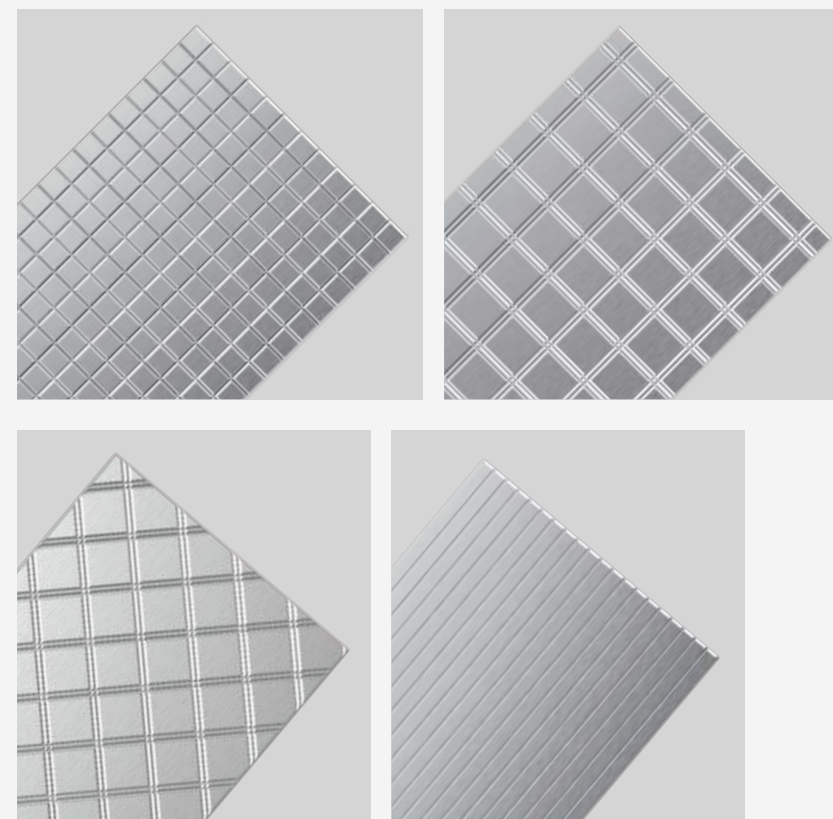


ANTI-SKID PLATE



HK HuangShangYou Steel Industrial Limited
香港煌商佑鋼鐵實業有限公司



STAINLESS STEEL ANTI-SKID PLATE

不銹鋼防滑板



煌商佑鋼鐵

香港煌商佑鋼鐵實業有限公司

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Introduction | 簡介

Stainless steel anti-skid plates of HuangShangYou brand are taking care of slip resistance and grip, and committed to providing for underfoot safety for you.

Our anti-skid plates incorporate an integral texture in the stainless steel for permanent slip resistance. Manufactured from high grade austenitic stainless steel, it's not necessary to paint on their surface to prevent corrosion. The performance of stainless steel is far superior to materials such as aluminium and resins and is also more cost effective. Our plates giving maximum resistance to corrosion and virtually maintenance free use.

With glass sand blasting surface, the design incorporates both safety features and aesthetic appeal.



These robust non slip products have been designed to provide optimum toughness, strength, resilience, durability, corrosion resistance, and effectively withstand impairment caused by contact with:

- Acids
- Alkaline
- Solvents
- Grease
- Oil
- Saltwater
- Detergents
- Other Hydraulic Fluids
- Alcohol

煌商佑的不銹鋼防滑板注重防滑和抓地力，致力於為您提供腳下安全。

我們的防滑板在不銹鋼中融入了整體紋理，以實現永久防滑。由高等級的奧氏體不銹鋼製成，不需要在其表面塗漆防腐。不銹鋼材料優於鋁和樹脂等材料，也更具有成本效益。我們的板材具有最大的耐腐蝕性，幾乎可免維護使用。

表面玻璃噴砂，設計兼具安全性和美觀性。

這些堅固的防滑產品提供最佳的韌性、強度、彈性、耐久性和耐腐蝕性，並有效抵禦因接觸以下物質而造成的損傷：

- 酸
- 堿
- 溶劑
- 油脂
- 石油
- 鹽水
- 洗滌劑
- 其他液壓油
- 酒精

Our anti-slip systems can be applied to most surfaces such as polished concrete, terrazzo, tiles and hardwood flooring. It works by adding a 3rd dimension to the surface whilst preserving the aesthetics of the floor.

我們的防滑系統可以應用於大多數表面，如拋光混凝土，水磨石，瓷磚和硬木地板。它的工作原理是在表面增加第三維度，同時保持地板的美觀。

Advantages 優勢



Slip-resistant surface
防滑表面



Easy-care
易打理



Durable
耐用



Maintenance free
免維護



Lower risk of injury or abrasions
降低受傷或擦傷的風險

Characteristics 特點

Slip resistance is realized through digging groove.
通過凹槽實現防滑。

The change between grooves creates different surface patterns.
溝槽之間的變化會產生不同的表面圖案。

The possible loads are dependent on material thickness, groove depth and the chosen material.
可能的荷載取決於材料厚度、凹槽深度和所選材料。

Application 應用



Our stainless steel anti-skid plates are designed for application in any slippery or hazardous area to provide exceptional traction and firm footing. The selected materials and the certificated surface structure reduce the risk of slipping and increase the resistance even in wet conditions.

Because of their high quality standards, our anti-skid plates are ideal as coverings for walkways and platforms, stairways, ladder rungs, and steps.

As assemblies, Huangshangyou anti-skid plates are increasingly used as walking surfaces on freight wagons. They are also used as platforms between the wagons, as well as steps on locomotives of various manufacturers.



