



INTERCEPT DANGER FOR YOU



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Safe zones are just right at
the corner of life.
每個人人生轉彎處，都有ASP安全守護。

ASP ROAD WARNING
SAFETY PLASTIC GUARDRAIL
ASP 道路安全示警護欄



關於ASP

ABOUT ASP

Safety, the only way home.

To fulfill idea of safety, the team of Aplus Molds & Plastics Co., Ltd. (formerly known as Chen Lueng), re-examined the current products. Combining the innovative plastic materials and the experienced technology of mold manufacturing, we developed revolutionary protective products. That's how the brand of ASP was built.

The aim of our development and manufacturing is to spread ASP's brand value of innovative, reliable, safe, as well as environmentally friendly. Our commitment is to safe guard people, family and friends.

安全，幸福的唯一歸宿。

為了實現安全的理念，AMP團隊挾著研發優勢，重新審視現今使用的產品，運用創新塑料結合深厚的模具技術，開發出革命性的安全防護產品，進而誕生了「ASP」品牌。

我們研發生產的核心，就是傳遞「ASP」創新、可靠、安全、環保的品牌價值，以保障人類安全為品牌承諾，讓安全不再只是名詞，而是化身為真實的守護神，在世界每個角落，為你守護最重要的人。

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專業認證

CERTIFICATION

Chinese Standard of Level A

北京A級認證

The safety of ASP Road Warning Safety Plastic Guardrail reached the Chinese standard of Level A.

此 ASP 安全示警護欄通過中國 A 級認證。

EN1317

Certification in process.

認證進行中。

Malaysia

Certification in process.

認證進行中。



特色比較

FEATURES

Based on the characteristics of ASP road warning guardrail and steel guardrail, the following is a chart to show the comparisons of color, maintenance cost, construction difficulty, plasticity and CO2 emission.

ASP示警護欄和鋼板護欄之特性，依其施工難易度、可塑性、養護成本、強度、顏色、環保等互相比較。

1. Construction Difficulty 施工難易度

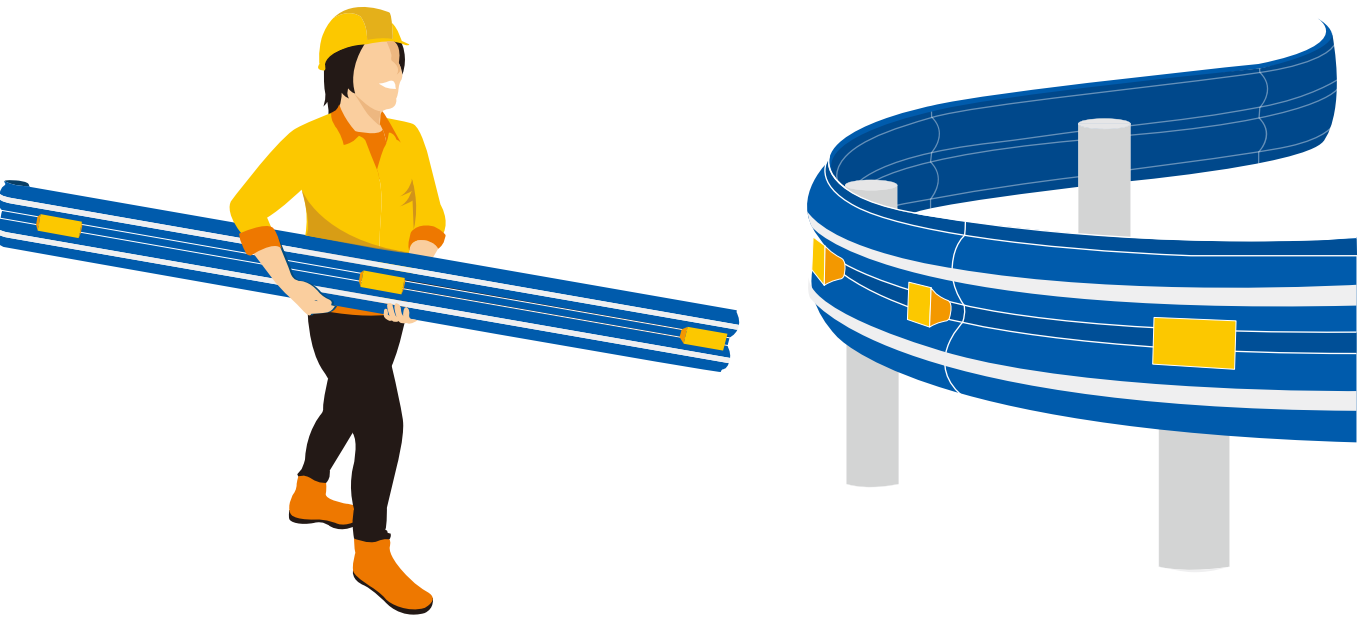
ASP The weight is only 25% of steel guardrail. Easy to construct dismantle, only need 2 workers.
施工、拆卸容易，重量只有鋼板的25%。2名施工人員即可作業。

