科技工藝 持續精進



上鎧鋼鐵
SHANG KAI STEEL





公司簡介
Company Profile

上鎧鋼鐵股份有限公司是由**董事長林宗志先生**創立，專門從事金屬擴張網製造。公司經營理念是「誠信、品質」。我們擁有多種設備和技術，可製造板厚範圍從 0.05mm-8.0mm，不限於任何金屬材質。我們可生產各國標準擴張網，並持有 ISO 9001 品質管理系統，並有特訂品質保證制度。在台灣高端產品市場中占有率超過八成，並銷售至世界各地。

Shang Kai Steel Co., Ltd. was founded by Chairman Chung-Chih Lin and specializes in the manufacturing of expanded metal mesh. The company's business philosophy is "integrity and quality". We have a variety of equipment and technology, and can produce sheets with thicknesses ranging from 0.05mm-8.0mm, not limited to any metal material. We can produce various national standard expanded metal meshes and have an ISO 9001 quality management system and a special quality assurance system. We have a market share of more than 80% in Taiwan's high-end product market and sell our expanded metal mesh products to customers worldwide.

上鎧鋼鐵在 1998 年開始轉型，從 OEM 和 ODM 代工轉為 OBM，以滿足客戶日益變化的需求。近年來，公司重視服務和數據分析，積極推動工廠自動化和電腦化管理，從工業 2.0 轉型為工業 4.0，開發出具有高附加價值和高端差異性的產品。我們致力為客戶提供優質的產品與服務，幫助客戶在國際市場上取得佳績。

In 1998, Shang Kai Steel began its transformation journey, shifting from OEM and ODM contract manufacturing to OBM, to better meet the changing needs of its customers. In recent years, the company has placed a strong emphasis on service and data analysis, actively promoting factory automation and computerized management, and transitioning from Industry 2.0 to Industry 4.0. The company has developed products with high added value and high-end differentiation. We are dedicated to providing our customers with high-quality products and services, helping them achieve success in the international market.

經過三十多年的發展，上鎧鋼鐵的目標是「站穩台灣，深耕亞洲，放眼全球！成為高端客戶唯一指定的金屬擴張網供應商」。作為台灣產業用金屬擴張網的領導廠商，上鎧展現出卓越的技術水準，在金屬網產業鏈中扮演著重要的角色。我們將繼續追求「共好、共創、永續」，朝向更高水準的企業發展目標邁進。

After more than 30 years, Shang Kai Steel has established itself as a leading supplier of metal mesh in Taiwan, Asia and the world. The company aims to be the "Top choice for high-end customers as a supplier of Expanded metal mesh". As a leader in Taiwan's metal mesh industry, Shang Kai Steel has demonstrated its expertise and commitment to excellence. The company will continue to pursue its goal of "mutual benefit, co-creation and sustainability" and strive for even greater success in the future.

LRQA

Certificate of Approval

This is to certify that the Management System of:

SHANG KAI STEEL CO., LTD.

No. 19 Jiugang 2nd St. Dalian Dist., Kaohsiung City 831136, Taiwan

has been approved by LRQA to the following standards:

ISO 9001:2015

Approval number(s): ISO 9001 – 00038541

The scope of this approval is applicable to:

Manufacturing and sale of expanded metal and metal lath

Luis Cunha

Area Operations Manager – North Asia & SAMEA

Issued by: LRQA Limited

IAF

Certificate

Standard:	ISO 14064-1:2018
Certificate Registr. No:	CF 50043434 0001
Report No:	38540393 001

Certificate Holder: **Shang Kai Co., Ltd.**
No.16, Chu-Kuang 2nd Street, Ta-Fa Industrial District, Ta-Liao Dist., Kaohsiung City, Taiwan (R.O.C.)

Site: **Shang Kai Co., Ltd. Headquarters**
No.16, Chu-Kuang 2nd Street, Ta-Fa Industrial District, Ta-Liao Dist., Kaohsiung City, Taiwan (R.O.C.)

Scope:
Verification and Validation Body: TÜV Rheinland Taiwan Ltd.
- Process: Document review, interview, site visit and reconciliation
Based on the information we have received and evaluated that:
- Programme: Voluntary
- Review Criteria: ISO 14064-3:2006
- Organizational Boundary: Operational Control
- Level of Assurance: Reasonable
- Materiality: 5%
- Global warming potential (GWP): IPCC 2013
- Base year: 2021 (2021.01.01~2021.12.31)
- Inventory year: 2021 (2021.01.01~2021.12.31)
- The total carbon emission is 447,389 tons of carbon dioxide equivalent (tCO_2e)
  - Direct emission is 65,3248 tCO_2e
  - Indirect emission is 381,3673 tCO_2e
- 2021 electricity emissions factor not publish, the inventory use 2020 electricity emissions factor for GHGs calculation

Validity: This certificate only reviewed the emissions data of inventory year, the certificate is not for the management systems certification.

2022-05-24

IAF TAF

TÜVRheinland®
Precisely Right

LCBA Low Carbon Construction

LCBA低碳工法標章證書

Low Carbon Footprint Building Construction Certificate of Accreditation

證書編號Certificate No: LCBA-LCC-015

申請廠商（上鎧鋼鐵股份有限公司
工法名稱（金屬纖張網件遮陽系統系列
申請人（林宗志

環保製造之減碳比率	SKA 20-33 金屬纖張網：5.4% SKA 30-50 金屬纖張網：6.0% SKA 20-28 金屬纖張網：5.2% SKA 20-55 金屬纖張網：8.8% SKA 20-143金屬纖張網：8.1% SKA 20-59 金屬纖張網：6.9% SKA 15-06 金屬纖張網：5.3%

The following construction(s) was/were submitted and identified on behalf of the client as:

Shang Kai Steel Co., Ltd

Construction Name	Expanded metal SK Architecture Type
Carbon Reduction	SKA 20-33：5.4%　SKA 20-143：8.1% SKA 30-50：6.0%　SKA 20-59：6.9% SKA 20-28：5.2%　SKA 15-06：5.3% SKA 20-55：8.8%

低碳建築聯盟 Low Carbon Building Alliance

蔡耀賢

Certified on 2021.05.27

LCBA

台灣精品獎
Taiwan Excellence Award 2023

特頒予
Presented to

上鎧鋼鐵股份有限公司
SHANG KAI STEEL CO., LTD.

具高耐風性能之建築用遮陽節能金屬擴張網
Sunshade Energy-Saving Expanded Metal Mesh for Building with High Wind Resistance

SKA Series

王美花

經濟部部長
Minister, Ministry of Economic Affairs, R.O.C.
中華民國111年11月23日
23rd of November 2022

經濟部

潛力中堅企業
證書

上鎧鋼鐵股份有限公司
持續專注本業，在特定領域表現傑出，具有健康高成長中堅企業之潛力，經評選後，榮獲第5屆潛力中堅企業，特頒此證，以茲證明。

部長 沈榮津

中華民國 108 年 10 月

Certificate of Potential Taiwan Mittelstand Award

This certificate of the 5th Potential Taiwan Mittelstand Award is presented to SHANG KAI STEEL Co., Ltd. in recognition of its outstanding performance in a specific field and for its strong potential to become a Taiwan Mittelstand Award winner.

Jong-Chin Shen
Minister of Economic Affairs, R.O.C.
October 2019

NATIONAL AWARD OF OUTSTANDING SMALL AND MEDIUM ENTERPRISES

國家磐石獎證書

上鎧鋼鐵股份有限公司

參加第26屆國家磐石獎一卓越中小企業選拔，經評審委員會評審結果，榮獲國家磐石獎，特頒此證。

沈榮津　　林寶燕

THIS IS TO CERTIFY THAT

SHANG KAI STEEL CO., LTD.

IS THE WINNER OF THE
26th NATIONAL AWARD OF OUTSTANDING
SMALL AND MEDIUM ENTERPRISES

Jong-Chin Shen

中華民國 106 年 10 月 31 日



1988

上鎧鋼鐵股份有限公司成立，專業製造金屬擴張網。

Shang kai Steel Co., Ltd. was founded in 1988 as an expert in manufacturing expanded metal.