我們的不銹鋼防滑板設計用於任何濕滑或危險的區域，以提供卓越的牽引力和穩固的基礎。所選材料和經認證的表面結構減少了滑動風險，即使在潮濕條件下也能增加阻力。

由於其高質量標準，我們的防滑板是人行道和平台、樓梯、梯子橫檔和台階的理想覆蓋物。

作為組件，煌商佑的防滑板越來越多地用於貨車的行走表面。它們也被用作車廂之間的平台，以及各種製造商的機車台階。

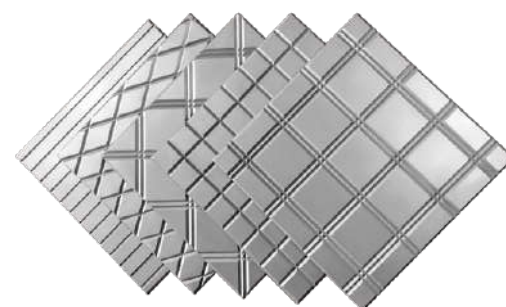
Surface Treatment 表面處理

Pickling 酸洗

Glass bead spraying 玻璃珠噴

Glass sand blasting 玻璃噴砂

Electro-polishing in accordance with ISO 15730
符合ISO 15730的電拋光



BS7976 Pendulum Testing BS7976擺錘測試

The Pendulum Test is the preferred method of the HSA and both the HSE and the UKSRG (UK Slip Resistance Group) and is designed to simulate the action of a slipping foot.

The HSE and contractors measure public spaces slip resistance by pendulum test values (PTV), a wet floor PTV requirement should meet a minimum value of 36+ PTV.

擺錘測試是HSA、HSE和UKSRG（英國防滑小組的首選方法），旨在模擬滑腳的動作。

HSE和承包商通過擺錘測試值（PTV）來測量公共場所的防滑性，濕地板PTV要求應滿足36+PTV的最小值。

Slip Potential 滑動可能性	High 高	Moderate 中	Low 低
PTV	0~24	25~35	36+

DIN 51130 R Ratings for SHOD Feet DIN 51130鞋腳的R評級

Ratings 評級 (For a floor where a person normally wears shoes)	PTV on Horizontal Surface 水平面上的PTV	Slip Characteristics 滑移特性 (No Slope)
R9	11~18	Very poor, slip injuries certain to occur 非常糟糕，一定會發生滑倒傷害
R10	18~34	Poor, slip injuries likely to occur 非常糟糕，可能發生滑倒傷害
R11	34~51	Better, But can still fail Pendulum Tests 稍好，但可能無法通過擺錘測試
R12	51~70	Good, recommended 好，推薦
R13	70+	Best, especially on slopes and high floor wear areas 最好，特別是在斜坡和高地板磨損的區域

