



# 慶泰樹脂



\* 耐候 \* 耐化學品 \* 耐刷洗

Abrasion, Chemical, Wet-scrub resistance

\* 環保 Environment protection

\* 舒適 Comfortable feel

# 水性聚氨酯耐磨塗料

WATER BASED POLYURETHANE HARD COATING

## PW-606



## 水性聚氨酯耐磨塗料

## Water Based Polyurethane Hard Coating

PW-606 為一雙組分高性能水性聚氨酯耐磨塗料，以環保設計為概念，且具有優異的耐化學性與耐磨性，硬化後可形成高耐候的地坪面塗塗層。

PW-606 可廣泛使用於一般的地坪塗料，例如一般超商賣場、食品加工廠與停車場等。也可應用於運動場館地板塗裝等用途。

PW-606 is a two component, water based, high performance polyurethane hard coating which provides, chemical and abrasion resistance. It offers excellent outstanding weather with color stability.

PW-606 is used in a variety of general flooring applications including supermarket, Food processing factory and car park lots. It is also used in stadiums floors, etc.

### ● 特 性：

- 1.低氣味、低VOC。
- 2.耐候、耐老化、不黃變、為長效性塗料。
- 3.優異的物理性能與耐磨性能。
- 4.耐水、耐酸鹼性佳。
- 5.容易施作於新的素地或上塗於環氧地坪材料上。
- 6.可彩化、美化並提升住的品質。
- 7.水性環保塗料、無溶劑、無危險之顧慮。

### ● Features：

- 1.Low odor、low VOC.
- 2.Excellent weather, aging, yellowing resistance.
- 3.Rigid,excellent mechanical properties and abrasion resistant.
- 4.Excellent water resistance & acid, alkaline resistance.
- 5.Excellent to apply for new substrate and repaint on any epoxy flooring.
- 6.Addition to the aesthetic.
- 7.Non flammable because of water-borne receipt.





### ● 用 途：

- 1.室內外一般地床、牆面、停車場。
- 2.廠房地坪、食品加工廠、藥品製造廠等無毒、無臭味之工廠使用。
- 3.化學工廠、電鍍工廠、電子半導體工廠等，耐酸鹼鹽等操作化學藥品之處所。
- 4.室內步道、廣場、體育館等防水地床。

### ● Usages :

- 1.Indoor or outdoor floors, wall, car parking lots.
- 2.Plant floor, food manufacturing, medical processing area.
- 3.Chemical factories, electroplating factories, electronics and semiconductor factories, etc.
- 4.Indoor or outdoor aisles, square, stadiums floors, etc.

### ●基本性質：

| 項 目                        | 特 性                       |
|----------------------------|---------------------------|
| 混 合 比                      | PW-606 : PW-601B<br>6 : 1 |
| 固 成 分 (%)                  | 50以上                      |
| 理論塗佈量 (Kg/m <sup>2</sup> ) | 0.13                      |
| 塗佈方式                       | 滾塗                        |
| 指觸乾燥時間 (分)                 | 30分以下 (25°C)              |
| 操作時間 (小時)                  | 1小時 (25°C)                |
| 重塗間隔時間 (小時)                | 8小時以上 (25°C)              |
| 完全硬化時間 (天)                 | 7天 (25°C)                 |

### ● Typical properties :

| Item                                      | Property                  |
|-------------------------------------------|---------------------------|
| Mixing ratio                              | PW-606 : PW-601B<br>6 : 1 |
| Solid content (%)                         | 50 above                  |
| Theoretical Coverage (Kg/m <sup>2</sup> ) | 0.13                      |
| Application                               | Roller                    |
| Tack free time (min)                      | Under 30 min at 25°C      |
| Working time (hr)                         | 1hr at 25°C               |
| Re-coating interval (hr)                  | 8hrs above at 25°C        |
| Full cure (day)                           | 7 days at 25°C            |