1995

通過 ISO 9001 : 1994 ，奠定上鎧鋼鐵品質管理基石，邁向全球市場。

In 1995, Passed ISO 9001 : 1994 , which laid the cornerstone of Shang kai Steel quality management and enter the globa market

1998

評估企業長期發展與市場趨勢，遷入大發工業區，啟用新工廠，建置台灣新廠區並廠辦合一，提供客戶最專業品質服務。

In 1998, after evaluating the company's long-term development and market trends, Shang kai Steel moved into the Dafa Industrial Zone, opened a new factory, and built factory-office integration to provide customers with the most professional quality of services.

1999

2000

改版 ISO 9001:2000 並續證成功。建置桃園物流中心，即時供貨給台灣苗栗以北的廠商，提供即時服務，讓北灣台客戶免於長途奔波運輸影響。

In 2000, the revised ISO 9001:2000 certificate was successfully renewed. Shang kai Steel set up a Taoyuan logistics center to provide immediate supply to manufacturers in the North of Miaoli, Taiwan, and provide instant services, so that customers in northern Taiwan are not affected by long-distance transportation.

2009

改版最新 ISO 9001:2008 並續證成功。

The latest ISO 9001:2008 was revised in 2009 and the certificate was renewed successfully.



公司歷史

Company History

導入 5S 全面提升完善服務品質，效法日本企業一絲不苟的工作精神與環境，提升工廠生產效率與製造品質。

In 1999, 5S was introduced to comprehensively improve customer service quality, following the examples of the meticulous work spirit and environment of Japanese enterprises, and improving factory production efficiency and manufacturing quality.

2015

改版最新 ISO 9001:2015 並續證成功。開始產學合作研發外牆用金屬擴張網的特性與產品優勢。

In 2015, the latest ISO 9001:2015 certificate was renewed successfully. Shang kai Steel started industry-academia collaboration to develop the unique characteristics and product advantages of metal expanded lathes for exterior walls.

2014

發表新企業識別形象，導入 CIS 企業識別系統，邁向下一個 30 年。

In 2014, Shang kai Steel released a new corporate identity by introducing the Corporate Identity System and moved Shang kai Steel towards the next 30 years.

2017

榮獲第 27 屆國家磐石獎。

In 2017, Shang kai Steel received 27th National Award of Outstanding SMEs.

2018

獲得綠建築新型技術認定證書。榮獲「高雄市地方產業創新研發推動計畫」創新研發獎並展示創新研發成果。

In 2018, Shang kai Steel received the green building new technology certification. Won Innovative R&D Award by Kaohsiung Small Business Innovation Research and displayed innovative R&D achievements.

2019

榮獲第 5 屆潛力中堅企業。
榮獲高雄典範企業領航獎。

In 2019, Shang kai Steel received “5th Taiwan Mittelstand Award” and “Kaohsiung Role Model Pioneers Award” .

2022

通過 ISO 14064 系列溫室氣體盤查驗證標準，上鎧鋼鐵對於建立零碳排管理機制已達成共識。
獲得金屬擴張網吸音天花板綠建材標章證書
獲得低碳工法標章證書 / 獲得低碳工法認證

In 2022, Shang kai Steel passed the ISO 14064 series of greenhouse gas inspection and verification standards, and reached a consensus on the establishment of a zero carbon emission management mechanism.

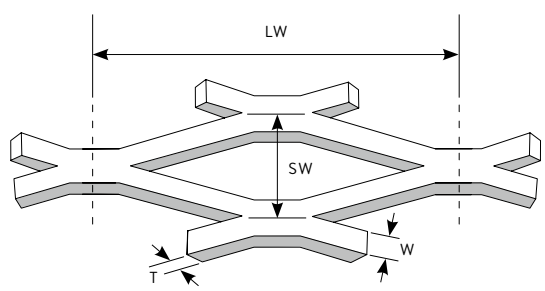
- Obtained the green building materials certificate for sound-absorbing expanded metal mesh ceiling.
- Obtained LCBA low-carbon construction certificate.

金屬擴張網

Expanded Metal

金屬擴張網是將金屬板材經由橫切和拉伸擴展，所形成規則相同的菱形網狀結構，使其具有較高的抗拉強度。由於可生產不同的金屬材質及材料耐候性高、表面處理多樣化、成品網面平整、孔徑均勻等特點，上鎧鋼鐵的擴張網能夠在各個產業中更被廣泛地使用。而現在我們對擴張網有了全新的定義，即『穩固安全』、『過濾通透』、『綠化節能』和『變化彈性』。和以往所不同的是，我們對於原料、製作環節和細節上的執著與追求，上鎧鋼鐵所生產的擴張網具有豐富的立體視覺效果，可以塑造出穿透性的美感，提升各產業產品的質感和價值，使金屬擴張網成為越來越多產業的選擇。

Expanded metal is a type of metal mesh that is made by cutting and stretching metal plates to form a regular pattern of holes. Its diamond-shaped structure gives it high tensile strength. Because of the weather resistance of different metal materials, the surface treatment is diverse, the net surface is smooth, the aperture is uniform and other characteristics, the Shang Kai Steel expanded metal can be more widely used in various industries. Nowadays, we have a new understanding of expanded metal, that is "stable and safe," "filter and transparent," "green and energy-saving," and "changeable and elastic." Different from the past, We are persistent in the material, production process, and details, and the Shang Kai Steel expanded metal has a rich three-dimensional visual effect, can shape the permeable beauty, enhance the quality of various industrial products, and make the expanded metal a more and more popular choice in various industries.



本公司亦可製造上述標準以外的產品，如有需要，請與我們聯繫。
Our company is also capable of manufacturing products beyond the mentioned specifications. If needed, please feel free to contact us.







擴張網標準規範

Standard Specification for Expanded Metal

金屬擴張網通用國際標準有：CNS（中華民國國家標準）、JIS（日本工業標準）、BS 405（英國標準）、ASTM（美國材料試驗協會）、Naamm（美國建築協會） 金屬製造商）。這些標準涵蓋材料規格、尺寸公差、形狀、加工、表面處理和其他國際標準。
我們可以製造更嚴謹的公差範圍，還提供客製化以滿足特定客戶要求或生產非標準尺寸。我們能保證精確的公差、寬度、板厚、開孔率和每平方米重量。 如需客製產品查詢，請聯繫我們。

The international standards for metal expanded mesh include: CNS (National Standard of the Republic of China), JIS (Japanese Industrial Standard), BS 405 (British Standard), ASTM (American Society for Testing and Materials), Naamm (National Association of Architectural Metal Manufacturers). These standards cover specifications for materials, dimensional tolerances, shapes, processing, surface treatments and other international standards. Our company can manufacture to any of these tolerances.
We also offer customization to meet specific customer requirements or produce non-standard sizes. We guarantee precise tolerances, width, plate thickness, open area ratio, and weight per square meter. For custom product inquiries, please contact us.

擴張網介紹

• SW: 菱形短邊尺寸中心之間的距離。

• LW: 菱形長邊尺寸中心之間的距離。

• LWM: 寬度 (對應菱形長邊方向)。

• SWM: 長度 (對應菱形短邊方向)。

• 厚度 : 原料厚度。

• 總高度 : 網格總高度通常是材料厚度測量值的 1-2.5 倍。

• 網條 : 是菱形邊長之寬度。

• 所有厚度、網條重量均存在 +/-10% 的公差。

• 標準尺寸 : 915 x 1830 (LWM x SWM)、
1220 x 2440(LWM x SWM)、
1525 x 3050 (LWMXSWM)。

材料

鋼鐵、不銹鋼、鋁、鍍鋅鋼板、電氣鍍鋅鋼板、銅、鈦、鎳、銀、金。

表面處理

熱浸鍍鋅、粉體塗裝、陽極處理、氟碳烤漆。

Expanded Metal Technical Specifications

• SW: Short way Dimension of mesh.
(Distance between centers in direction of short mesh)

• LW: Long way Dimension of mesh.
(Distance between centers in direction of long mesh)

• LWM: Length (Long Way direction of the diamond)

• SWM: Width (Short direction of the diamond)

• Thickness: Material Thickness.

