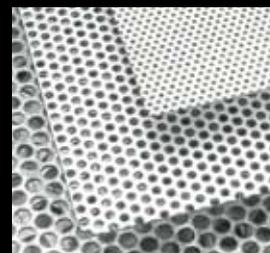
<b>Company History</b>	<b>2</b>
<b>Application Photos</b>	<b>3</b>
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<b>Flormesh®</b>	<b>6-7</b>
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Expanded Metal



Flormesh®



Perforated Metal

# MASTERMESH® EXPANDED METAL APPLICATIONS



FM14 – Walkway/Catwalks



Non-standard product – Carpark facades



SD0912 – Automotive grilles



SM3030 – Gross pollutant traps



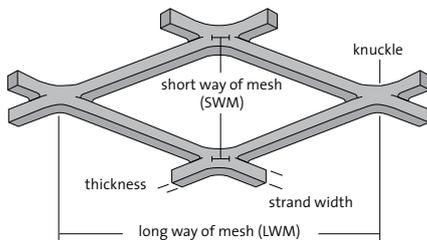
SUN1663 – Anti-glare screens



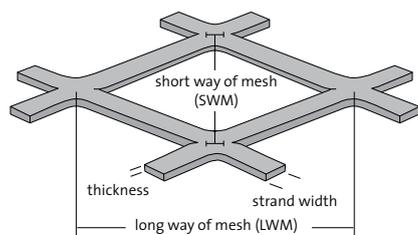
LD3045 – Balustrade infill panels

# GENERAL INFORMATION

## Raised Expanded Metal Profile



## Flattened Expanded Metal Profile



## Expanded Metal Terms

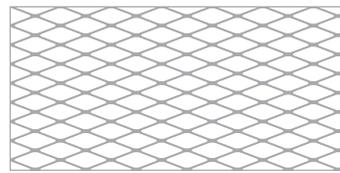
**LWM** – Long Way Measurement. Dimension taken from the centre of one knuckle to the centre of the adjoining knuckle, measured along the “long way” of the diamond/profile (see diagrams).

**SWM** – Short Way Measurement. Dimension taken from the centre of one knuckle to the centre of the adjoining knuckle, measured along the “short way” of the diamond/profile (see diagrams).

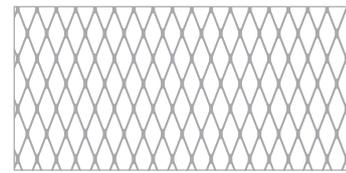
**Strands & Knuckles** – Expanded metal is made up of strands & knuckles. Strands form the sides of the expanded metal opening and the knuckle is the intersection of two strands.

**Thickness** – The thickness of the parent sheet metal, which remains unchanged during the expanding process.

**Sheet Direction** – LWM x SWM (see diagrams below).



2400 LWM x 1200 SWM  
This sheet is 2400mm LWM x 1200mm SWM



1200 LWM x 2400 SWM  
This sheet is 1200mm LWM x 2400mm SWM

## Materials

Expanded metal sheets can be supplied in the following materials:

- >> **Untreated mild steel**
- >> **Pre-galvanised steel**
- >> **Stainless steel (304 & 316)**
- >> **Aluminium**
- >> **Copper**
- >> **Brass**
- >> **Pre-painted steel**

## Fabricating Expanded Metal

Conventional sheet metal working techniques are used for fabricating expanded metal, including cutting, bending and welding.

## Non-standard Products

We have provided many special-purpose expanded metals to suit unique applications. If you have a requirement that is not covered in this catalogue, please contact your nearest sales office (details on back cover) for further information.



## Tolerances

All measurements specified are nominal and approximates only. Although every effort is made to ensure these dimensions are accurate, they are subject to standard industrial manufacturing tolerances.

## Finishes

**Hot-Dip Galvanised:** NEPEAN Building & Infrastructure has its own in-house galvanising plant, providing a 24-hour service. The hot-dip galvanising process produces a durable, abrasion-resistant coating of metallic zinc and zinc-iron alloy layers metallurgically bonded to the steel base. This finish is not recommended for fine meshes, as they are prone to distortion and windowing effects. Hot-dip galvanising conforms to AS/NZS4680:1999.