### ●物理性質：

| 項 目     | 測 試 方 法           | 測試結果       |
|---------|-------------------|------------|
| 硬 度     | 鉛筆法               | ≤ 3H       |
| 光 澤     | 60°角光澤度儀          | 20GU 以下    |
| 衝 擊 強 度 | ASTM D2794        | 50 Kg · cm |
| 百 格 試 驗 | ASTM D3359        | ≥ 4B       |
| 耐 磨 耗   | CS 10, 1Kg, 1000轉 | < 50 mg    |
| 附著強度    | CNS 8082          | 符合         |
| 透水性測試   | CNS 8082          | 符合         |
| 耐洗刷測試   | CNS 8082          | 符合         |
| 耐鹼性測試   | CNS 8082          | 符合         |
| 耐候性測試   | CNS 8082          | 符合         |

### ● Physical properties :

| Item                 | Method                      | Testing results |
|----------------------|-----------------------------|-----------------|
| Hardness             | pencil                      | ≤ 3H            |
| Gloss                | 60° angle on the glossmeter | Under 20 GU     |
| Impact resistance    | ASTM D2794                  | 50 Kg · cm      |
| Cross cut            | ASTM D3359                  | ≥ 4B            |
| Abrasion resistance  | CS 10, 1Kg, 1000 rpm        | < 50 mg         |
| Adhesive strength    | CNS 8082                    | OK              |
| Water permeability   | CNS 8082                    | OK              |
| Wet-Scrub resistance | CNS 8082                    | OK              |
| Alkali resistance    | CNS 8082                    | OK              |
| Weather resistance   | CNS 8082                    | OK              |



# 水性聚氨酯耐磨塗料

## Water Based Polyurethane Hard Coating

### ● 施工說明：

#### 一、材 料：

- 雙液型水性聚氨酯耐磨塗料 / PW-606
- 包裝：主 劑 PW-606 每桶12kg  
硬化劑 PW-601B 每桶2kg

#### 二、施工面要求原則：

- 可施工條件：空氣相對濕度 $\leq 85\%$ ，施作環境溫度 $> 5^{\circ}\text{C}$ 。起霧／結露及施作表面潮濕時不得施作。
- 施工面若有裂縫或高低不平，需先以補土修復後再進行刷塗。鬆弛、粉化或水泥砂漿突出物應敲除。
- 施工面有油漬應燒除。
- 施工面表面有青苔、黴菌應移除。
- 施工面固著渣突出小泥塊、石礫、磚塊等尖銳物應剷除磨平。

#### 三、施工方式：

- 施工前滾輪、刷子等工具之清潔檢查。
- 在施工前，請先將主劑PW-606材料開桶均勻攪拌，再加入硬化劑PW-601B攪拌均勻，方可進行塗佈。使用配比（重量比）為主劑：硬化劑=6：1。
- 請先用刷塗方式，針對裂縫、角落、水電管接縫處進行薄塗。
- 再以滾輪直接沾料後進行全面性刷塗。
- 水性聚氨酯地坪塗料 / PW-606每組14kg，每一道塗佈量為 $0.13\text{kg}/\text{m}^2$ ，建議兩道刷塗施工（每組14kg進行兩道刷塗可施工 $55\text{m}^2$ ）。
- 水性聚氨酯地坪塗料施工時，應避免厚塗，否則成膜乾燥時間與表觀可能受到影響。
- 主劑與硬化劑混合後，應儘快使用完畢。

### ● Application

#### 1. Material：

- Two component water-based polyurethane hard coating / PW-606.
- Packaging：PW-606 Component A：12 kg.  
PW-601 Component B：2 kg.

#### 2. Surface preparation：

- Do not apply when temperature is below  $5^{\circ}\text{C}$ , RH is above 85%, or when the substrate surface is wet.
- Repair all cracks with the proper patching material of the existing substrate.
- Smooth the surface to form a uniform and level surface.
- Surface must be clean and free from oils, grease, mosses or other contaminants.
- Small stone, gravel, bricks and other sharp objects on the surface should be removed.

#### 3. Application：

- Clean-up the tools of roller and brush before application.
- Stir PW-606 thoroughly before application, then mix PW-601B with mixing ratio A:B=6:1 to apply the coat.
- Apply to cracks, corners, and joints by brush first.
- Totally application by roller.
- Water-based polyurethane floor coating 14kg/set, every coat coverage is  $0.13\text{kg}/\text{m}^2$ , two layers applications are Recommended. ( $55\text{m}^2$  floor can be cover by two layer construction per set).
- Avoid applying the coating in thick, or the tack free time and apparent would be influenced.
- Use up the material as soon as possible after mixing A with B.