• Overall Thickness: The Overall Thickness can be as much as 1-2.5x the measurement of material thickens.

• Strand/Width: The width of diamond shape on each slice.

• All thickness, strand width and weight are subject to +/-10% tolerance.

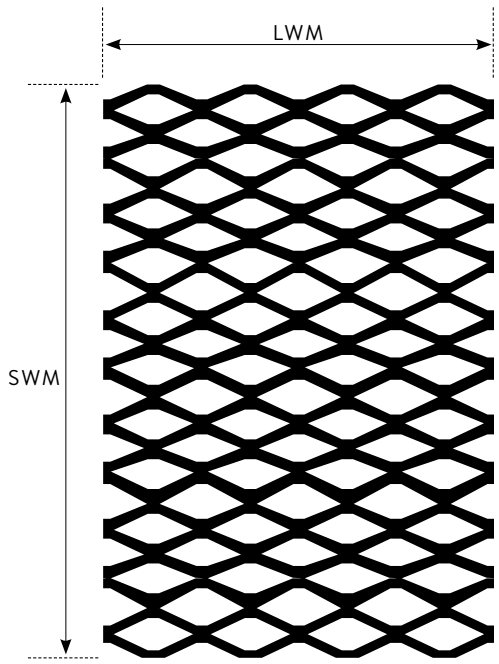
• Standard sheet is 915 x 1830 (LWM x SWM)、
1220 x 2440 (LWM x SWM)、
1525 x 3050 (LWMXSWM).

Material

Mild steel、Stainless steel、Aluminium、Pre-galvanized steel、Electrical Galvanized Steel、Copper、Titanium、Nickel、Silver、Gold

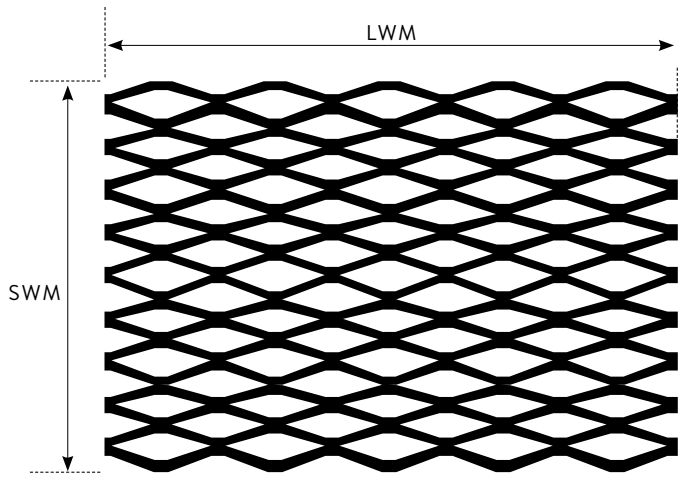
Surface treatment

Hot-dip Galvanizing、Powder coating、Anodizing treatment、Fluorocarbon coating



X 型式 /X Type

標準尺寸 Standard sheet
915 x 1830 (LWM x SWM)
1220 x 2440 (LWM x SWM)
1525 x 3050 (LWMXSWM)



Y 型式 /Y Type

標準尺寸 Standard sheet
2440 x 1220 (LWM x SWM)
3050 x 1525 (LWM x SWM)

NAAMM 美國規範

NAAMM Standards For Expanded Metal

Standard- Steel

代號 Style		重量 Weight (Lbs /100 Sq.ft)	厚度 Thickness (Inch)	網目尺寸 SW (Inch)	LW (Inch)	Width (Inch)
1/4"	#20	85	0.036	0.25	1.00	0.072
1/4"	#18	113	0.048	0.25	1.00	0.072
1/2"	#20	42	0.036	0.50	1.20	0.072
1/2"	#18	69	0.048	0.50	1.20	0.088
1/2"	#16	85	0.060	0.50	1.20	0.087
1/2"	#13	141	0.090	0.50	1.20	0.096
3/4"	#16	54	0.060	0.923	2.00	0.101
3/4"	#13	77	0.090	0.923	2.00	0.096
3/4"	#10	117	0.092	0.923	2.00	0.144
3/4"	#9	178	0.134	0.923	2.00	0.15
1"	#16	43	0.060	1.00	2.40	0.087
1-1/2"	#18	20	0.048	1.33	3.00	0.068
1-1/2"	#16	40	0.060	1.33	3.00	0.108
1-1/2"	#13	58	0.090	1.33	3.00	0.105
1-1/2"	#10	76	0.090	1.33	3.00	0.138
1-1/"2	#9	119	0.134	1.33	3.00	0.144
1-1/2"	#6	247	0.198	1.33	3.00	0.203
2"	#10	65	0.090	1.85	4.00	0.164
2"	#9	88	0.134	1.85	4.00	0.149

本公司另可製造上述標準以外之產品，請聯絡我們。
We can also manufacture products other than the above specifications, please contact us for details.

Standard-Stainless steel

代號 Style		重量 Weight (Lbs /100 Sq.ft)	厚度 Thickness (Inch)	網目尺寸 SW (Inch)	LW (Inch)	Width (Inch)
1/2"	#18	69	0.048	0.50	1.20	0.087
1/2"	#16	87	0.060	0.50	1.20	0.087
1/2"	#13	143	0.090	0.50	1.20	0.096
3/4"	#18	46	0.048	0.923	2.00	0.106
3/4"	#16	57	0.060	0.923	2.00	0.106
3/4"	#13	87	0.090	0.923	2.00	0.107
3/4"	#9	194	0.135	0.923	2.00	0.160
1-1/2"	#16	43	0.060	1.33	3.00	0.115
1-1/2"	#13	65	0.090	1.33	3.00	0.115
1-1/2"	#9	130	0.135	1.33	3.00	0.155

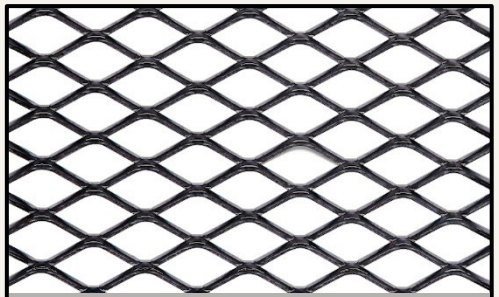
Standard-Aluminum

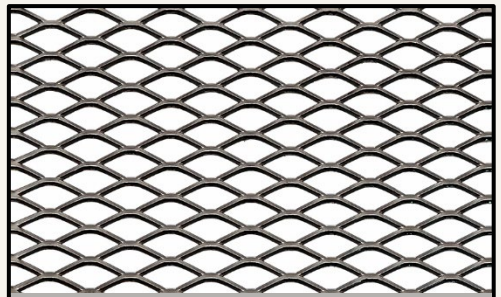
代號 Style		重量 Weight (Lbs /100 Sq.ft)	厚度 Thickness (Inch)	網目尺寸 SW (Inch)	LW (Inch)	Width (Inch)
1/2"	.050	26	0.050	0.50	1.20	0.093
1/2"	.080	43	0.080	0.50	1.20	0.096
3/4"	.050	17	0.050	0.923	2.00	0.109
3/4"	.080(L)	31	0.080	0.923	2.00	0.129
3/4"	.080(H)	40	0.080	0.923	2.00	0.165
3/4"	.125	64	0.125	0.923	2.00	0.169
1-1/2"	.080	22	0.080	1.33	3.00	0.128
1-1/2"	.125	43	0.125	1.33	3.00	0.162

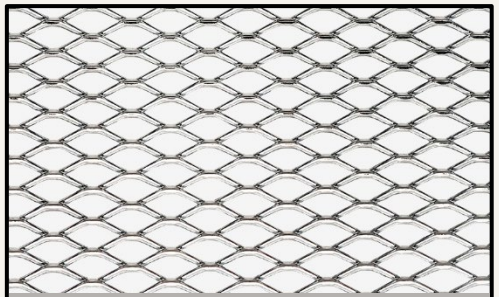
本公司另可製造上述標準以外之產品，請聯絡我們。
We can also manufacture products other than the above specifications, please contact us for details.

