



慶泰樹脂

海之道

HILEX TRACK

PU彈性跑道鋪設材



WORLD
ATHLETICS

榮獲世界田徑總會 (WA) 認證



海之道 -P

■前言：Introduction

PU (POLYURETHANE) 為高分子聚合物於 1950~1974年問世，由於其優越之特性較其他塑膠原料之製品，更能因應現代田徑運動之需要，其主要特性：

PU (POLYURETHANE) technology had been founded and developed between 1950s to 1974s. Since the PU material obtained with the high performance characteristic than other materials, it can satisfy with the modern running track and field's requirement.

■特性：Features

一、耐候性、耐久性、耐磨性優越。

Top flood coat of polyurethane embedded with UV resistance EPDM or PU rubber granules can provide excellent UV and abrasion resistance, also has outstanding durability.

二、接著力強，並具有優良的彈性及韌性。

Unique central layer can provided with an outstanding adhesion, flexibility and elasticity.

三、耐油、耐溶劑、耐藥品、抗酸鹼性優良、無公害及污染之顧慮，適合-30°C~70°C範圍內使用，性質安定。

Excellent resistance to oil, solvent, chemical, acid and alkaline. Environmentally friendly. Performs well in temperature between -30°C~70°C.

四、無接縫、施工簡單、保養容易。

Seamless, easy application and maintenance.

五、全天候性：雨後即可使用。

All weather performance: can be used immediately after raining.





■ 適合範圍：Usages

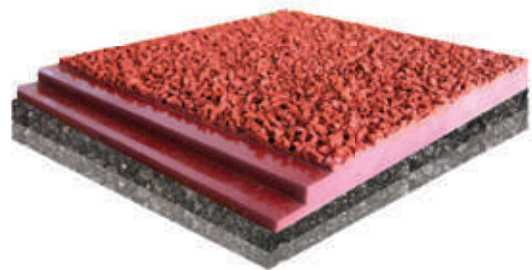
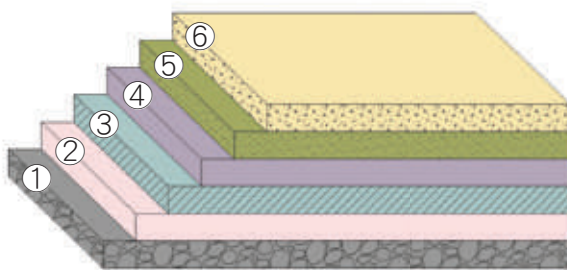
一、運動場所：田徑跑道場。

Athletic field: Running track.

二、遊樂場所：游泳池畔、高爾夫球走道、兒童樂園、幼稚園活動場地。

Recreational places: Swimming pool, golf course aisle, children's play ground and kindergarten etc.