International Test Standards 國際測試標準

Chinese Standard: GB/T 4100-2006

British Standard: BS 7976-2: 2002

American Standard: ASTM C 1028-07

German Standard: DIN 51097-1992 DIN 51130-2004

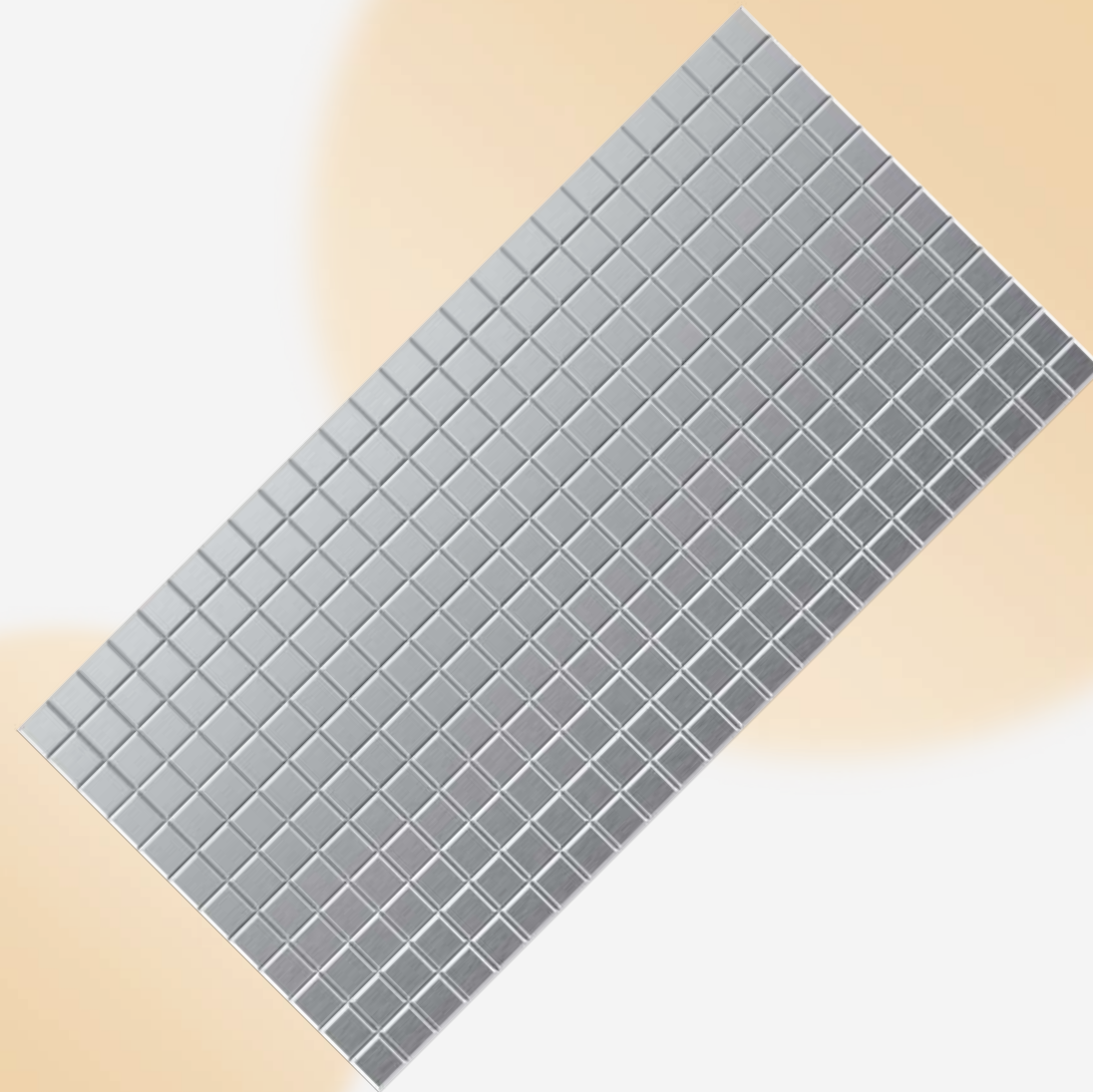
Australian Standard: AS/NZS 4586: 2004



Single Groove Grid Anti-skid Plate (HSY-ASF-1)

單槽方格防滑板 (HSY-ASF-1)

With 20x20mm square grids, 5mm wide grooves, the right proportion achieves good anti-skid performance. This type of plate provides enhanced traction and advanced slip protection for floors, stairs, and other high-traffic areas.



20x20mm的方格，5mm寬的溝槽，恰到好處的比例實現了較好的防滑性能。這類板材為地板、樓梯和其他高人流量區域提供增強的牽引力和先進的防滑保護。



Suitable for barefoot walking
可光腳行走



Suitable for shoes with heels
可穿高跟鞋



Slip resistance
防滑性

CASTCO Test Report 測試報告

Standard: BS 7976-2:2002+A1:2013

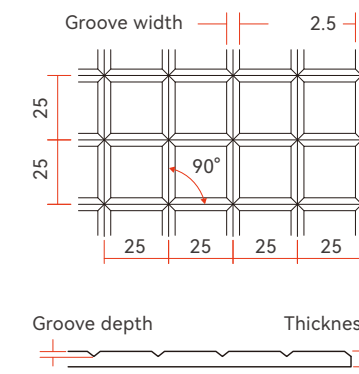
Test Condition 測試環境	Mean PTV 平均PTV
Dry 乾燥	98
Wet 潮濕	41

Product Application 產品應用

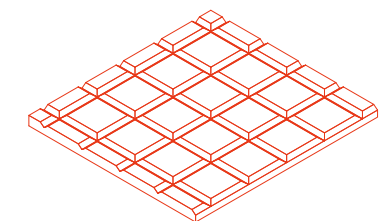
- Anti-slip flooring 防滑地板
- Non-slip metal walkways 防滑金屬走道
- Pit covers 井槽蓋
- Top of stair landings 樓梯平台頂部
- Slip resistant platforms 防滑平台
- Pull box covers 拉線盒蓋



Datasheet 數據表



Type 類型 (mm)	Length 長度 (mm)	Width 寬度 (mm)	Thickness 厚度 (mm)	"V" Groove V槽	
				Width 寬度 (mm)	Depth 厚度 (mm)
HSY-ASF-1A	2400	1200	3	5	1
HSY-ASF-1B	2400	1200	4	5	1
HSY-ASF-1C	2400	1200	5	5	2
HSY-ASF-1D	2400	1200	6	5	2
HSY-ASF-1E	2400	1200	8	5	2