Others Difficult to construct dismantle, about 5 workers and hoist are required.
鋼板施工、拆卸困難度高，施工人員約5人且須有吊車輔助安裝。

2. Plasticity 可塑性

ASP It can easily be adjusted by all kinds of roads with high elongation.
延展性高，可依不同地形作彎曲調整。

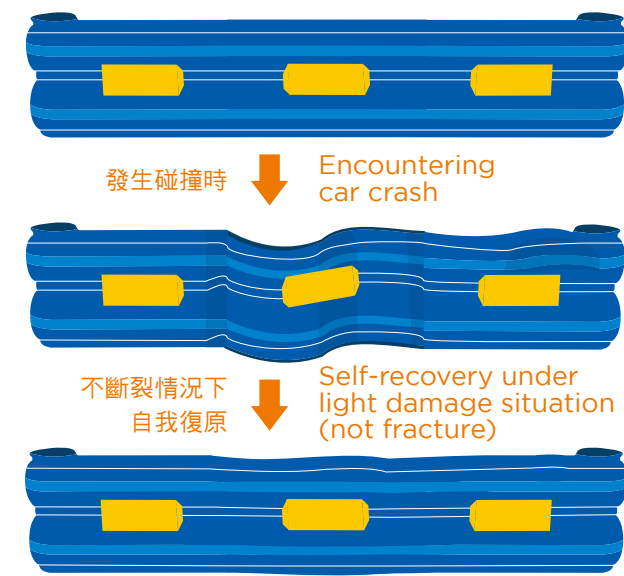
Others It requires to be machine-bended in factory in advance.
鋼板鋼性高，需預先於工廠內以設備塑型彎曲。



3. Maintenance 養護成本

ASP Only few of them needed to be replaced and repaired after car crash.
發生碰撞時，僅少數需更換維護。

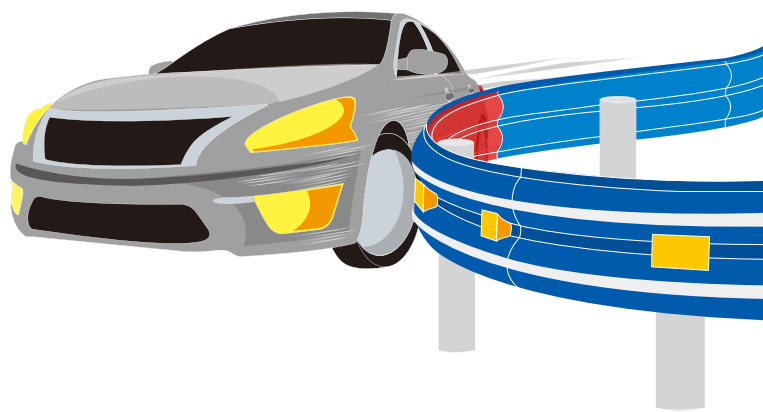
Others 100% of the guardrail needed to be replaced after car crash.
鋼板發生碰撞時，必須立即100% 更換。