■ 施工剖面圖：Application profile



①瀝青混凝土基層 Asphalt or concrete

②PU底漆 PU Primer

③PU基材塗佈 PU base layer

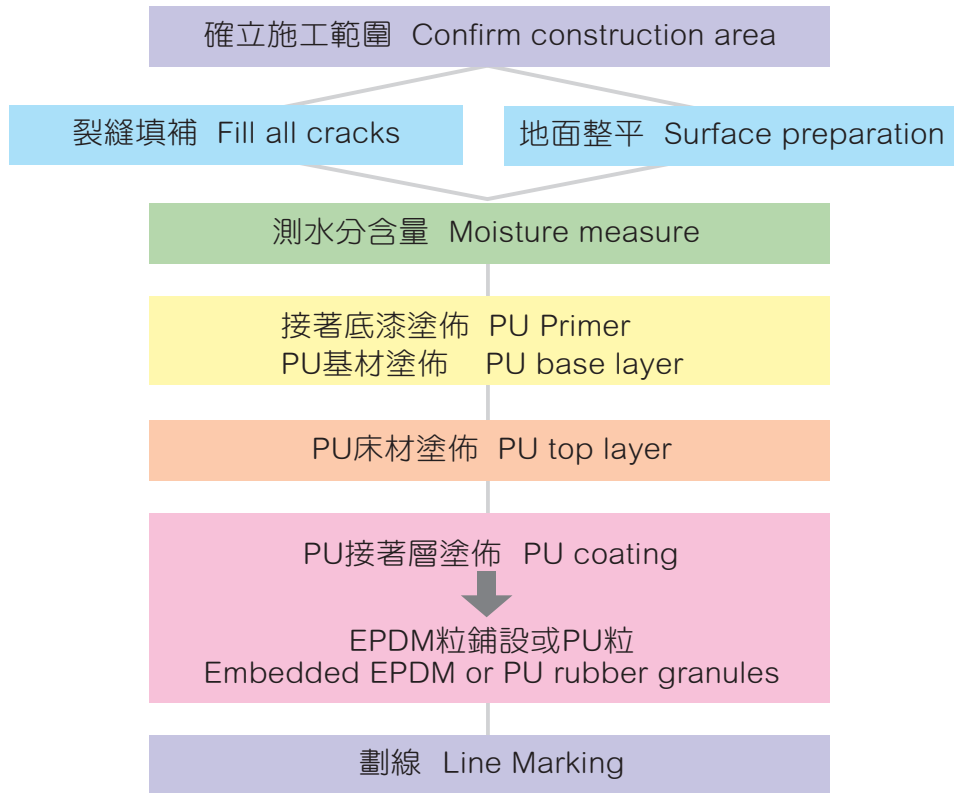
④PU床材塗佈 PU top layer

⑤PU接著層塗佈 PU coating

⑥EPDM粒鋪設或PU粒 Embedded EPDM or PU rubber granules



■ 施工程序 : Application



■ 物性分析 : Physical properties

項 目	Testing Items	規 格 Quality
(一) 比 重	Specific gravity	標示值±0.10 Marked value±0.10
(二) 硬 度 (Hs)	Hardness	45~65
(三) 抗拉強度 (kgf/cm ²)	Tensile strength	25 ↑
(四) 伸 長 率 (%)	Elongation	250 ↑
(五) 撕裂強度 (kgf/cm)	Tear strength	10 ↑
(六) 壓縮永久變形率 (%)	Compression set	35 ↓
(七) 耐磨耗性 (g)	Abrasion resistance	2.5 ↓
(八) 彈 性 率 (%)	Elasticity	30 ↑
老化試驗 (70°C) 168小時 Aging test (70°C) 168hrs.	1. 硬 度(Hs) Hardness	原硬度值之變化 ± 5 Hardness variation ± 5
	2. 抗拉強度保留率 (kgf/cm ²) Tensile strength retention rate	老化試驗前數值之80~150% 80~150 % variation of original value
	3. 伸 長 率(%) Elongation	200 ↑
	4. 撕裂強度保留率(kgf/cm) Tear strength retention rate	老化試驗前數值之80~150% 80~150% variation of original value



海力道

空隙率
30%

空隙式

-E

■ 前言：Introduction

海力道－E 空隙式運動場跑道，是源起自歐洲的完美複合彈性鋪設材料，以「容易跑」、「創記錄」的理念所開發的產品。它是應用多重彈性理論，設計成粒狀 NR + PU 樹脂結合而成的基層，並使它有 30% 的空隙，讓 NR + PU 的彈性，配合空隙間的彈性發揮，將這些彈性結合成複合彈性的效果。而面層的設計，則以 EPDM + PU 合成耐久彈性層，高性能的彈性面層，與較軟的彈性基層再結合，承受運動員的衝擊力廣泛吸收，再發揮彈力資助運動員創記錄，又不過份費力與勞累。因此海力道－E 空隙式運動場跑道可謂最適合運動員競賽的優良場地。



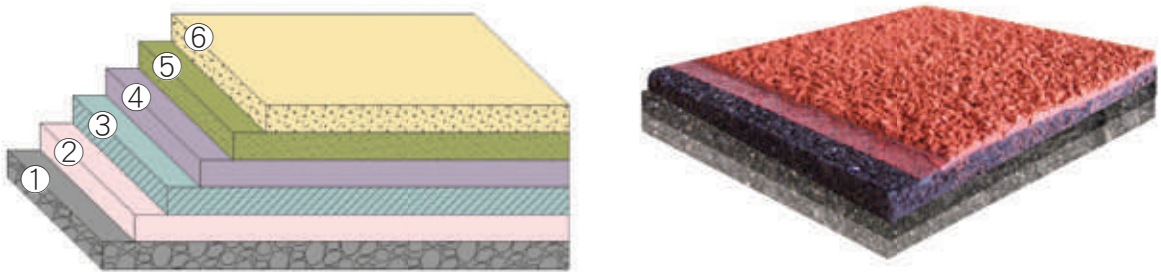
HILEX-E Sandwich System is originated from Europe. This product is applied with Multiple Elastic Theories. According to this theory, HILEX-E is an in-situ two layer sandwich system especially designed for elite running tracks. It composed of EPDM or PU rubber granules bound with a polyurethane binder and wearcoat of colored EPDM or PU granules cast into a premium polyurethane flood coat. It provides the flexible and resilient homogeneous surface. HILEX-E Sandwich system is suitable for athletic competition.