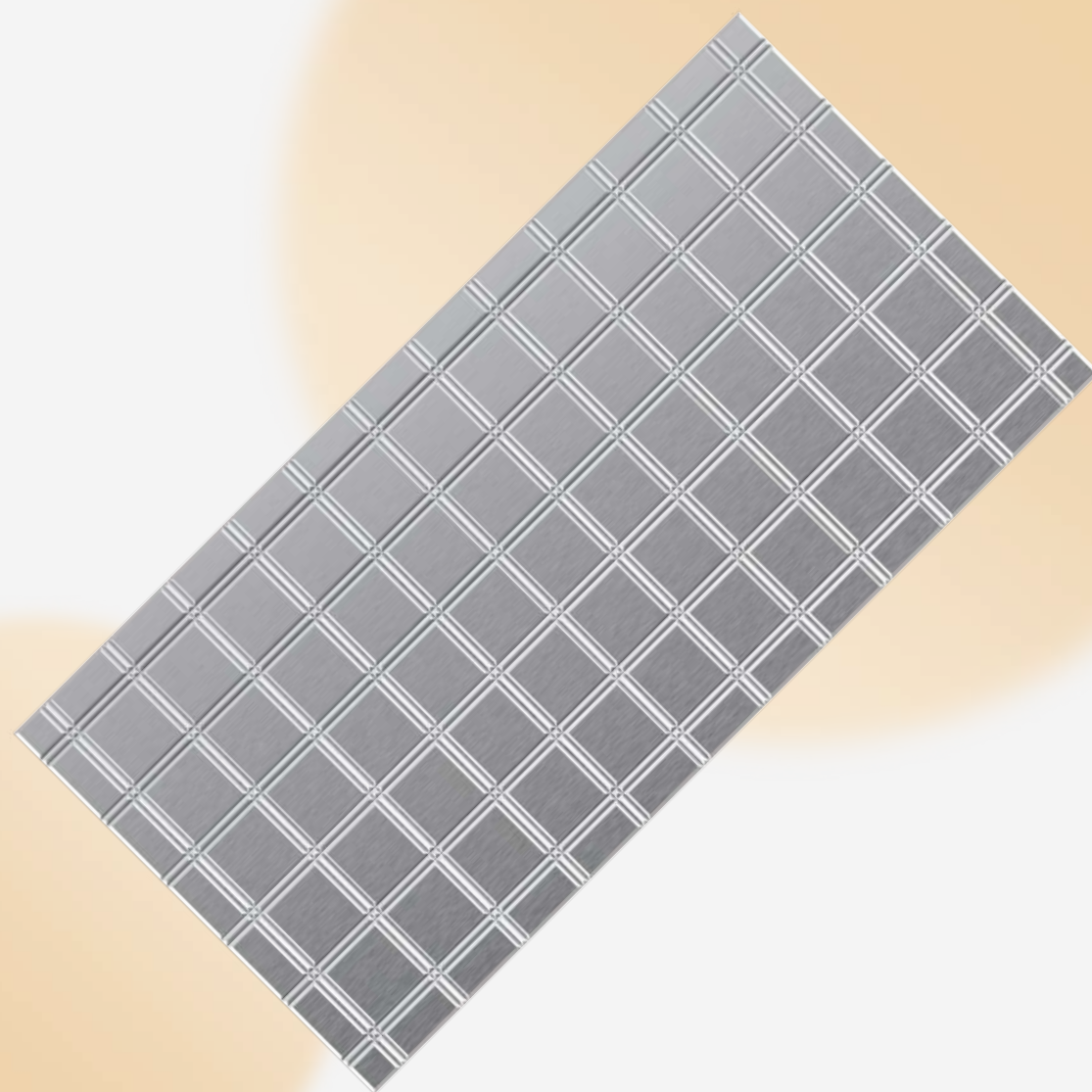


Groove Shape

Double Grooves Grid Anti-skid Plate (HSY-ASF-2)

雙槽方格防滑板 (HSY-ASF-2)

A sleek design enhances the aesthetic of your space.
Suitable in both wet and dry conditions, the range meets the requirements of BS 7976-2:2002 (slip resistance).



時尚的設計增強了空間的美感。潮濕和乾燥的環境都適用，符合BS 7976-2:2002（防滑）的要求。



Shoes are required for walking on this plate
需穿鞋行走



Slip resistance
防滑性

CASTCO Test Report 測試報告

Standard: BS 7976-2:2002+A1:2013

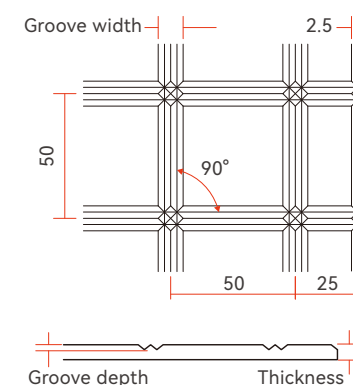
Test Condition 測試環境	Mean PTV 平均PTV
Dry 乾燥	98
Wet 潮濕	43

Product Application 產品應用

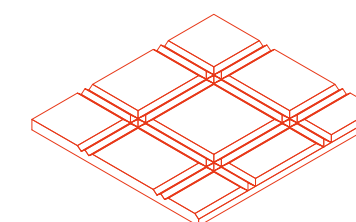
- Wall cladding 牆壁覆層
- Anti-slip flooring 防滑地板
- Non-slip metal walkways 防滑金屬走道
- Pedestrian bridge decks 行人橋面
- Stair treads 樓梯踏板
- Trench covers 溝槽蓋



Datasheet 數據表



Type 類型 (mm)	Length 長度 (mm)	Width 寬度 (mm)	Thickness 厚度 (mm)	"W" Groove W槽	
				Width 寬度 (mm)	Depth 厚度 (mm)
HSY-ASF-2A	2400	1200	3	5+5	1
HSY-ASF-2B	2400	1200	4	5+5	1
HSY-ASF-2C	2400	1200	5	5+5	2
HSY-ASF-2D	2400	1200	6	5+5	2
HSY-ASF-2E	2400	1200	8	5+5	2