4. Strength 強度

ASP Under the displacement 559.43 mm and impact force 11264kg, the product is neither broken nor deformed.
位移量559.43 mm，衝擊力量11264 kg，成品無破裂且回復原狀。

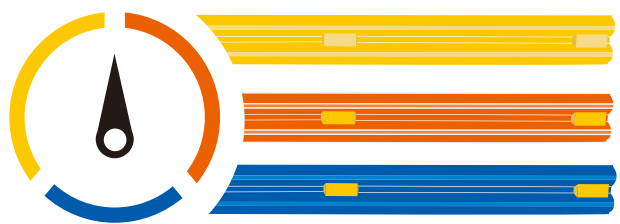
Others Under the displacement 319.4 mm and Impact force 4802.3 kg, the product is deformed.
鋼板位移量319.4 mm，衝擊力量4802.3 kg，成品凹陷且無回復。



5. Color 顏色

ASP Color can be customer-ordered.
可依使用單位指定採用不同顏色。

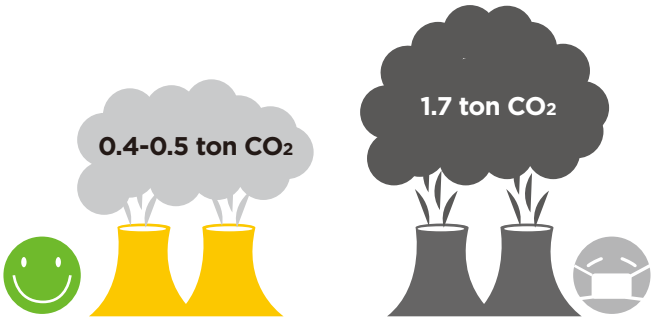
Others Most of the guardrail is gray and lack of function of caution.
鋼板多為灰色，色彩單調且無示警功能。



6. CO2 Emission 環保

ASP 0.4-0.5 ton of CO2 emissions per 1 ton plastic material production.
每生產1公噸塑膠原料，產生0.4-0.5噸二氧化碳。

Others 1.7 ton of CO2 emissions per 1 ton steel production.
鋼板每生產1公噸鋼材，排放1.7公噸二氧化碳。



檢驗報告

TEST REPORT

ARTC AUTOMOTIVE RESEARCH & TESTING CENTER TEST REPORT
ARTC財團法人車輛研究測試中心2012檢驗報告

TEST ITEM 測試項目	STRENGTH TEST 靜態強度試驗		IMPACT TEST 動態衝擊試驗	
	The Traveling Distance 預設位移量	Max. Force / Max. Displacement 最大力量 / 最大位移	The Mess of the Pendulum 擺錘重量	Impact Speed 衝擊速度
Polycarbonate (PC) 聚碳酸酯	550 mm	5661.7 kg / 540.2 mm	1802 kg	6.49 km/h
Polypropylene (PP) 聚丙烯	600 mm	4979.4 kg / 677.0 mm	1802 kg	6.55 km/h
Steel 鐵板	300 mm	4802.3 kg / 319.4 mm	-	-

Source : Automotive Research & Testing Center (ARTC)

SGS SGS TEST REPORT
SGS 檢驗數據

	Test Method 測試方法	Test Result PC 測試結果	Test Result PP 測試結果
Yield Tensile Strength (Kgf/cm ²) 降伏抗拉強度	ASTM D638-10 (Type 1, V=50 mm/min)	689	227
Elongation at Break (%) 斷裂伸長率		54	249
Impact Strength (Kgf.cm/cm) 衝擊強度	ASTM D256-10 Method A (Un-notch)	>372.4 (Non-break)	202 (Non-break)
Heat Deflection Temperature (°C) 熱變形溫度	ASTM D648-07 Method B (0.455 MPa)	132.4	107.0
Flexural Strength (Kgf/cm ²) 彎曲強度	ASTM D790-10 Procedure B	1034	330