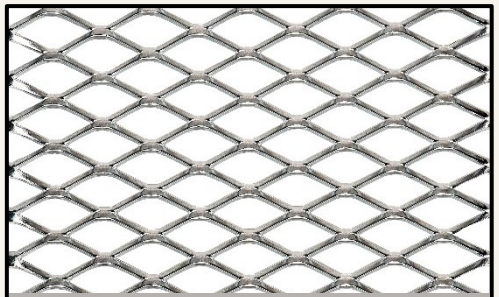
EXPANDED STANDARD METAL MESH

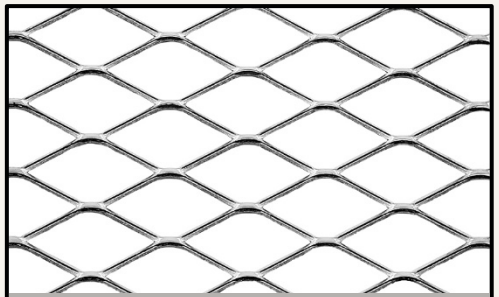
NAAMM emma 557-15
ASTM ASTM F1267

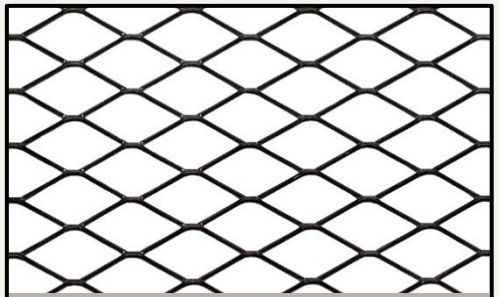

¾” #9 REG

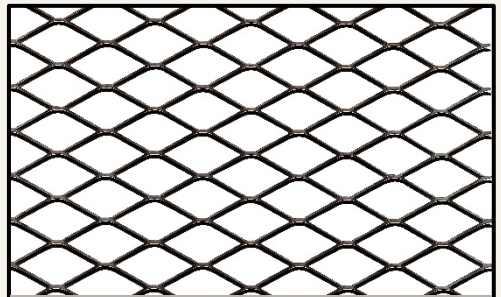

½”#13 REG

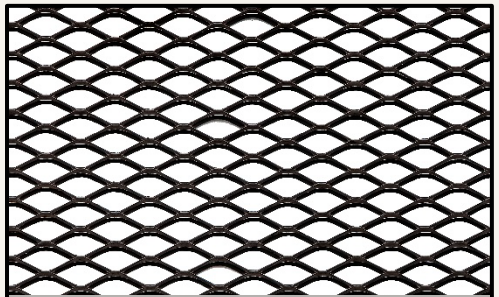

½”.081 REG

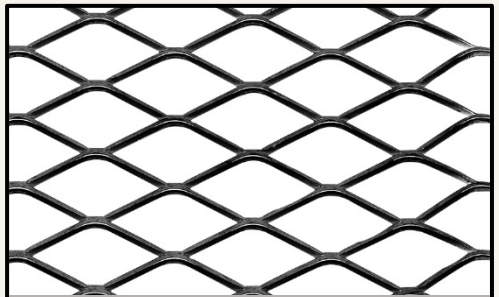

¾”.125 REG

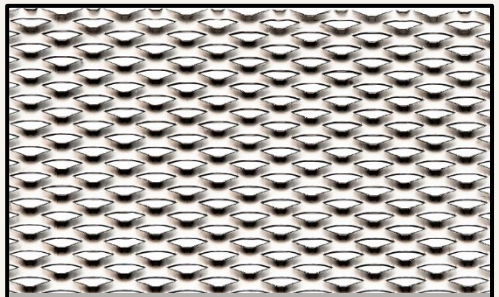

1-½”.125 REG


¾” #16 REG

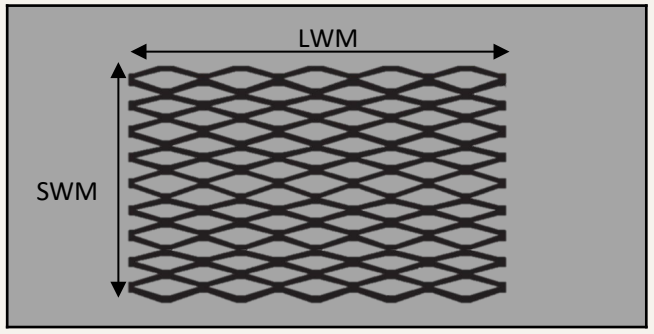

¾”#13 REG


½”#13 REG


1-½”#9 REG


LOUVER MESH REG

LWM X SWM		MATERIAL
120”X60”	120”X48”	STEEL HOT DIP GALVANIZED STAINLESS ALUMINUM
96”X48”	96”X60”	



Tolerance:

- All of mesh size and Weight +/-10%
- All of Sheet size +/- 10mm
- Squareness - Ends shall not be more than 1/8” per foot out of square or 1/2”overall.
- We can also manufacture product s other than the above specifications.

NAAMM 美國規範

NAAMM Standards For Expanded Metal

Flattened -Steel

代號 Style		重量 Weight (Lbs /100 Sq.ft)	厚度 Thickness (Inch)	網目尺寸 SW (Inch)	LW (Inch)	Width (Inch)
1/4"	#20	74	0.029	0.25	1.05	0.079
1/"4	#18	100	0.038	0.25	1.05	0.080
1/2"	#20	37	0.029	0.50	1.26	0.079
1/2"	#18	61	0.038	0.50	1.26	0.097
1/2"	#16	77	0.048	0.50	1.26	0.098
1/2"	#13	126	0.072	0.50	1.26	0.107
3/4"	#16	47	0.048	0.923	2.10	0.111
3/4"	#14	56	0.060	0.92	2.10	0.105
3/4"	#13	67	0.072	0.923	2.10	0.106
3/4"	#10	102	0.072	0.923	2.10	0.160
3/4"	#9	157	0.108	0.923	2.10	0.165
1"	#16	38	0.048	1.00	2.52	0.098
1-1/2"	#16	35	0.048	1.33	3.15	0.119
1-1/2"	#14	43	0.060	1.33	3.15	0.116
1-1/2"	#13	51	0.072	1.33	3.15	0.116
1-1/"2	#9	105	0.108	1.33	3.15	0.158

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We can also manufacture products other than the above specifications, please contact us for details.

Flatened-Stainless Steel

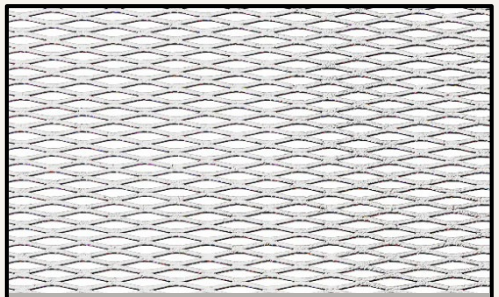
代號 Style		重量 Weight (Lbs /100 Sq.ft)	厚度 Thickness (Inch)	網目尺寸 SW (Inch)	LW (Inch)	Width (Inch)
1/2"	#18	66	0.041	0.50	1.26	0.098
1/2"	#16	84	0.051	0.50	1.26	0.099
1/2"	# 13	136	0.076	0.50	1.26	0.107
3/4"	#18	43	0.041	0.923	2.10	0.118
3/4"	#16	54	0.051	0.923	2.10	0.118
3/4"	#13	83	0.076	0.923	2.10	0.120
3/4"	#9	185	0.114	0.923	2.10	0.179
1-1/2"	#16	41	0.051	1.33	3.15	0.128
1-1/2"	#13	62	0.076	1.33	3.15	0.130
1-1/2"	#9	124	0.114	1.33	3.15	0.174