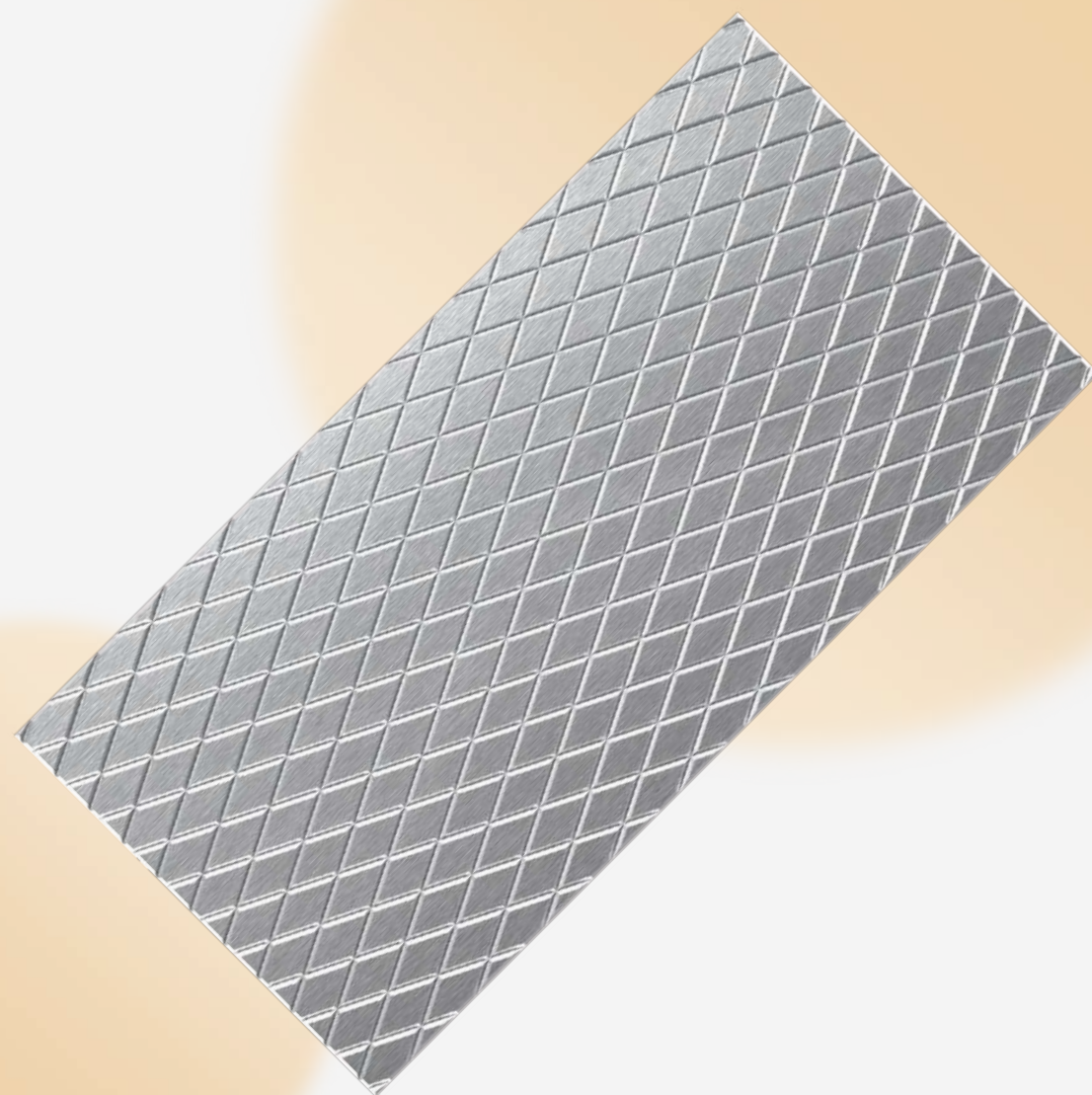


Groove Shape

Single Groove Diamond Anti-skid Plate (HSY-ASF-3)

單槽菱形防滑板 (HSY-ASF-3)

The diamond pattern provides a non slip surface. Because of its excellent wear and rub resistance, it helps improve safety in busy footfall areas.



菱形圖案提供了防滑表面。由於其卓越的耐磨性和防滑性，有利於改善行人密集地區的安全。



Suitable for
barefoot walking
可光腳行走



Suitable for
shoes with heels
可穿高跟鞋



Slip resistance
防滑性

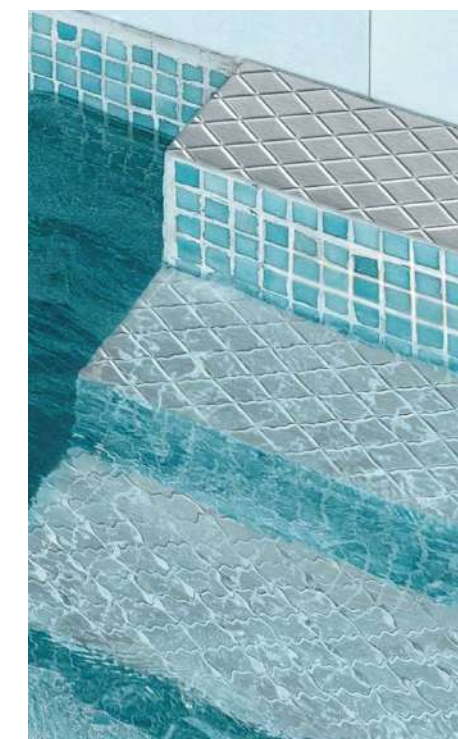
CASTCO Test Report 測試報告

Standard: BS 7976-2:2002+A1:2013

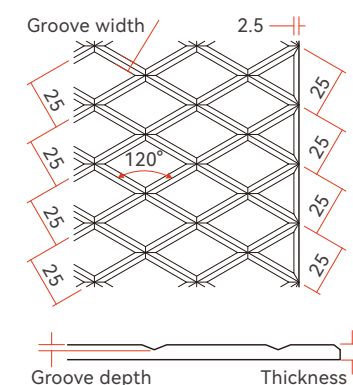
Test Condition 測試環境	Mean PTV 平均PTV
Dry 乾燥	95
Wet 潮濕	46

Product Application 產品應用

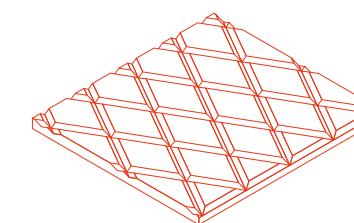
- Ramp 斜坡
- Anti-slip flooring 防滑地板
- Non-slip metal walkways 防滑金屬走道
- Platforms 平台
- Trench covers 溝槽蓋
- Landing areas 著陸區
- Gym walls 健身房牆壁



Datasheet 數據表



Type 類型 (mm)	Length 長度 (mm)	Width 寬度 (mm)	Thickness 厚度 (mm)	"V" Groove V槽	
				Width 寬度 (mm)	Depth 厚度 (mm)
HSY-ASF-3A	1200	1200	3	5	1
HSY-ASF-3B	1200	1200	4	5	1
HSY-ASF-3C	1200	1200	5	5	2
HSY-ASF-3D	1200	1200	6	5	2
HSY-ASF-3E	1200	1200	8	5	2