公司引進此彈性鋪設材之技術與理念，命名海力道－E，係空隙式運動場跑道，基層空隙可消滅一般PU跑道不透氣而凸起的缺點，而擁有PU高性能的優點，面層的性能，更達耐候性佳、耐磨損、耐長期使用的要求，並且以機械鋪裝鋪設整平一體化，平坦且排水性良好，是最進步的全天候運動場地鋪設材料。

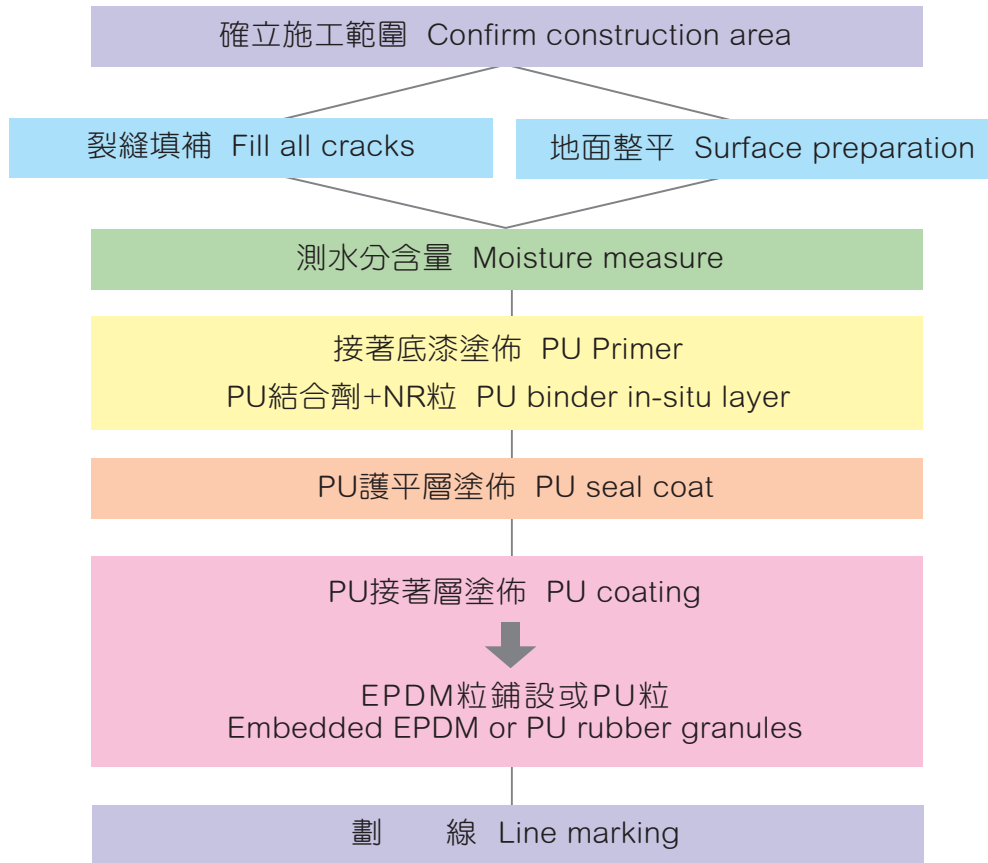
Ching-Tai introduced and applied with this system's technology and concepts. Being called as HILEX-E sandwich system. This system can reduce impermeability of the Full-pour running track system. This product owns a high performance of polyurethane. It can provide excellent resistance to weather and abrasion, for long term used requirement. This system is installed by professional machine ; its surface is smooth and has excellent drainage. Due to the nature of the materials used and the method of construction of the system, the resilience and elasticity can reduces impact noise and provides user comfort surface. Generally speaking, this system is the most advanced material of the running track.