# MASTERMESH® EXPANDED METAL APPLICATIONS



FM14 – Trailers



LD3039 – Car park facades



FM22 – Ballast retaining sump pit covers



LD3056 – Security window grilles



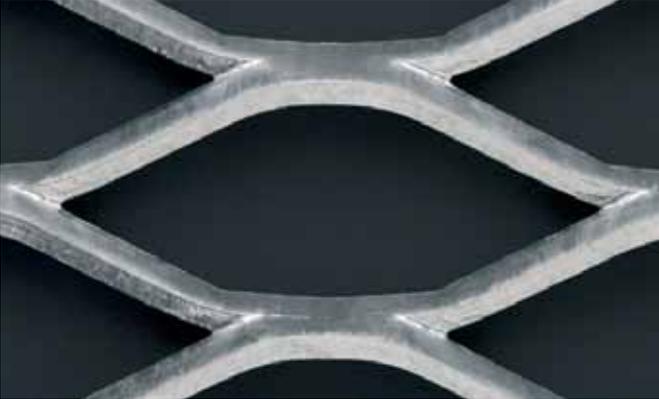
DM3032 – Decorative window grilles



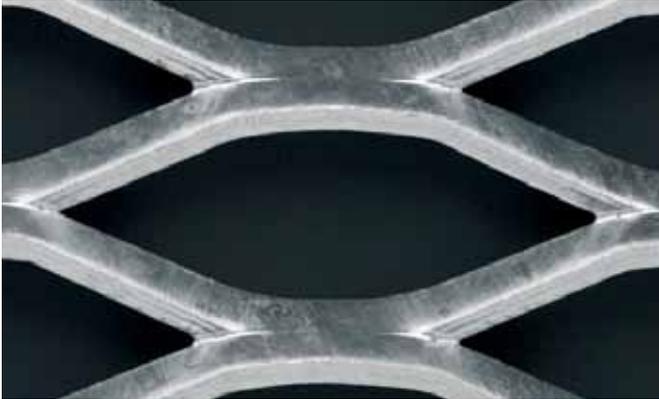
LD1620F – Machine guards

# FLORMESH® WALKWAY MESH

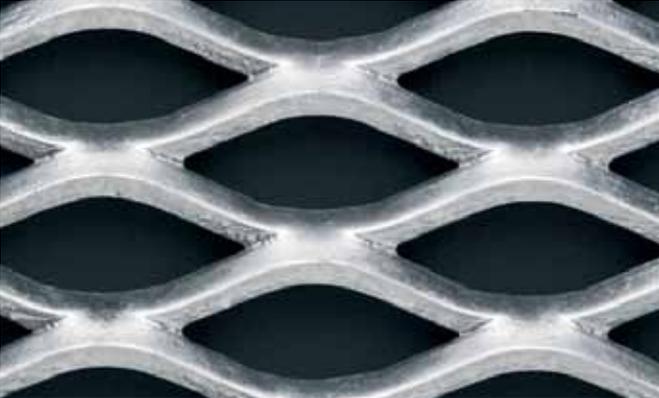
FM14



FM19



FM22



FM28



Profiles pictured are 75% actual size.



Trailers



Air conditioning platforms



Walkways

# FLORMESH® WALKWAY MESH

## Flormesh® Product Range

Product Code	Material	Nom. Mesh Dimensions		Nom. Strand Dimensions		Sheet Size LWM x SWM	Approx. Weight (kg/m <sup>2</sup> )	Approx. % Open Area
		LWM (mm)	SWM (mm)	Thickness (mm)	Width (mm)			
FM14	Steel	135.00	45.00	5.00	8.00	600/750/900/1200 x 3000	14.00	64
FM19	Steel	135.00	45.00	5.00	11.00	600/750/900/1200 x 3000	19.00	52
FM22	Steel	75.00	30.00	5.00	7.50	600/750/900/1200 x 3000	22.00	50
FM28	Steel	75.00	30.00	5.00	10.50	600/750/900/1200 x 3000	28.00	30