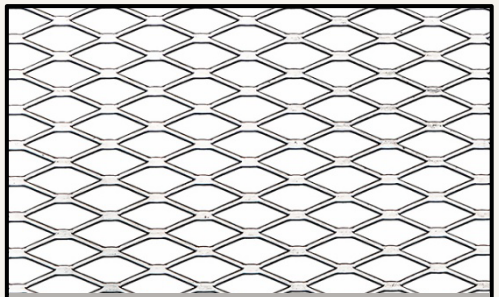
Flattened-Aluminum

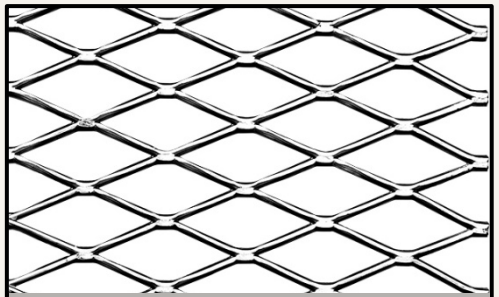
代號 Style		重量 Weight (Lbs /100 Sq.ft)	厚度 Thickness (Inch)	網目尺寸 SW (Inch)	LW (Inch)	Width (Inch)
1/2"	.050	22	0.038	0.50	1.26	0.104
1/2"	.080	35	0.060	0.50	1.26	0.105
3/4"	.050	14	0.038	0.923	2.10	0.122
3/4"	.080 (L)	26	0.060	0.923	2.10	0.143
3/4"	.080 (H)	33	0.060	0.923	2.10	0.181
3/4"	.125	53	0.094	0.923	2.10	0.187
1 1/2"	.080	18	0.060	1.33	3.15	0.143
1 1/2"	.125	36	0.094	1.33	3.15	0.181

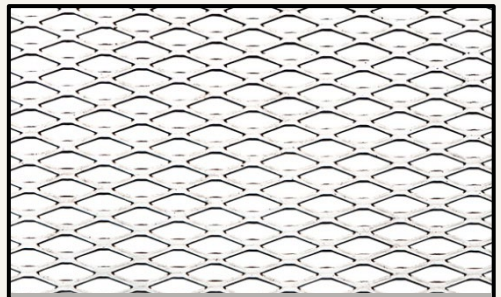
EXPANDED FLATTENED METAL MESH

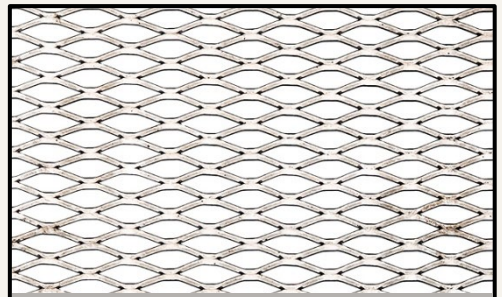
NAAMM emma 557-15
ASTM ASTM F1267

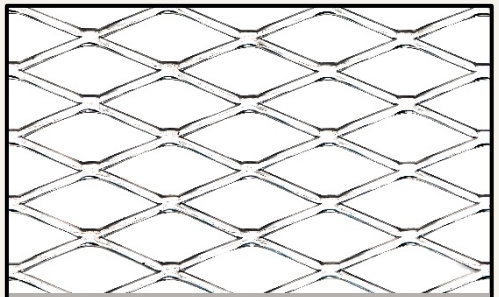

¼" #20 FLAT

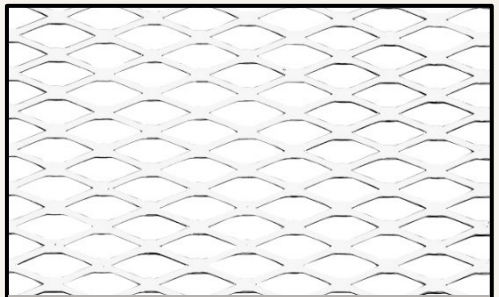

½" #18 FLAT

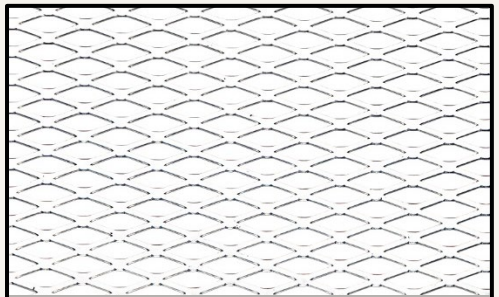

1-½"#9 FLAT

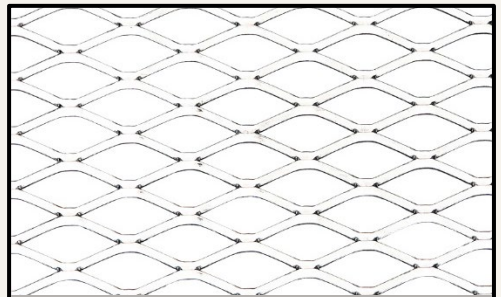

½" #13 FLAT

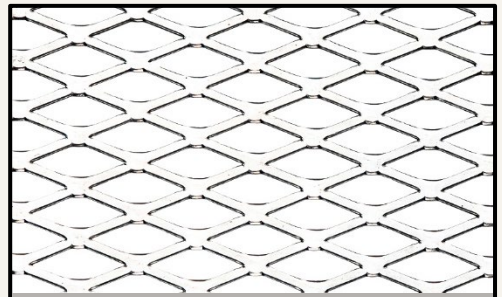

½" #16 FLAT


1-½" .125 FLAT

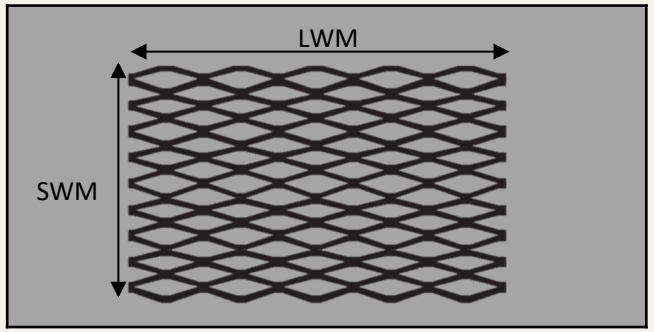

½" .051 FLAT


½" .081 FLAT


¾" .081 FLAT


¾" .125 FLAT

LWM X SWM		MATERIAL
120"X60"	120"X48"	STEEL HOT DIP GALVANIZED STAINLESS ALUMINUM
96"X48"	96"X60"	



Tolerance:

- All of mesh size and Weight +/-10%
- All of Sheet size +/- 10mm
- Squareness - Ends shall not be more than 1/8" per foot out of square or 1/2"overall.
- We can also manufacture product s other than the above specifications.

Grating - Steel

代號 Style	重量 Weight (Lbs /100 Sq.ft)	厚度 Thickness (Inch)	網目尺寸 SW (Inch)	LW (Inch)	Width (Inch)
2.0 lb.	2.00	0.135	1.33	5.33	0.235
3.0 lb	3.00	0.183	1.33	5.33	0.264
3.14 lb	3.14	0.250	2.00	6.00	0.312
4.0 lb	4.00	0.215	1.33	5.33	0.300
4.27 lb.	4.27	0.250	1.41	4.00	0.300
5.0 lb	5.00	0.250	1.33	5.33	0.331
6.25 lb	6.25	0.312	1.41	5.33	0.350
7.0 lb	7.00	0.318	1.41	5.33	0.391

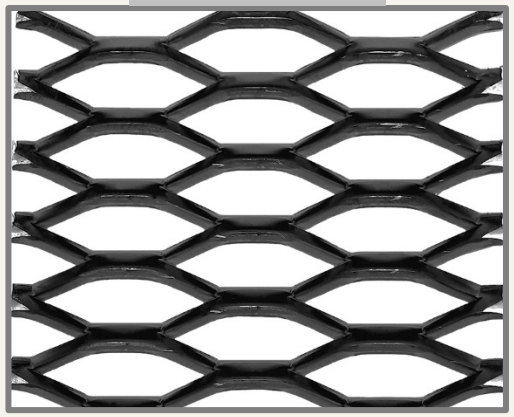
Carbon Steel-Standard

代號 Style		重量 Weight (Lbs /100 Sq.ft)	厚度 Thickness (Inch)	網目尺寸 SW (Inch)	LW (Inch)	Width (Inch)
3/32"	#24	56.00	0.024	0.14	0.24	0.040
1/8"	#24	52.00	0.024	0.15	0.30	0.040
3/15"	#26	26	0.018	0.19	0.50	0.034
3/16"	-#2	49.00	0.024	0.20	0.50	0.050
3/16"	#22	72	0.031	0.21	0.50	0.060
1/4"	#22	51.00	0.031	0.25	0.67	0.050