■ 施工剖面圖：Application profile



- ① 瀝青混凝土基層 Asphalt or concrete
- ② PU底漆 PU Primer
- ③ PU結合劑+NR粒，彈性層 PU binder in-situ elastic layer
- ④ PU護平層 PU seal coat
- ⑤ PU接著層塗佈 PU coating
- ⑥ EPDM粒鋪設或PU粒 Embedded EPDM or PU rubber granules

■ 施工程序：Application



■ 物性分析：Physical properties

(PU單液型結合劑 One component PU binder)

試樣 Model	檢驗項目 Testing items	規格 Specification
PU單液型結合劑 One component PU binder	固形份 (%) Solid content	85 ↑
	指觸乾燥 (hrs) Tack free time	1~3
	硬化乾燥 (hrs) Curing time	12 ↓
	拉抗強度 (kgf/cm ²) Tensile strength	120 ↑
	伸長率 (%) Elongation	500% ↑



海力道

透氣式
-R

■前言：Introduction

海力道面漆型透氣式運動場跑道是針對熱帶型氣候設計的跑道彈性鋪設材料，主體由高強度單液型PU樹脂混合高彈性NR橡膠粒構成，表面再噴塗耐磨耗的PU彈性面漆，形成符合國際標準的彈性運動跑道。

HILEX-R Structural Spray System is typically designed for wetter regions. HILEX-R is an in-situ two layer polyurethane spray system especially designed for running tracks. It features and lay composed of NR granules bound with a polyurethane binder and a surface layer of premium polyurethane and colored EPDM granules. This system meets the latest standards of international running track system.

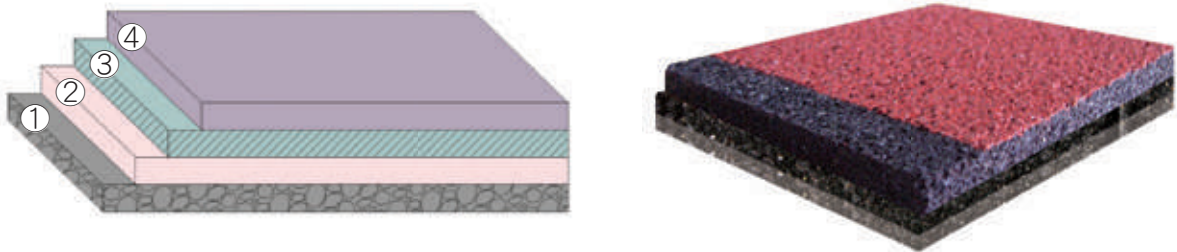
海力道面漆型透氣式運動跑道基層內含有30%以上的空隙，利用此空隙吸收冷縮熱漲產生的體積差；包括熱帶氣候日夜溫差40°C及午后陣雨產生的材料急速冷卻造成的體積，百分之百避開傳統式跑道伸張凸起的缺點。

HILEX-R Structural Spray System provide more than 30% of the air voids, this feature can absorb the differences between the thermal expansion and contraction, also can overcome the typical tropical climates of the temperature varies much from day to night (i.e. 40°C differences in one day) , or afternoon thunder storm to produced by rapid cooling. This system can avoid the disadvantages of the traditional running track system.

海力道面漆型透氣式運動場跑道表面層噴塗美觀耐磨之PU彈性面漆，不但保養容易，而且維持透氣的效果，水氣隨時可由底層揮發，保護跑道永不變形；跑道使用磨損一段時間後，只須重新噴塗面漆，即如新建跑道一般，美觀而耐用。