• Open area percentages are approximations only

## Flormesh® Safe Loads and Deflections

### Product Code Loading Type

#### FM 14

Span (mm)	500	600	700	800	900	1000	1100	1200
Uniform (kPa)	18.49	13.63	10.16	7.67	5.63	4.09	2.67	1.70
Deflection (kPa)	1.24	0.97	0.78	0.64	0.52	0.44	0.37	0.31
Concentrated (kN)	1.89	1.65	1.44	1.21	0.99	0.77	0.55	0.33

#### FM 19

Span (mm)	500	600	700	800	900	1000	1100	1200
Uniform (kPa)	29.51	21.63	16.00	11.89	8.49	6.04	3.88	2.07
Deflection (kPa)	1.60	1.27	1.04	0.87	0.73	0.63	0.53	0.46
Concentrated (kN)	3.41	2.97	2.51	2.08	1.62	1.18	0.72	0.41

#### FM 22

Span (mm)	500	600	700	800	900	1000	1100	1200
Uniform (kPa)	25.50	18.54	12.32	9.69	6.81	3.63	2.61	0.94
Deflection (kPa)	1.55	1.22	0.99	0.81	0.68	0.57	0.48	0.41
Concentrated (kN)	2.41	2.16	1.92	1.67	1.46	1.18	0.88	0.70

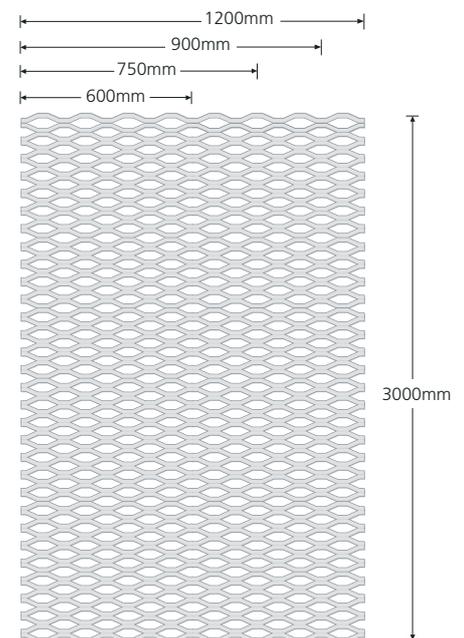
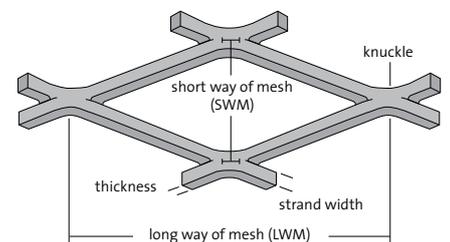
#### FM 28

Span (mm)	500	600	700	800	900	1000	1100	1200
Uniform (kPa)	27.75	20.83	15.89	11.41	9.17	6.88	5.00	3.44
Deflection (kPa)	2.05	1.60	1.29	1.05	0.88	0.73	0.60	0.51
Concentrated (kN)	4.45	3.95	3.42	2.91	2.41	1.90	1.35	0.90

### Notes

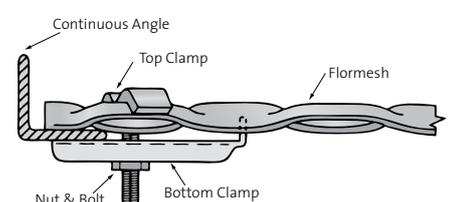
1. The above tables are based on the XPM Expanded Metal Industry Standard 1001.
2. Load capacities given in the table are for Flormesh® spanning the LWM direction over a clear span with every fourth strand welded to the support and a minimum landing of 25mm (preferred industry standard).
3. Uniform distributed load is the maximum load just prior to permanent deflection (yield) of mesh. Permanent yield is span/500 or 0.80mm, whichever is greater.