GRATING EXPANDED METAL MESH

NAAMM Emma 557-15
ASTM F1267

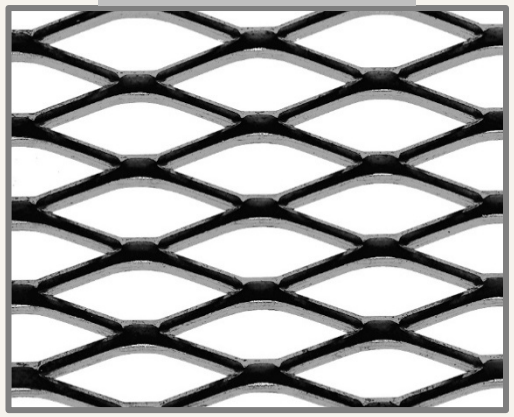
#7.0LB STEEL



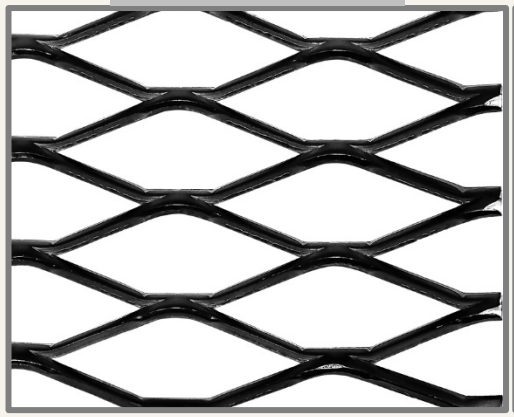
#5.0LB SUS304



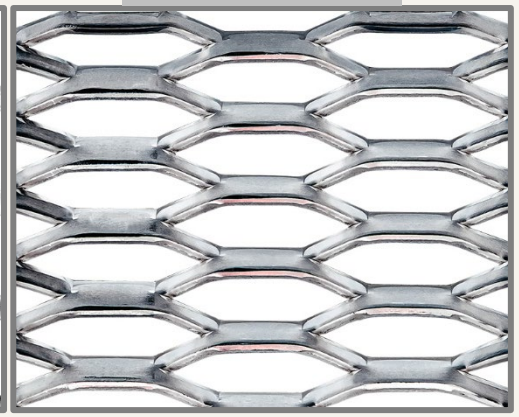
#4.27LB SUS304



#3.14LB STEEL.

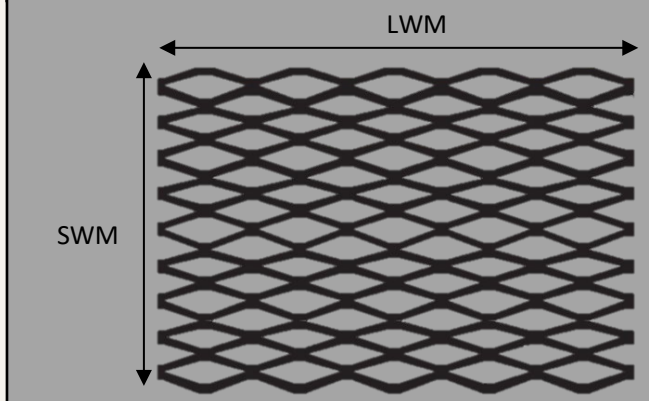


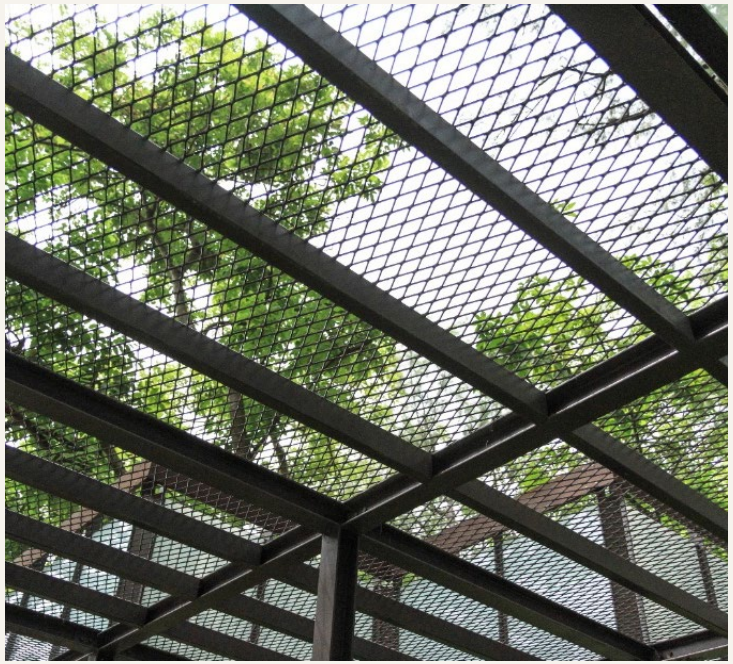
#2.0LB ALUM.



GRATING - STEEL					
STYLE	THICKNESS (INCH)	SW (INCH)	LW (INCH)	WIDTH (INCH)	WEIGHT (LBS /100 SQ.FT)
2.0 LB.	0.135	1.33	5.33	0.235	2.00
3.0 LB	0.183	1.33	5.33	0.264	3.00
3.14 LB	0.250	2.00	6.00	0.312	3.14
4.0 LB	0.215	1.33	5.33	0.300	4.00
4.27 LB	0.250	1.41	4.00	0.300	4.27
5.0 LB	0.250	1.33	5.33	0.331	5.00
6.25 LB	0.312	1.41	5.33	0.350	6.25
7.0 LB	0.318	1.41	5.33	0.391	7.00

LWM X SWM		MATERIAL
120”X60”	120”X48”	STEEL HOT DIP GALVANIZED STAINLESS ALUMINUM
96”X48”	96”X60”	







WALKWAY EXPANDED METAL MESH

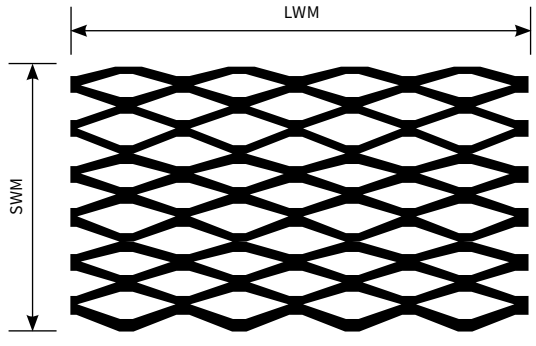
Shang Kai Steel's Walkway Expanded Metal Mesh is engineered to AS/NZS standards, delivering proven reliability, high strength, and excellent workability.

Our Walkway Series offers standardized mesh sizes and thicknesses, ensuring durability, slip resistance, and structural strength. From ventilation fences and work platforms to stair treads, anti-slip walkways, and decorative facades, it's the trusted standard for safe, functional, and visually appealing solutions across architectural and industrial projects.