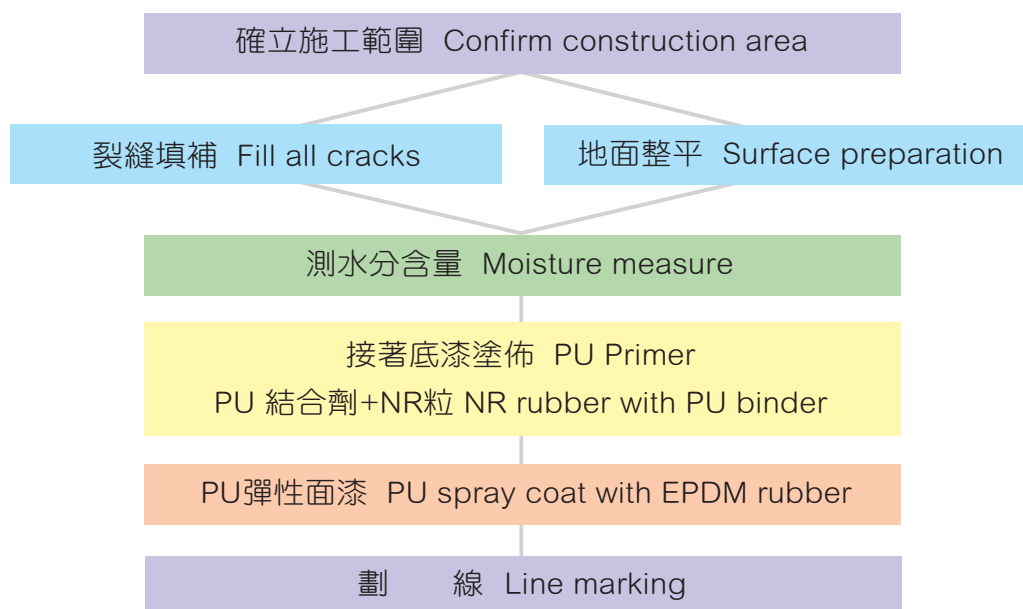
The top coating of this system can provide the water permeability, air ventilation and also easy to maintenance. Since this system is designed for the moisture can be evaporated from the button, it can protect the running track to out of the shape. If the surface of the running track has some abrasions, simply to recoat it again, it will be renew as original.

■ 施工剖面圖：Application profile



- ①瀝青混凝土基層 Asphalt or concrete
- ②PU底漆 PU Primer
- ③PU結合劑+NR粒，彈性層 NR rubber with PU binder
- ④PU彈性面漆 PU spray coat with EPDM rubber

■ 施工程序：Application





■ 物性分析 : Physical properties

試 樣 Model	檢 驗 項 目 Testing items	規 格 Specification
PU彈性面漆	指觸乾燥 (hrs) Tack free time	2~4
PU top coat	硬化乾燥 (hrs) Curing time	12~24
(TC-993/TC-993A)	耐磨耗性 (g) Abrasion resistance	2.5 ↓





海力道 -C

全密式



■前言：Introduction

海力道-C全密式運動場跑道，基層設計採用運動場PU鋪設材加入複合顆粒攪拌後鋪裝，或塗佈運動場PU鋪設材後，立即灑滿複合顆粒，依重複相同步驟到達所需厚度，發揮複合彈性之功效。

面層的設計，則以 EPDM+PU形成耐久彈性層，此高性能的彈性面層，與較軟的彈性基層再結合，可承受同時吸收運動員的衝擊力廣泛吸收後，再發揮彈力之功效，更能因應現代田徑運動場之需求。

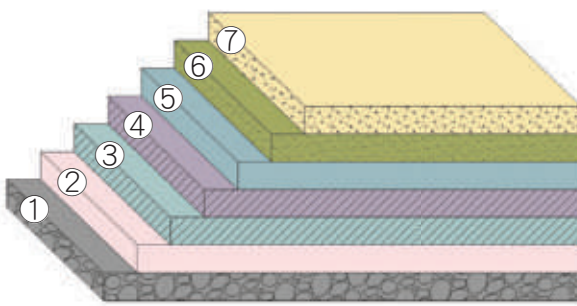


The base layer of Hilix-C full pu track is designed with sport field PU paving material mixed with composite granule or scattering composite granule immediately after applying sport field PU paving material. Repeat the steps above to achieve the required thickness, which can make the coat play the elasticity from the composite materials.

The design of the surface is made up of EPDM+PU to form a durable elastic layer. This high-performance elastic top layer combines with the softer elastic base layer to absorb and bear the impact from the athletes to play the elasticity. It better meets the requirement of the modern athletic fields.