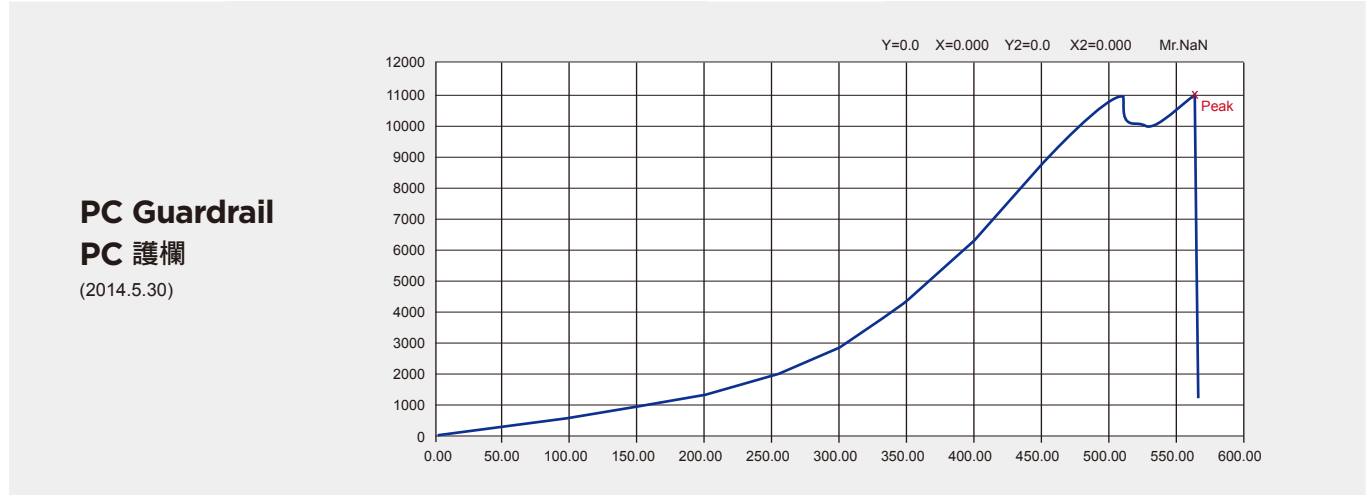
以上依ASTM之標準試片(6.8 m/m)測得之數據



2014 AMP STRENGTH TEST REPORT
2014 AMP彎曲測試報告

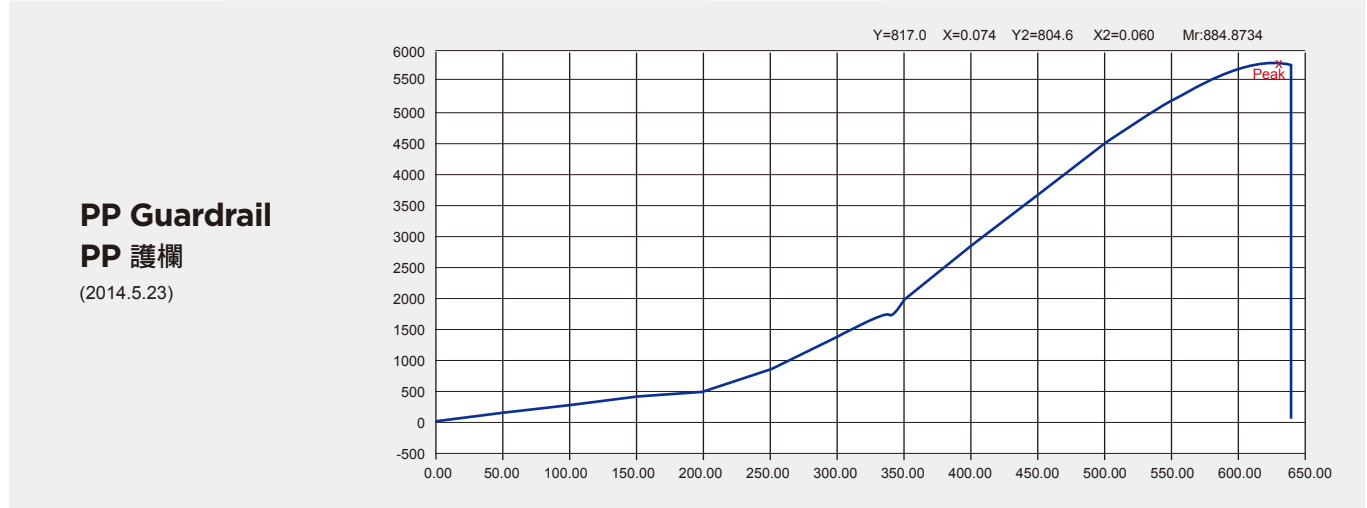
Standard
CNS2111G2013
Temperature
25°C
Speed
V1=172.00 mm/min