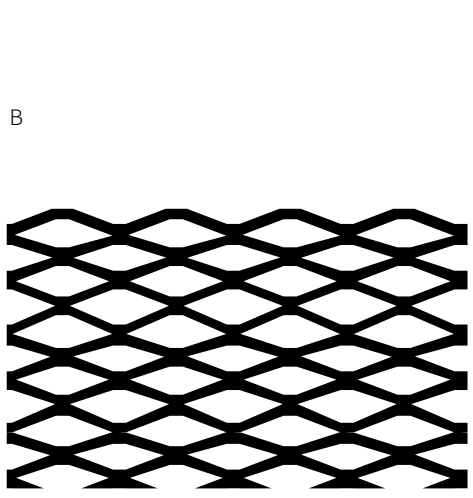
剪裁方式

Sheaved Way

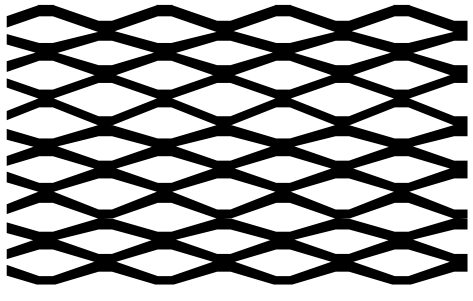
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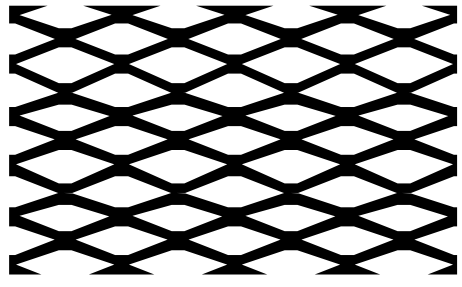
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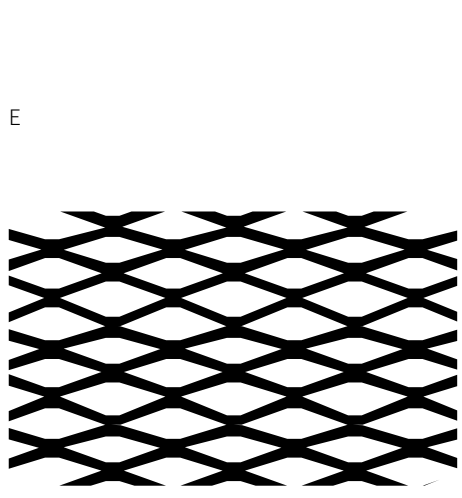
C



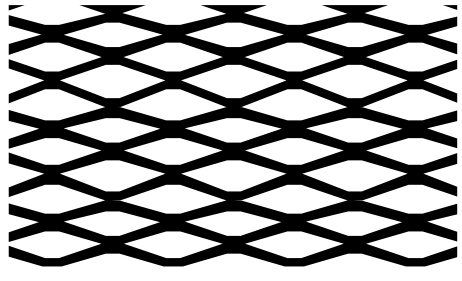
D



E



F



ASTM 標準規範

Manufactor Tolerance

標準型與軋平型擴張網之製造公差
(庫存尺寸或標準原料板材尺寸)

SWM (菱形短向)
變化不得超過每呎寬度的 - 0/+1/4 吋
(例如 :48 吋可以是 49 吋)

LWM (菱形長向)
變化不得超過每呎長度的 - 0/+1/4 吋
(例如 :96 吋可以 是 98 吋)

MANUFACTURING TOLERANCES OF REGULAR & FLATTENED EXPANDED METAL
(STOCK SIZE OR STANDARD SHEET METAL SIZES)

SWM (SHORT WAY OF DIAMOND)
Shall not vary greater than -0" +1/4 in.
per foot of width (example: 48" could be 49")

LWM (LONG WAY OF DIAMOND)
Shall not vary greater than -0" +1/4 in.
per foot of length (Example: 96" could be 98")

一般與壓平擴張網及延展擴張網之隨機裁剪

A. 一般而言 , 所有庫存或標準原料板材尺寸在所有四邊是封閉的菱形 (完整孔目)。

B. 一側裁剪 LW 方向
LWM – 一端裁剪 (開放菱形)

C. 一側裁剪 SWM
SWM – 一端裁剪 (開放菱形)

D. 左右兩側裁剪 -LW 方向或 SW 方向
LWM 或者 SWM- 兩側均開放菱形

E. 四邊裁剪
SWM – 兩側均開放菱形
LWM – 兩側均開放菱形

F. 三邊裁剪
SWM – 兩側為開放菱形
LWM – 一側為封閉菱形

RANDOM SHEARED TOLERANCES OF REGULAR/ FLATTENED EXPANDED METAL & EXPANDED METAL GRATING

A. Generally all stock or standard sheet metal sizes will have closed diamonds all four sides.

B. Sheared on one side-LW Side
LWM-Causing open diamonds one side.

C. Sheared on one side-SWM Side
SWM-Causing open diamonds one side.

D. Two-side sheared -LW Side or SWM Side
LWM or SWM-Open diamonds 2 sides.

E. Four-side sheared
SWM-Open diamonds two sides.
LWM-Open diamonds two sides.

F. Three-side sheared
SWM -Open diamonds two sides .
LWM -Closed diamonds one sides.

塗裝

由於擴張網可適用於多種金屬表面處理 , 因此可以針對各種不同的用途進行鍍鋅、陽極處理、上漆或者電鍍。此外因為在擴張網製程中會使用輕潤滑油 , 因此產品在塗裝前應該要清理乾淨。

在熱浸鍍鋅時金屬會因為高溫而出現些許扭曲。此外 , 鍍鋅並不一定都會得出平滑平整的塗裝。

建議 1/2 吋 (12.7mm) 的形狀、重量小於 0.081 吋 (2mm) 以及每平方呎重量較輕的大菱形形狀不要鍍鋅。用鍍鋅金屬板製作這些項目時應多做考量。

COATINGS

Because of its adaptability to metal finishing processed, Expanded Metal can be galvanized, anodized, coated, painted or plated for a variety of applications. Because of the light lubricant used during the expanding process, the product should be cleaned prior to finishing.

In hot-dip galvanizing, there can be some warpage of metal because of high temperatures. In addition, galvanizing does not always produce a smooth and even coating.

It is recommended that patterns of 1/2-in. (12.7 mm). lighter than 0.084 in. (2 mm), and large diamond patterns with a light weight per square foot not be galvanized. Consideration should be given to producing these items from galvanized sheet.

重量
重量變化不可超過本手冊所述每平方呎標稱重量的 ±10%。

WEIGHT Kg/M^2
Weight shall not vary in excess of ±10 percent of the nominal weight per sf.

出貨量不足或過多
除非買方另有規定，否則所有訂單都可能會有規定數量的 ±10% 的出貨公差。

OVER AND UNDER SHIPMENT
All orders are subject to a shipping tolerance of ±10 percent of specified quantities required by the buyer.

表面條件
擴張網的表面上通常會有一些製造過程中所使用的潤滑產品，其有助於防鏽。若供料時要求保持表面乾燥，供應商恕不負責因為沒有潤滑劑而產生的情況。

SURFACE CONDITION
Some lubricants used in manufacture are usually present on Expanded Metal surfaces to prevent corrosion. When requested to furnish dry, supplier shall not be responsible for conditions resulting from the absence of lubricants.

標準尺寸

STANDARD DIMENSIONS

- SW (**菱形短向**)
  變化不得超過每呎 SWD 尺寸的 -0/+1/4 吋
  (每 100mm 長度 2mm)。

  LW (**菱形長向**)
  每片金屬板變化不得超過 -0/+1.4 吋 (2mm)。

- **曲度 - 單側**
  邊緣到一條直線的最大差異不得超過每呎尺寸的 3/32 吋
  (每 100mm 長度 0.8mm)。

- **漸縮**
  邊緣與平行線之間的差異不得超過每呎尺寸的 1/16 吋
  (每 100mm 長度 0.5mm) 或者整體 1/4 吋 (6.4mm)，
  取大者。

- **垂直度**
  末端的垂直度偏差不得超過每呎 1/8 吋
  (每 100mm 長度 1mm) 或整體 1 / 2 吋 (12.7mm)。

- **平面度 (水平度)**
  金屬板中不得出現突出平面 1-1/2 吋 (38.1mm) 的波紋或挫曲。

- SW
  Shall not vary greater than -0 +1/4 in. per foot
  (2 mm per 100 mm) of SWD dimension.

  LW
  Shall not vary greater than -0/+1.4 in (2 mm) per sheet.

- **Camber**
  The greatest deviation of a side - edge from a straight line shall not exceed 3/32 in. per foot (0.8mm per 100 mm) of dimension.