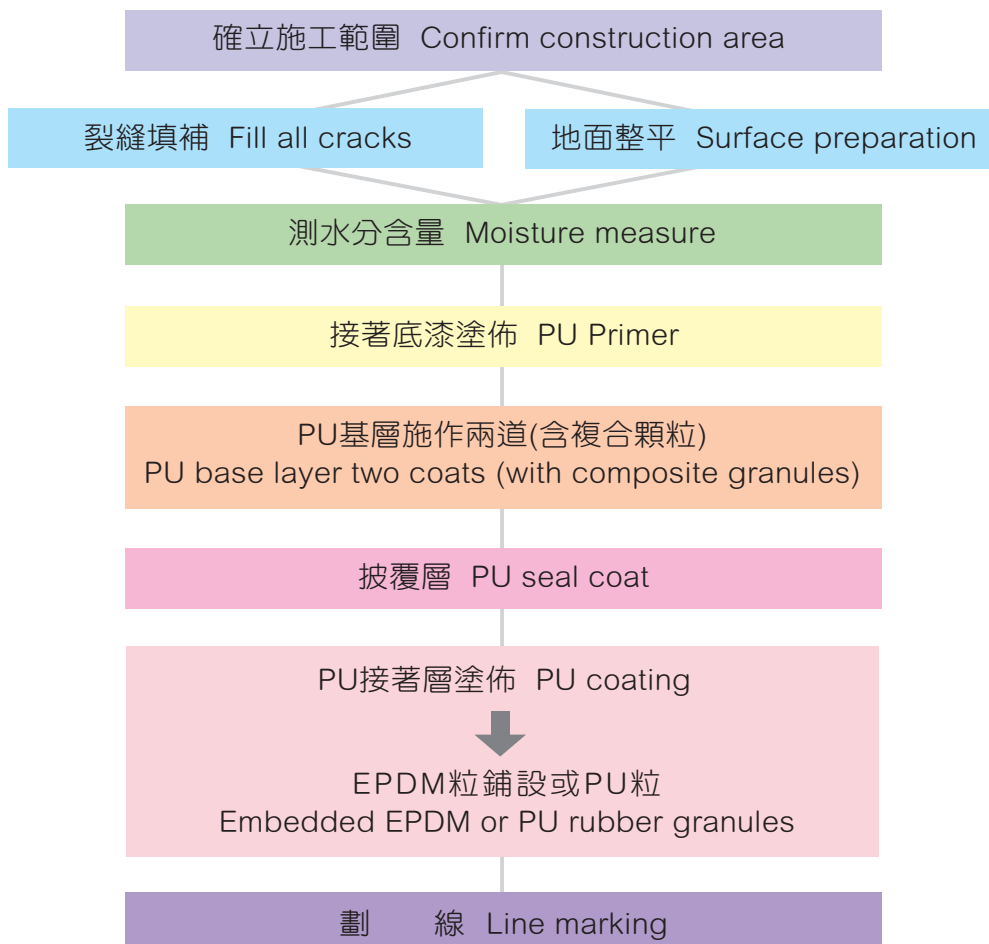


■ 施工剖面圖：Application profile



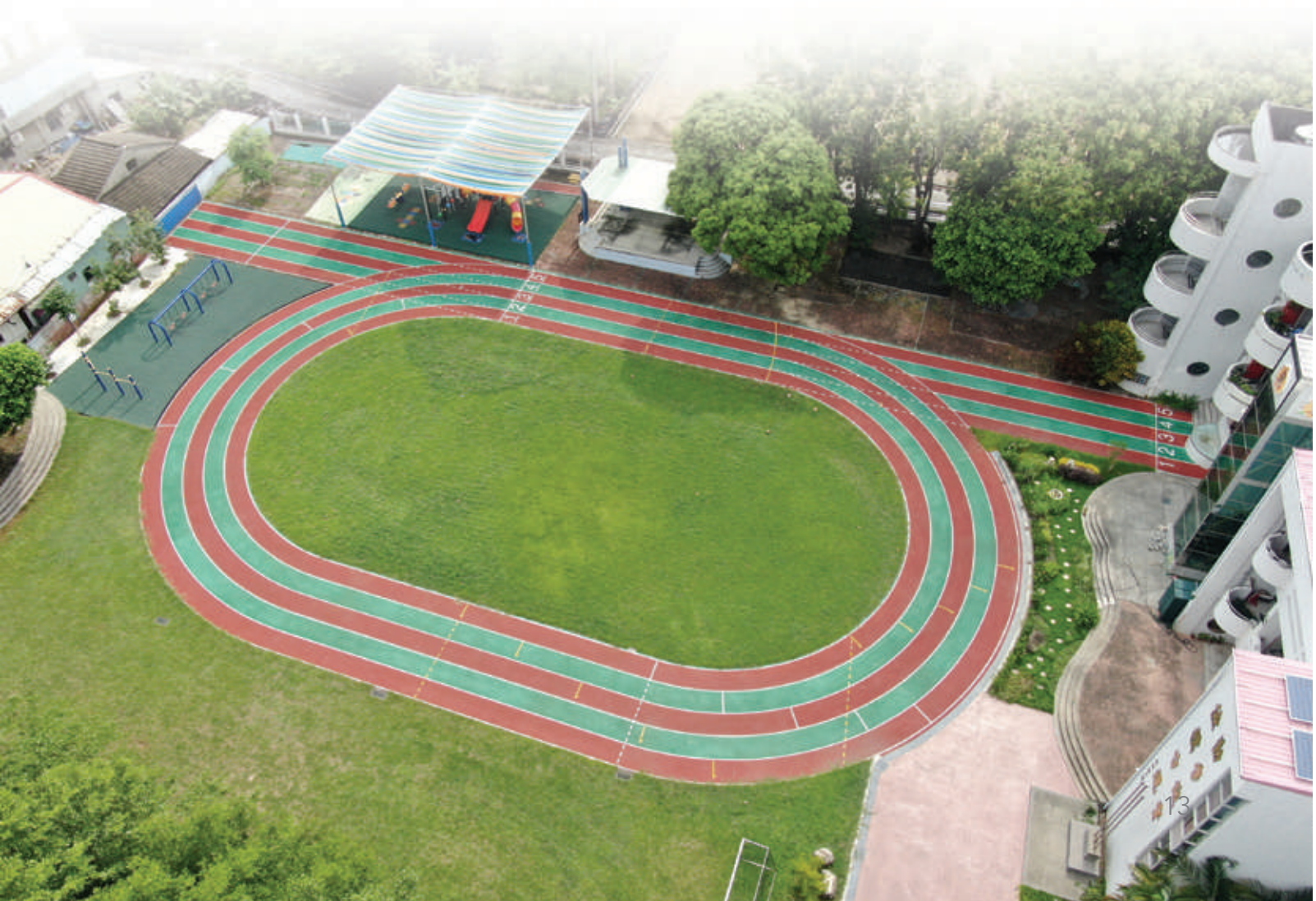
- ① 瀝青混凝土基層 Asphalt or concrete
- ② PU底漆 PU Primer
- ③④ PU基層(含複合顆粒) PU base layer (with composite granules)
- ⑤ PU整平層 PU seal coat
- ⑥ PU接著層 PU coating
- ⑦ 面層止滑顆粒 EPDM+PU top layer