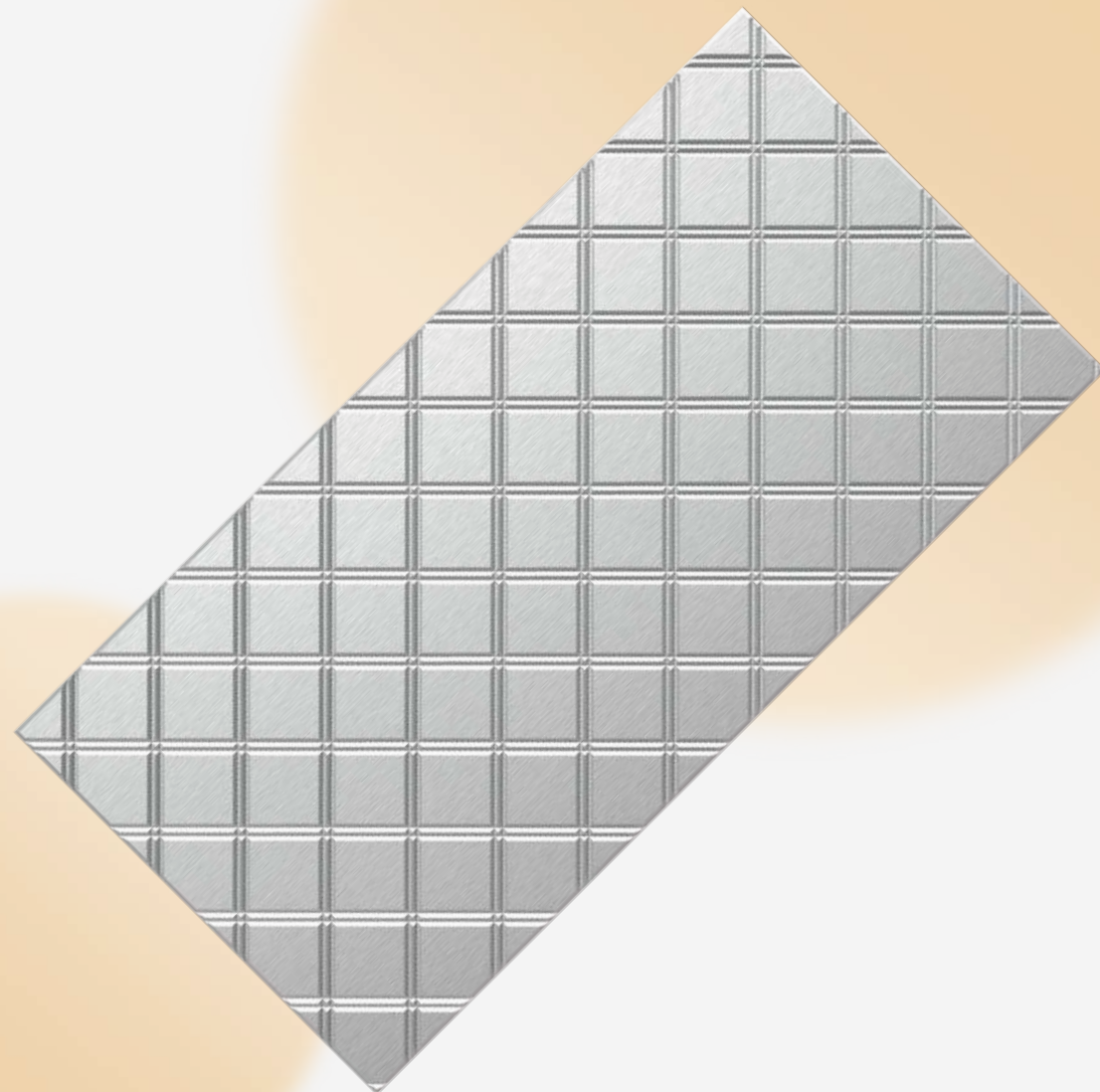


Groove Shape

Double Grooves Oblique Square Anti-skid Plate (HSY-ASF-4)

雙槽斜方防滑板 (HSY-ASF-4)

Modern texture is versatile for application scenes, which is both anti-skid and decorative.



現代化的紋理適配多種應用場景，兼具防滑性和裝飾性。



Shoes are required for walking on this plate
需穿鞋行走



Slip resistance
防滑性

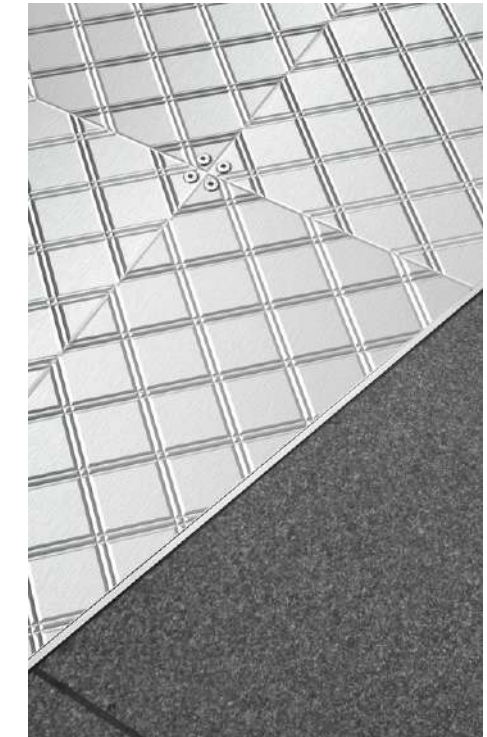
CASTCO Test Report 測試報告

Standard: BS 7976-2:2002+A1:2013

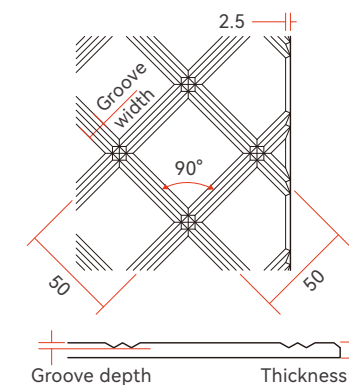
Test Condition 測試環境	Mean PTV 平均PTV
Dry 乾燥	93
Wet 潮濕	43