● 包裝與儲存：

一、包裝方式：

每組兩桶共14kg，包含PW-606  
12kg，與PW-601B 2kg。

二、儲存方式：

材料應完全密封並置於陰涼乾燥  
之處、避免日曬雨淋，請於6個  
月內用畢。

● 顏色：

PW-606白、PW-606百合白、  
PW-606玫瑰白、PW-606天藍、  
PW-606淺天藍、PW-606淺灰、  
PW-606綠、PW-606鼠灰、  
PW-606土耳其藍、PW-606銀灰。

● 注意事項：

- 1.實際塗佈量視施工方式、環境條件  
及被塗物表面狀況而定。
- 2.稀釋劑可做為稀釋及清潔工具用。
- 3.環境溫度低於5℃時、天候情形為  
陰雨或相對濕度85%以上時，避  
免施工。
- 4.主劑與硬化劑請依指示配比攪拌均  
勻。
- 5.硬化劑易和水氣反應而膠化變質，  
故桶蓋務必蓋緊。

● *Packaging and Storage:*

1. *Packaging :*

14 kg two drum / per set.  
PW-606 Component A : 12 kg.  
PW-601 Component B : 2 kg.

2. *Storage :*

Shelf time is 6 months. Store in a cool,  
dry place. Keep out of the sun and rain.

● *Color:*

White、Lily white、Rose white、Sky blue、  
Baby blue、Pale gray、Green、Medium  
gray、Turkey blue、Silver gray.

● *Limitation :*

- 1.The coverage rate will depend on the  
condition of the surface.
- 2.Thinner can be used as diluting and  
cleaning tools.
- 3.Do not apply when temperature is below  
5℃, rainy day or RH above 85%.
- 4.Strictly follow mix ratio recommendations.
- 5.Since component B reacts with moisture  
to gel easily, cover the container tightly.



## 水性聚氨酯耐磨塗料

## Water Based Polyurethane Hard Coating

### 綠建材水性聚氨酯地坪塗料評定基準

Green building material water based polyurethane floor coating standard.