Break 破壞	Load (kgf) 荷重	Displacement (mm) 撓度	Fracture 斷裂	Load (kgf) 荷重	Displacement (mm) 撓度
	11264	559.43		11222	561.15



Gauge Distance 標點距離	The Specimen Size 試件面積	Total Energy 總能量	Elasticity Coefficient 彈性係數
2000.00 mm	200.0000 mm ²	22021.127J	NaN kgf/mm ²

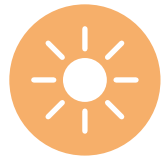
Break 破壞	Load (kgf) 荷重	Displacement (mm) 撓度	Fracture 斷裂	Load (kgf) 荷重	Displacement (mm) 撓度
	5828	628.85		5733	639.17



Gauge Distance 標點距離	The Specimen Size 試件面積	Total Energy 總能量	Elasticity Coefficient 彈性係數
2000.00 mm	200.0000 mm ²	13531.965J	NaN kgf/mm ²

道路景觀(一般情況)

SUCCESSFUL CASE



Day Version

白天

ASP Road warning safety guardrail suits for highways and regular roads with the weather sustainability and product flexibility.

ASP 道路安全示警護欄具耐候特性且強韌有彈性，適合在高速公路或一般道路使用。



Night Version

夜間

Seeing, making the way home safe.

Dim sight at night makes the degree of danger 2.5 times more than that of daytime. Therefore, reflective strips are strengthened to help drivers recognize the roads at night and to keep them safe every day and night.