4. Deflections in the tables refer to uniform distributed loads causing a deflection of 10mm or span/360, whichever is less.
5. Concentrated loads were applied through a 100mm diameter plate. They correspond to a localised deflection of 10mm.
6. For large simple spans the load carrying capacity is generally governed by deflection; for double and triple spans by uniform or concentrated loads.
7. A load of 102kg approximates to 1kN. A load of 102 kg/m<sup>2</sup> approximates to 1 kPa.



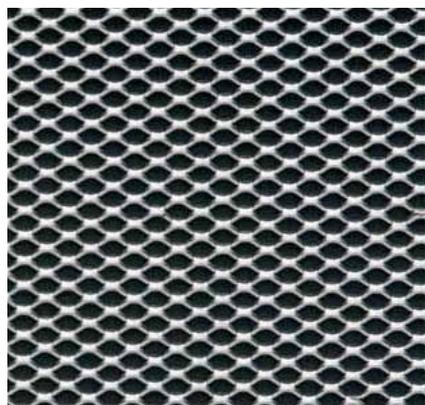
### Fixing

Weld to support steel or clamp as shown below.

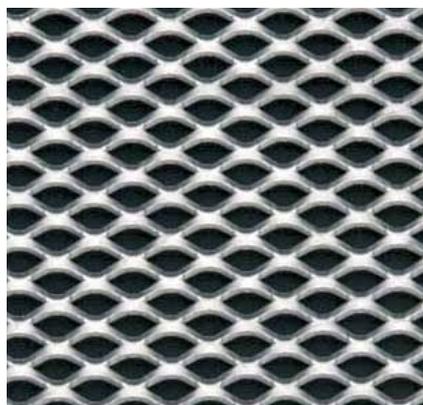


# MASTERMESH® EXPANDED METAL STOCK SHEETS

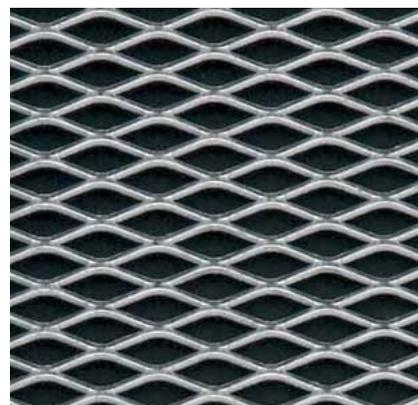
**SD0608**



**SD0916**



**SD0912**



## Small Diamond Range

Product Code	Material	Nom. Mesh Dimensions		Nom. Strand Dimensions		Sheet Size LWM x SWM	Approx. Wt (kg/m <sup>2</sup> )	Approx. % Open Area
		LWM	SWM	Thickness	Strand Width			
SD0608	Steel	6.00	3.50	0.60	0.76	1200 x 1200	2.02	57
SD0916	Steel	10.00	5.50	0.90	1.55	1200 x 1200	4.10	44
SD0912	Steel	15.00	5.50	0.90	1.17	1200 x 1200	3.00	58

## Large Diamond Range

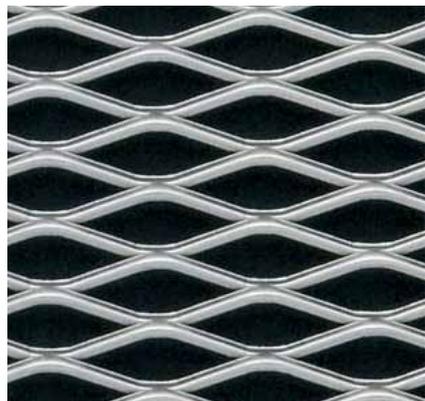
LD1616	Steel	28.00	9.00	1.60	1.60	1200 x 2400	4.40	65
LD1620	Steel	38.00	15.00	1.60	2.00	1200 x 2400	3.30	73
LD1621	Steel	50.00	19.00	1.60	2.10	1200 x 2400	2.30	77
LD3039	Steel	50.00	19.00	3.00	3.90	1200 x 2400	8.30	59
LD2028	Steel	60.00	25.00	2.00	2.80	1200 x 2400	3.50	77
LD3045	Steel	76.00	38.00	3.00	4.50	2400 x 1200	6.70	76
LD3056	Steel	102.00	50.00	3.00	5.60	2400 x 1200	5.70	77

Most of the above meshes can be supplied flattened (F). • Non-standard sheet sizes are available. Conditions apply.