Product Application 產品應用

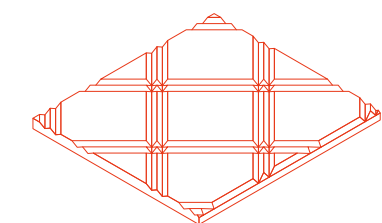
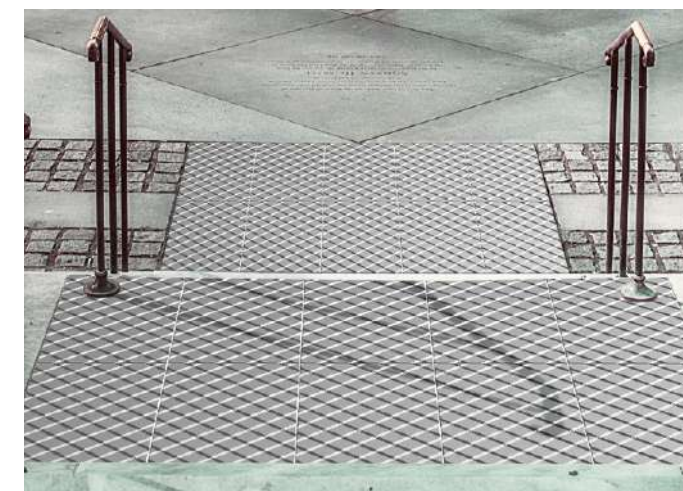
- Wall cladding 牆壁覆層
- Anti-slip flooring 防滑地板
- Non-slip metal walkways 防滑金屬走道
- Platforms 平台
- Stair treads 樓梯踏板
- Trench covers 溝槽蓋



Datasheet 數據表



Type 類型 (mm)	Length 長度 (mm)	Width 寬度 (mm)	Thickness 厚度 (mm)	"W" Groove W槽	
				Width 寬度 (mm)	Depth 厚度 (mm)
HSY-ASF-4A	1200	1200	3	5+5	1
HSY-ASF-4B	1200	1200	4	5+5	1
HSY-ASF-4C	1200	1200	5	5+5	2
HSY-ASF-4D	1200	1200	6	5+5	2
HSY-ASF-4E	1200	1200	8	5+5	2