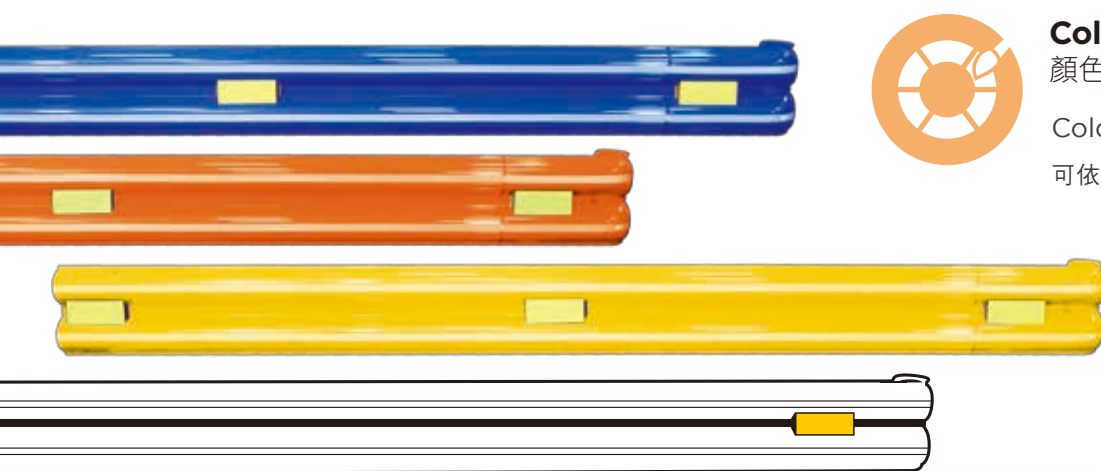
看見，讓回家的路更安全。

我們知道晚上因視線昏暗，危險程度是白天的2.5倍，為了讓駕駛者清晰辨認夜晚的道路，強化反光飾板，守護你每個白天與黑夜。



道路景觀(特殊情況)

SUCCESSFUL CASE



Color 顏色

Color can be customized.
可依使用單位指定採用不同色彩。



Dense Fog 濃霧

Well safety guiding in dense fog.
在濃霧間行車，其安全性及引導功能極佳。



Impact Resistant 耐衝擊

Resistant to falling rocks, not easy to be deformed nor broken. When vehicle collides with barrier, there is no deformed, only scratch.

抗落石、不易變形、破裂。車輛擦撞後護欄無變形，僅有表面擦痕。



Guardrail in Curve Road 地形