• If you have a requirement not covered in this brochure, contact your nearest sales office (details on back cover) for assistance.

• Open area percentages are approximations only

**LD1616**



**LD1620**

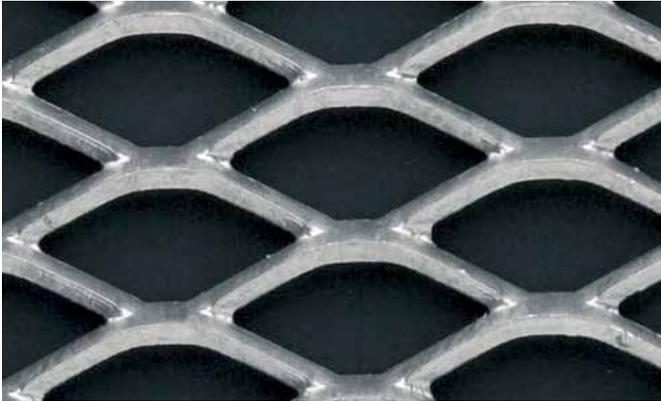


**LD1621**

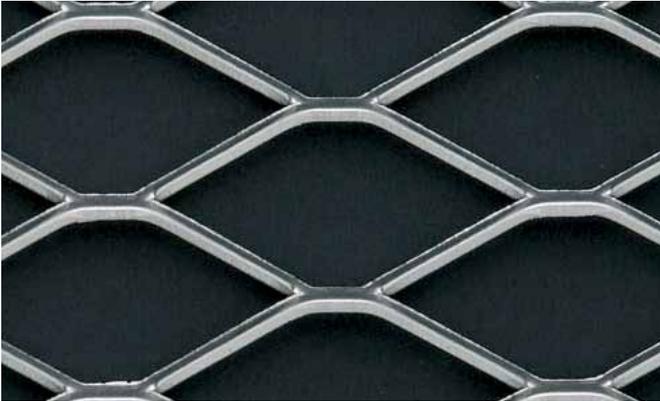


# MASTERMESH® EXPANDED METAL STOCK SHEETS

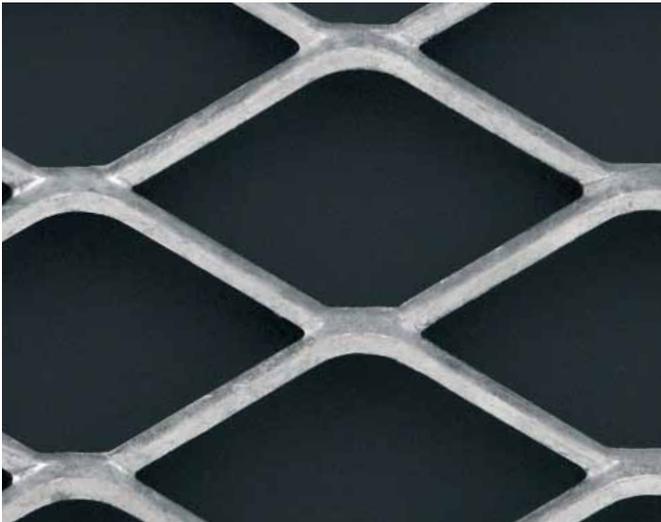
LD3039



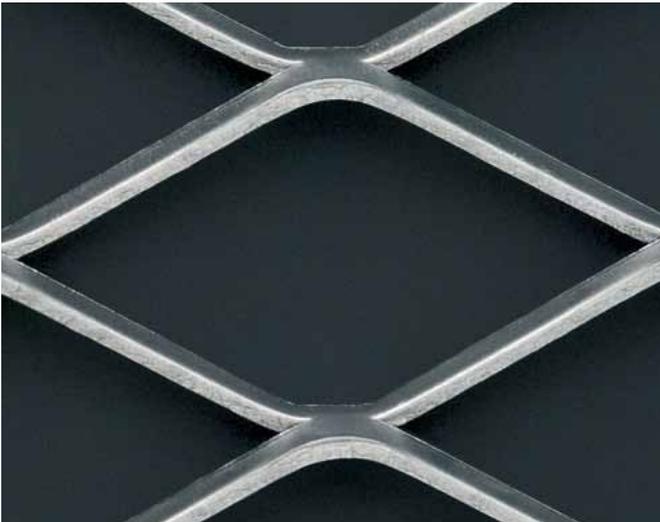
LD2028



LD3045



LD3056



Small diamond range – Miscellaneous



LD1621F – Air filters



LD3045 – Security cages

# MASTERMESH® EXPANDED METAL STOCK SHEETS

## Security Mesh

Product Code	Material	Nom. Mesh Dimensions		Nom. Strand Dimensions		Sheet Size LWM x SWM	Approx. Wt (kg/m <sup>2</sup> )	Approx. % Open Area
		LWM	SWM	Thickness	Strand Width			