- **Taper**
  Edges shall not deviate from parallel by more than 1/16 in. per foot (0.5 mm per 100 mm) of dimension, or 1/4 in. (6.4 mm) overall, whichever is greater.

- **Squareness**
  End shall not be more than 1/8 in. per foot (1 mm per 100 mm) out of square or 1/2 in. (12.7 mm) overall.

- **Flatness (Levelness)**
  Sheets shall be free from waves or buckles are in excess of 1-1/2 in. (38.1 mm) from a plane surface.

標準壓平尺寸

- **壓平後 SW**
  變化不得超過每呎尺寸的 -0/+1/4 吋
  (每 100mm 長度 2mm)。

- **壓平後 LW**
  變化不得超過每呎尺寸的 -0/+1/4 吋
  (每 100mm 長度 2mm)。

- **壓平後曲度**
  單側邊緣與直線之間的最大差異在壓平後不得超過每呎尺寸的 3/32 吋 (每 100mm 長度 0.8mm)。

- **漸縮**
  金屬板邊緣與平行線之間的差異不得超過每呎尺寸的 1/8 吋 (每 100mm 長度 1mm) 或者整體最大 3/8 吋 (9.5mm)，取大者。

- **垂直度**
  末端的垂直度偏差不得超過每呎 1/8 吋
  (每 100mm 長度 1mm) 或整體 1/2 吋 (12.7mm)。

- **平面度**
  金屬板中不得出現突出平面 1-1/2 吋 (38.1mm) 的波紋或挫曲。

STANDARD FLATTEN DIMENSIONS

- **SW after flattening**
  Shall not vary from the nominal dimension more than -0+1/4-in. per foot (2 mm per 100 mm) of dimension.

- **LW after flattening**
  Shall not vary from the nominal dimension more than -0+1/4-in. per foot (2 mm per 100 mm) of dimension.

- **Camber after flattening**
  he greatest deviation of a side edge from a straight line after flattening shall not exceed 3/32-in. per foot (0.8mm per 100 mm) of dimension.

- **Taper**
  Sheet edges shall not deviate from parallel greater than 1/8- in. per foot (1 mm per 100 mm) of dimension, to a maximum 3/8-in. (9.5mm) overall.

- **Squareness**
  Ends shall not be more than 1/8 in. per food (1 mm per)

- **Flatness (levelness)**
  Sheets shall be free from waves or buckles that are in excess of 1-1/2 in. (38.1 mm) from a plane surface.

擴張網尺寸

- SWM
  與標稱尺寸之間的差異不得超過每呎寬度的 -0/+1/4 吋 (每 100mm 長度 2mm)。

- LWM
  變化不得大於超過或少於半個菱形尺寸。

EXPANDED MESH SIZE DIMENSIONS

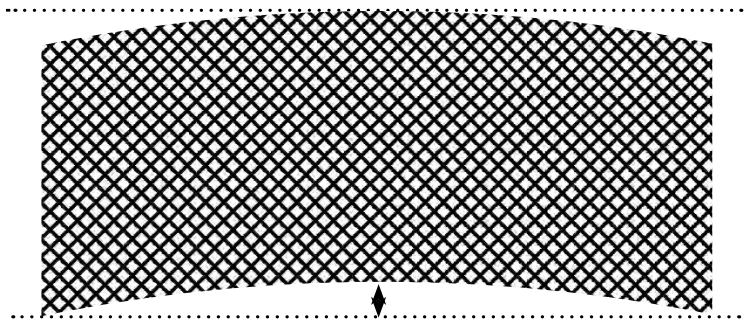
- SWM
  Shall not vary from the nominal dimension more than -0+1/4- in. per foot (2 mm per 100 mm) of width.

- LWM
  Shall not vary greater than -0 +1/2 diamond size.

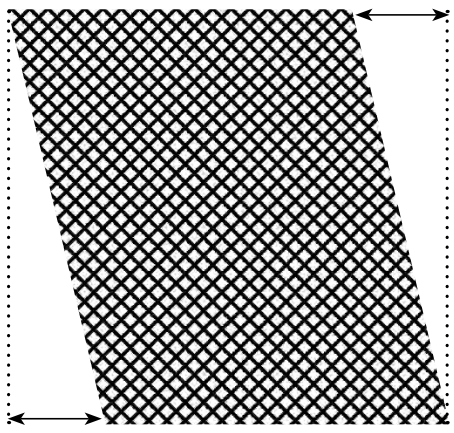
美國 ASTM 標準規範

ASTM Manufactor Tolerance

(圖一) Fig. 1



(圖二) Fig. 2



曲度

金屬板中彎曲的程度 , 將一支直尺貼在金屬板向內凹的邊緣上來進行測量 , 直尺與 LWM 平行並碰觸到金屬板的兩端。擴張網邊緣與直尺之間的最大距離就是曲度。(圖一)

CAMBER

Bow in sheet. It is measured by placing a straight edge along the concave side of the sheet, parallel to the LWD, touching both ends of the sheet. The camber refers to the maximum distance between the edge of the Expanded Metal and the straight edge. A sheet may be within a width tolerance and still have camber.(Fig1)

垂直度

擴張網是根據第 146 頁的公差來製造。必須要規定更小的公差並且要裁剪部分或所有邊緣來符合公差 (請見第 150 頁)。標準型與軋平型 : 整體不得超過 1/2 吋或兩側不得超過平方英尺 1/8 英寸。(圖二)

SQUARENESS

Expanded Metal sheets are manufacture to tolerances shown on Page 146. Tighter tolerances must be specified and are obtained by shearing some or all sides. (See page 150). Standard/Flattened-Ends shall not be more than 1/8in per foot out of square or 1/2in. overall.(Fig2)

壓平

用來生產壓平擴張網的製程。多數種類與形式都可以壓平，包括一些格柵板。(XF 型號)

FLATTENING

The process is used to produce flattened Expanded Metal. Most styles and designations may be flattened including some gratings.(XF Type).

整平

擴張網經過延展之後，會用整平裝置進行整平。軋平型平整度 - 每一片產品波浪狀或凹凸面不得超 過 1-1 / 2"。

LEVELING

Expanded Metal is leveled after expansion by either an integral or separate leveling device.Flatness -Sheet shall be free from waves or buckles that are in excess of 1-1/2in. from a plane surface.

裁剪

裁剪是用來依照需要做出特別的尺寸與 / 或公差。基本類型的裁剪是隨機的。在隨機裁剪當中，裁剪線會落在網格形狀上的隨機一點。邊緣是開放的，且菱形沒有搭配 (請見第 150 頁)。

SHEARING

Shearing is used to attain a special size and/ or tolerance as required. The basic type shearing is random. In random shearing, the shear line falls at random points on the mesh pattern. Edges are open and diamonds are not matched (See page 150).

材料

任何有延展性的金屬類材料均可製作成擴張網。

TYPES OF MATERIALS

Any metal material with ductility can be used to make an expanded metal mesh.

以下普遍材料 :

Common Materil Include:

鋼鐵 :

- 冷軋鋼板 (ASTM A1008 / A1008M)
- 熱軋鋼板 (ASTM A1011 / A1011M)
- 鍍鋅鋼板 (ASTM A653 / A653m)
- 熱浸鍍鋅鋼板 (ASTM A123/A123M、ASTM A153)

Steel:

- Cold-rolled (ASTM A 1008 / A1008M)
- Hot-rolled (ASTM A1011 / A1011M)
- Pre - Galvanized (ASTM A 653 / A653m)
- Hot Dip Galvanized (ASTM A 123/A123M、ASTM A153)

鋁 :

. 普遍鋁材料 1050,1100

Aluminum:

- Universal aluminum material 1050,1100

不鏽鋼 :

- 不鏽鋼 304
- 不鏽鋼 316
- 不鏽鋼 310

Stainles steel:

- Type 304
- Type 316
- Type 310

其他金屬類 :

- 銅 , 鎳 , 鈦 (grand 1 and 2), 金、銀、特殊金屬。

- Other Metals:
  Cooper,Nickel,Titanium,Sliver,Gold,precious metals.

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