It can easily be adjusted by all kinds of roads with high elongation.

本產品因延展性高，可依地形做彎曲調整。



測試分鏡圖

TEST & APPLICATIONS



安裝實績

SALES TERRITORY

Safety, the hope of everyone.
The safety of ASP Guardrail has passed tests of countries and received a high reputation.
It's adopted by many countries and assigned to be the guardrail of the construction of road safety.

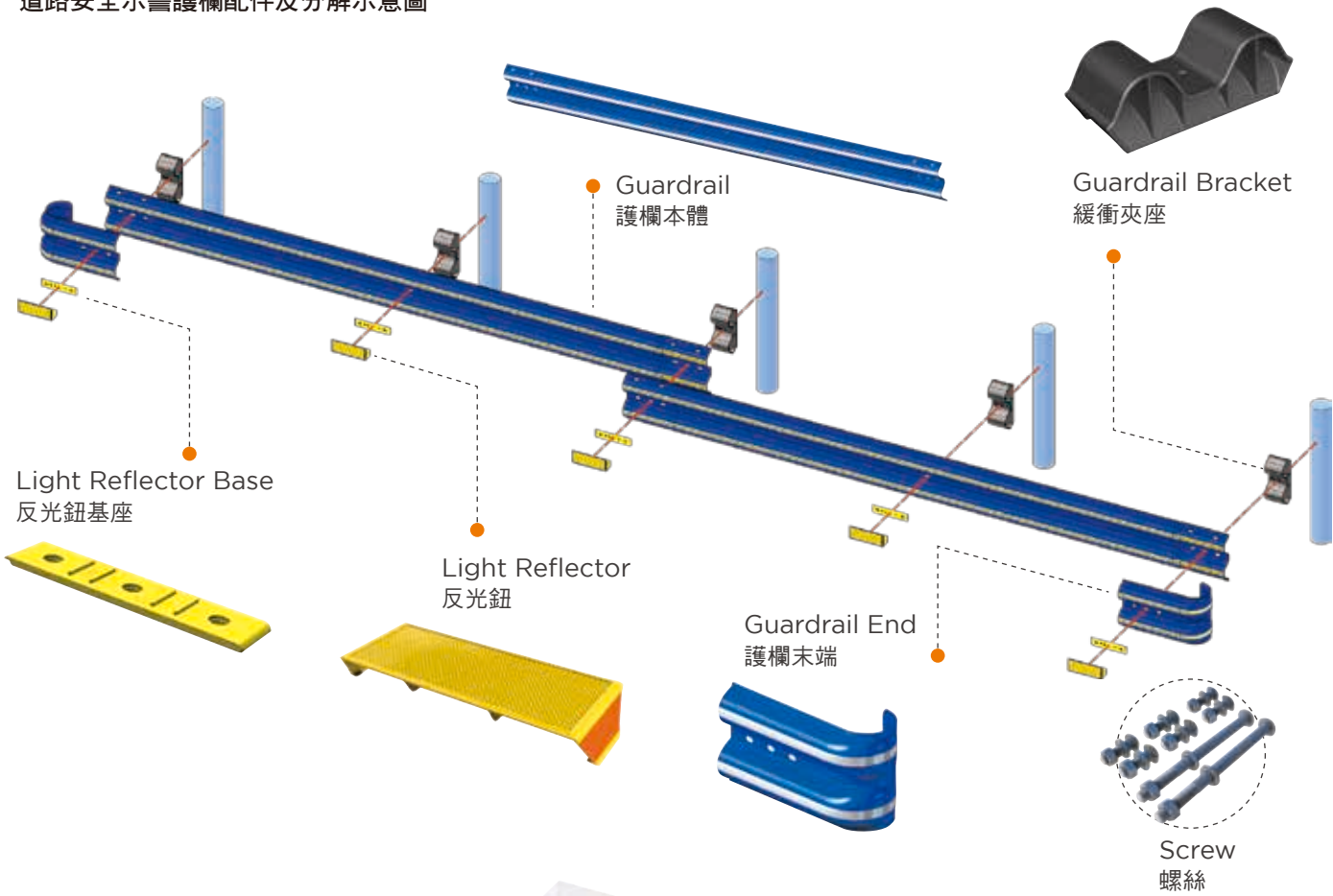
安全，是全球共同的期盼。
ASP的安全性能經過各國嚴格檢測，並獲得一致的認同肯定。已被許多國家採用，作為道路安全建設指定使用的護欄。