SM3030	STEEL	19.00	12.00	3.00	3.00	1200 x 2400	12.00	50
SM3056	STEEL	102.00	50.00	3.00	5.60	1800 x 750	5.70	77
SM3056	STEEL	102.00	50.00	3.00	5.60	2000 x 800	5.70	77
SM3056	STEEL	102.00	50.00	3.00	5.60	2000 x 1100	5.70	77

## Decorative Mesh

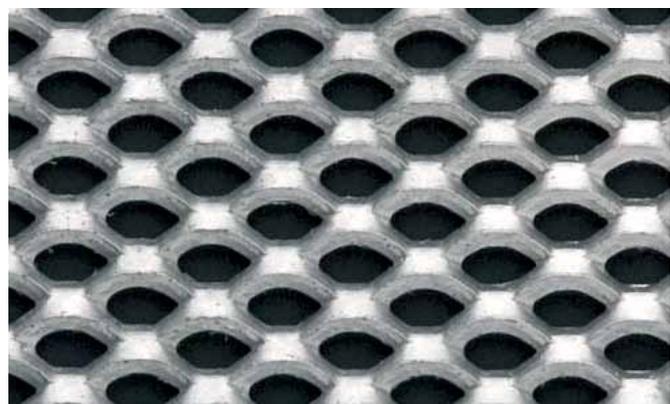
DM3032	STEEL	102.00	25.00	3.00	3.20	2400 x 1200	5.40	74
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## Sunscreen Mesh

SUN1663	STEEL	76.00	16.00	1.60	6.30	2400 x 1200	11.08	22
SUN1611	STEEL	75.00	30.00	1.60	10.50	2400 x 1200	9.68	30

- Non-standard sheet sizes are available. Conditions apply.
- If you have a requirement not covered in this brochure, contact your nearest sales office (details on back cover) for assistance.
- Open area percentages are approximations only