■ 施工程序：Application



■ 物性分析 : Physical properties

檢 驗 項 目 Testing items	規 格 Specification
比 重 Specific gravity	標示值 \pm 0.10 Marked value \pm 0.10
硬 度 (Hs) Hardness	45~65
抗拉強度 (MPa) Tensile strength	2.4 \uparrow
伸 長 率 (%) Elongation	250 \uparrow
撕裂強度 (N /cm) Tear strength	98 \uparrow
壓縮永久變形率(%) Compression set	35 \downarrow
耐磨耗性 (g) Abrasion resistance	2.5 \downarrow
彈 性 率 (%) Elasticity	30 \uparrow





■ 注意事項：Limitation

一、底漆、面漆、稀釋劑及部份產品含有機溶劑，貯存與施工時請遠離火氣，以維安全。

Product should be kept away from ignition sources.

二、部份產品含有機溶劑及異味，所以在室內、地下室、貯槽等密閉場所之施工，請注意換氣通風，以維安全。

Provide adequate ventilation when applying this product in confined spaces or stagnant air.

三、施工中請配戴防護用具，如手套、護目鏡、防護面具、防塵口罩等，以維安全與健康。

It is necessary to wear the protective gloves and glasses when applying this material.

四、素地未乾、陰雨、相對濕度85%以上時，應避免施工。

Do not apply when the surface is not completely dry or relative humidity is above 85%.

五、含主劑、硬化劑之產品，必須依規定比例調勻施工。

Mix the main agent with hardener according to the designed mixing ratio.

六、請參照施工說明書之指導使用，以確保品質。

Must have to follow the guidance while application.



PU基層施作(含複合顆粒)
PU base layer (with composite granules)



PU結合劑+NR粒施作
NR rubber with PU binder

海力道跑道鋪設材料，不但是運動競技場地的優良鋪設材料，它還可以應用在各種室內、室外運動設施；如高爾夫球場走道、室內地面、公園走道、幼稚園活動場地、遊樂區走道等活動場所，提供舒適、安全、環保的優良鋪設材。

HILEX Track System can be applied in both indoor and outdoor athletic facilities such as: golf course aisle, indoor floor, parking lot area, kindergarten areas, recreational places, etc. This system provides the most comfortable, safe and environmentally friendly material for customers.



EPDM粒鋪設 Embedded EPDM



劃線 Line marking



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