產品及裝櫃示意圖

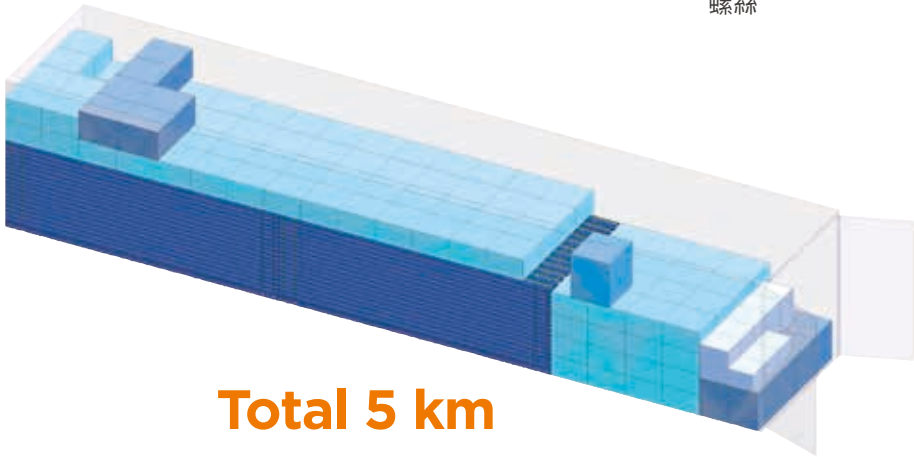
PRODUCTS & LOADING ILLUSTRATION

Road Warning Safety Guardrail Accessories & Exploded View
道路安全示警護欄配件及分解示意圖

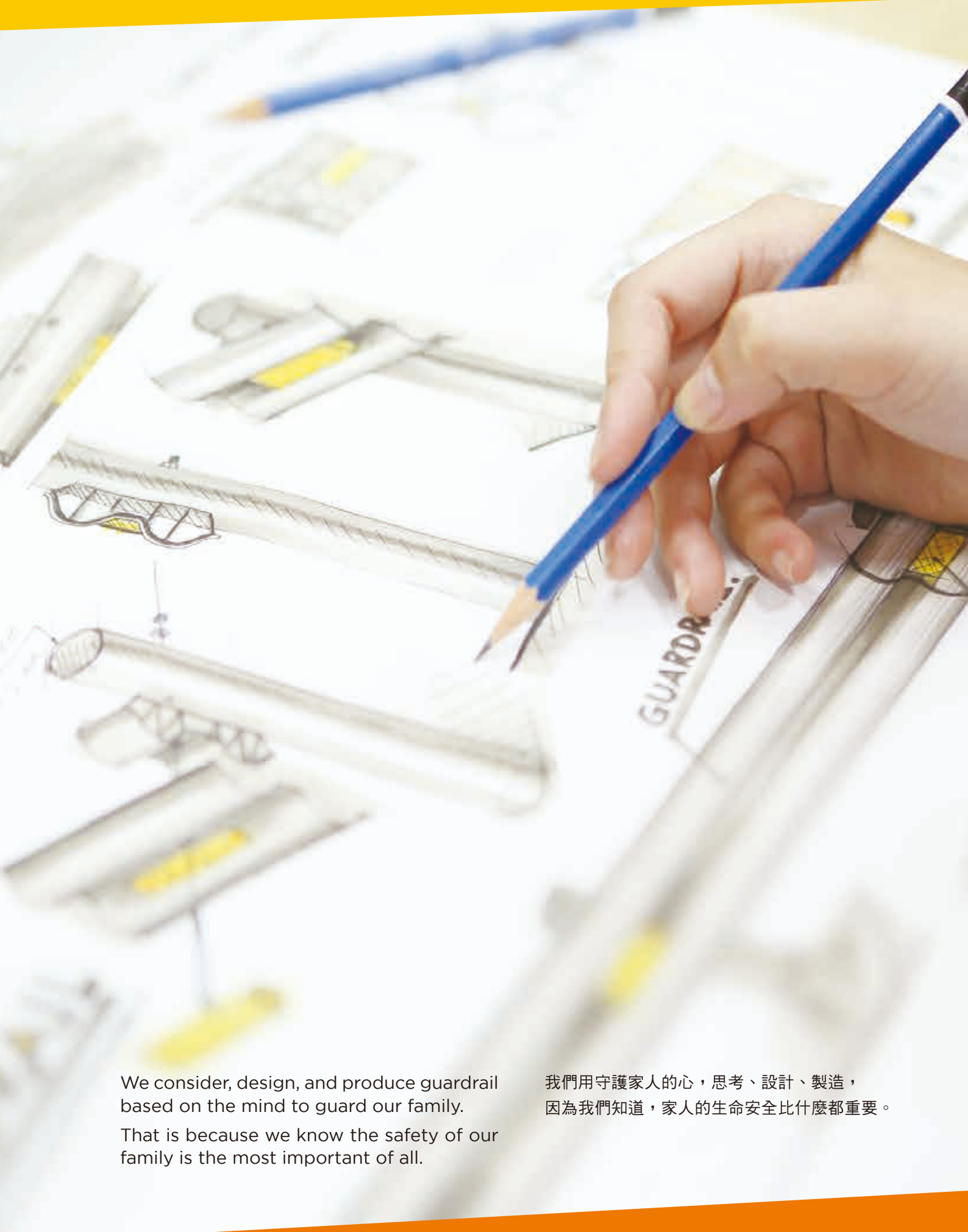


Loading Illustration of 40' Container
貨櫃堆疊示意

Above information is the maximum loading quantity of a 40' container. The final quantity is subject to the custom regulation of weight limit in different countries.
此為40呎貨櫃最多可裝載數量，實際須依各國家海關之限重標準進行調整。



Total 5 km



We consider, design, and produce guardrail based on the mind to guard our family. That is because we know the safety of our family is the most important of all.

我們用守護家人的心，思考、設計、製造，因為我們知道，家人的生命安全比什麼都重要。