### SM3030



### SM3056



SM3030 – Security doors



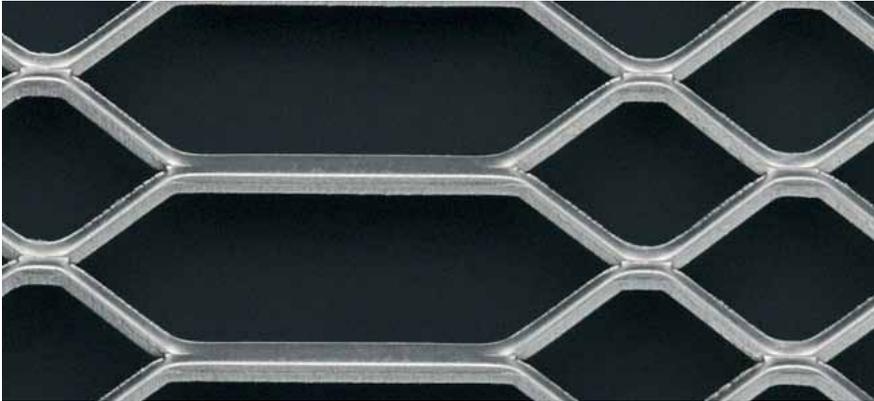
SM3030 – Security gates



LD3056 – Security window/door grilles

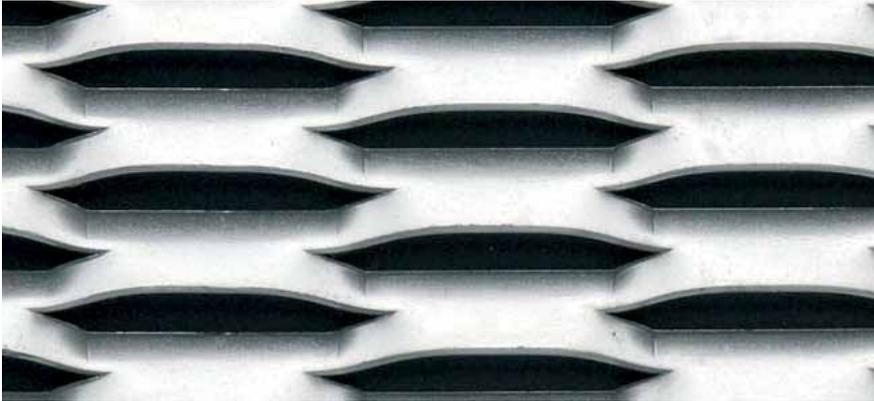
# MASTERMESH® EXPANDED METAL STOCK SHEETS

DM3032



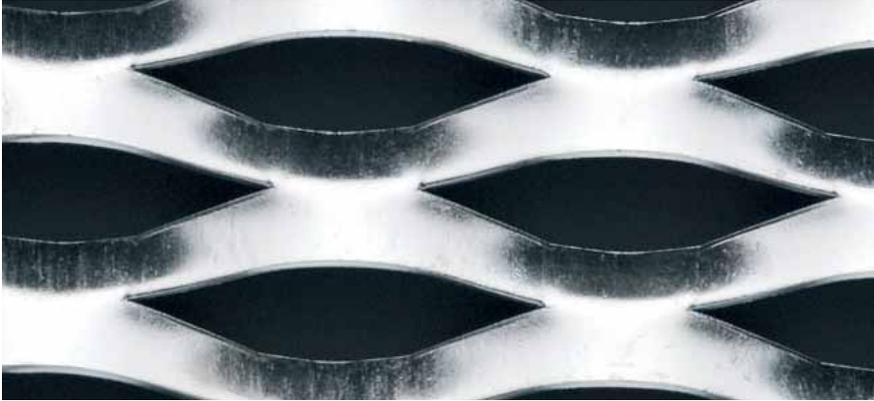
DM3032 – Balustrade infill panels

SUN1663G



SUN1663 – Anti-glare screens

SUN1611G



SUN1611 – Car park screens

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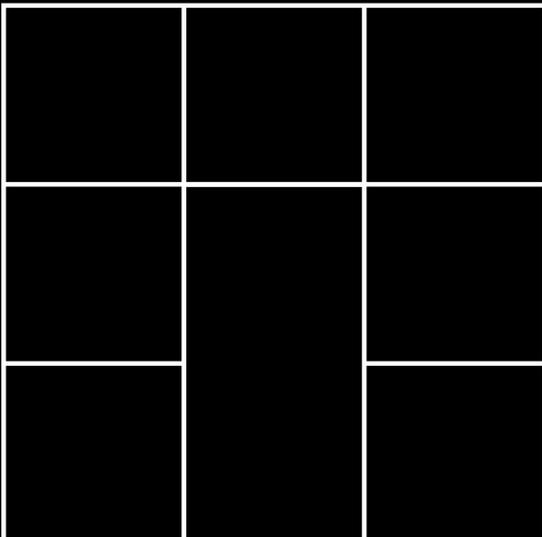
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