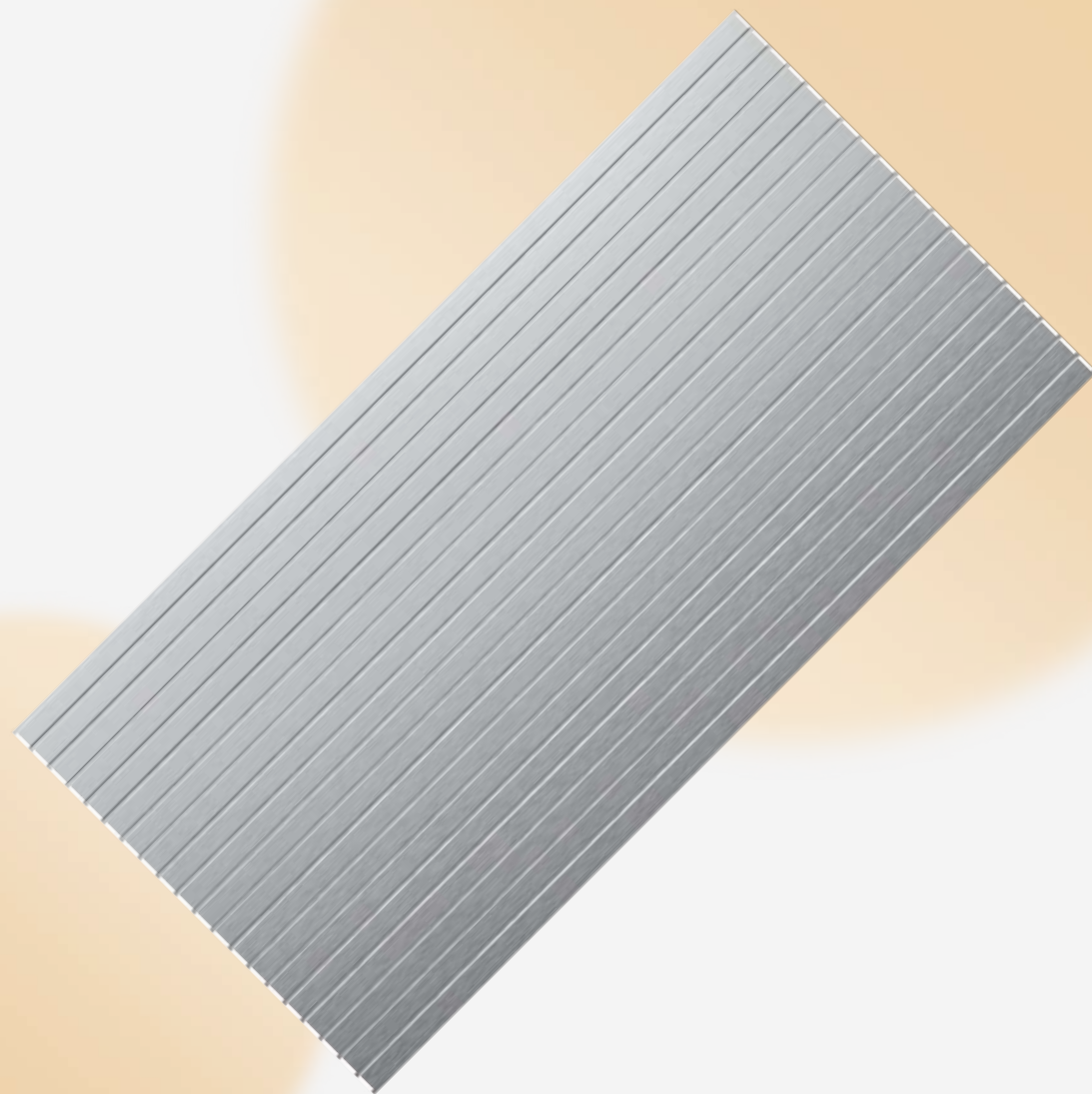


Groove Shape

Slot Anti-skid Plate (HSY-ASF-5)

單線槽防滑板 (HSY-ASF-5)

Simple and classic single line groove, suitable for multiple scenes and styles.
The proper width and depth of the groove make it not only have good anti-skid performance, but also easy to clean and maintain.



簡約經典的單線樣式，適配多種場景、多種風格。合適的溝槽寬度和深度使其既有良好的防滑性能，又易於清潔和維護。



Suitable for barefoot walking
可光腳行走



Suitable for shoes with heels
可穿高跟鞋



Slip resistance
防滑性

CASTCO Test Report 測試報告

Standard: BS 7976-2:2002+A1:2013

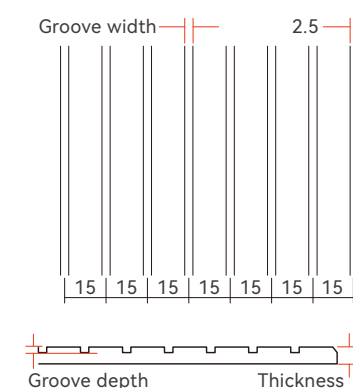
Test Condition 測試環境	Mean PTV 平均PTV
Dry 乾燥	99
Wet 潮濕	43

Product Application 產品應用

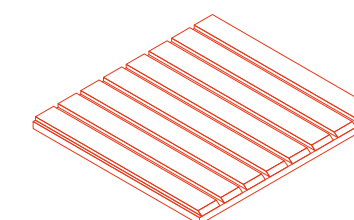
- Metal deck 金屬甲板
- Anti-slip flooring 防滑地板
- Service elevator 貨梯
- Landing areas 著陸區
- Stair treads 樓梯踏板
- Gangways 舷梯
- facades 外立面



Datasheet 數據表



Type 類型 (mm)	Length 長度 (mm)	Width 寬度 (mm)	Thickness 厚度 (mm)	"U" Groove U槽	
				Width 寬度 (mm)	Depth 厚度 (mm)
HSY-ASF-5A	2400	1200	3	3	1
HSY-ASF-5B	2400	1200	4	3	1
HSY-ASF-5C	2400	1200	5	3	2
HSY-ASF-5D	2400	1200	6	3	2
HSY-ASF-5E	2400	1200	8	3	2



Groove Shape

Test Report | 測試報告



Chemical Composition 化學成分 (%)

Designation 名稱	C	Si	Mn	P	S	Ni	Cr	Mo
Type 304	≤0.08	≤1.00	≤2.00	≤0.045	≤0.030	8.00~10.50	18.00~20.00	—
Type 316	≤0.08	≤1.00	≤2.00	≤0.045	≤0.030	10.00~14.00	16.00~18.00	2.00~3.00

Mechanical and Physical Properties 機械和物理性能

Designation 名稱	Tensile Strength 抗拉強度 (MPa)	Elongation 延伸率 (%)	Hardness 硬度		Density 密度 (g/cm³)
			HBW	HRBW	
Type 304	≥520	≥40	≤187	≤90	7.93
Type 316	≥520	≥40	≤187	≤90	7.98

Designation 名稱	Coefficient of Thermal Expansion 熱膨脹係數 (10 ⁻⁶ /°C at 0~100°C)	Young's Modulus 楊氏模量 (MPa)	Magnetism 磁性
Type 304	17.3	1.93x10 ⁵	None
Type 316	16.0	1.93x10 ⁵	None

Cooperation Vision 合作願景



Steel Structure Engineering
鋼結構工程



Roof / Wall Cladding
屋頂/牆面覆層



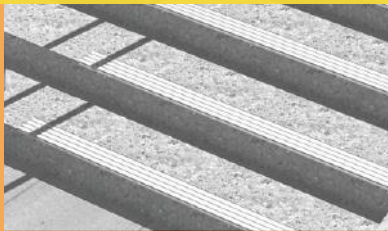
Steel & Metal Work
鐵器&五金冷貨工程



Glazing / Skylight Works
玻璃/天窗工程



Stainless Steel Engineering
不銹鋼工程



Louver & Exterior Wall Engineering
百葉&外牆工程

As a company with many years of experience in the field of stainless steel plates, we will be glad to advise you at your planning stage.

Our own design department and toolmaking facility enable us to transform ideas of our customers into solutions and to build prototypes. We are at your disposal for further technical questions.

作為一家在不銹鋼板領域擁有多年經驗的公司，我們很樂意在您的規劃階段為您提供建議。

我們擁有自己的設計部門和製造工廠，因此我們有能力將客戶的想法轉化為解決方案並構建原型。我們可以隨時為您解答進一步的技術問題。



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HK HuangShangYou Steel Industrial Limited

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