#### 1.符合CNS 8082試驗方法 Physical properties: CNS 8082 Testing methods

| 試驗項目<br>Testing items                                                                                                                                                                                                      |                        | CNS 8082 品質要求<br>CNS 8082 Quality requirements                                                                                                                                                                         | 試驗結果<br>Testing results                                                                                                                                                                                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.低溫安定性 Low temperature stability<br>(-5±2℃/18h→20±2℃,65±10% RH / 6h為1cycle , 共3cycle)<br>(-5±2℃/18h→20±2℃,65±10% RH / 6h is 1cycle, total in 3cycles)                                                                     |                        | 應無結塊且無組成物之分離凝集現象<br>No caking and there's no stratification and agglutination in components                                                                                                                            | 無結塊且無組成物之分離凝集現象<br>No caking and there's no stratification and agglutination in components                                                                                                             |
| 2.由初期乾燥所引起之龜裂抵抗性<br>Resistance to crack caused by initial drying                                                                                                                                                           |                        | 不得發生龜裂<br>No cracks                                                                                                                                                                                                    | 無龜裂<br>No cracks                                                                                                                                                                                       |
| 3.附著強度<br>Adhesion strength                                                                                                                                                                                                | 標準狀態<br>Standard state | 49.0 N/cm <sup>2</sup> 以上<br>49.0 N/cm <sup>2</sup> above                                                                                                                                                              | 122.4 N/cm <sup>2</sup>                                                                                                                                                                                |
|                                                                                                                                                                                                                            | 浸水後<br>Soaked          | 29.4 N/cm <sup>2</sup> 以上<br>29.4 N/cm <sup>2</sup> above                                                                                                                                                              | 112.6 N/cm <sup>2</sup>                                                                                                                                                                                |
| 4.對冷熱反覆作用之抵抗性<br>Resistance to cold and heat repeated interaction<br>(20±2℃ H <sub>2</sub> O/18h→-20±3℃/3h→50±3℃/3h為1個cycle , 共10個cycle)<br>(20±2℃ H <sub>2</sub> O/18h→-20±3℃/3h→50±3℃/3h is 1 cycle, total in 10 cycles) |                        | 試樣表面應無剝離、龜裂及膨脹，且無顯著變色及光澤下降<br>The surface of the sample should be free from peeling, cracking, and swelling, and there should be no significant discoloration and loss of gloss                                        | 試樣表面無剝離、龜裂及膨脹，且無顯著變色及光澤下降<br>The surface of the sample was free from peeling, cracking, and swelling, and there was no significant discoloration and loss of gloss                                     |
| 5.透水性 Water penetration                                                                                                                                                                                                    |                        | 1.0cm以下<br>Under 1.0cm                                                                                                                                                                                                 | 0cm                                                                                                                                                                                                    |
| 6.耐洗刷性 Scrub resistance<br>0.5%肥皂水，載重450g，往復洗刷500次<br>0.5% soap water, 450g load, 500 scrub cycles.                                                                                                                        |                        | 應無剝離或磨耗所引起之露出底材<br>There should be no exposed substrate caused by peeling or abrasion                                                                                                                                  | 無剝離或磨耗所引起之露出之底材<br>No exposed substrate caused by peeling or abrasion                                                                                                                                  |
| 7.耐衝擊性 [ 落球式：球型重錘 W2-500 (530g),自30cm處落下衝擊 ]<br>Impact resistance [ Falling ball method: ball weight W2-500 (530g) drops and impacts from 30cm high. ]                                                                     |                        | 應無龜裂顯著變形及無剝離<br>There should be no cracks and significant deformation and no peeling                                                                                                                                   | 無龜裂顯著變形及無剝離<br>No cracks and significant deformation and no peeling                                                                                                                                    |
| 8.耐鹼性 Alkali resistance<br>(氫氧化鈣飽和溶液/24小時)<br>(Calcium hydroxide saturated solution / 24 hrs)                                                                                                                              |                        | 應無龜裂、膨脹、剝離及軟化溶出，且霧化、變色較未浸部分無顯著差異<br>There should be no cracking, swelling, peeling, softening and dissolution, and there is no significant difference in atomization and discoloration compared with the unsoaked part | 無龜裂、膨脹、剝離及軟化溶出，且霧化、變色較未浸部分無顯著差異<br>No cracking, swelling, peeling, softening and dissolution, and there was no significant difference in atomization and discoloration compared with the unsoaked part |
| 9.耐候性(250小時)<br>Weather resistance (250 hrs)                                                                                                                                                                               |                        | 應無龜裂及剝離，且變色在灰色標3號以上<br>There should be no cracks and peeling, and the discoloration should be the gray mark No. 3 above                                                                                                | 無龜裂及剝離，灰色標4-5號<br>No cracks and peeling, and gray mark No. 4-5                                                                                                                                         |
| 10.揮發性有機化合物(VOC)最大限量值<br>Volatile organic compound (VOC)<br>Maximum limit value                                                                                                                                            |                        | 300 g/L以下<br>Under 300 g/L                                                                                                                                                                                             | 3 g/L                                                                                                                                                                                                  |



## 2.限制物質 Restricted substances

(1)重金屬成份TCLP檢出值低於標準。 The heavy metal testing values is below standard.

| 成份 Composition            |                     | 檢出值標準 (mg/L) Testing standard |
|---------------------------|---------------------|-------------------------------|
| 1.總汞 (T-Hg)               | Total mercury       | 0.005                         |
| 2.總鎘 (Cd)                 | Total cadmium       | 0.3                           |
| 3.鉛 (Pb)                  | Lead                | 0.3                           |
| 4.砷 (As)                  | Arsenic             | 0.3                           |
| 5.六價鉻 (Cr <sup>6+</sup> ) | Hexavalent chromium | 1.5                           |
| 6.總銅 (Cu)                 | Total copper        | 0.15                          |
| 7.總銀 (Ag)                 | Total silver        | 0.05                          |

註1：TCLP：事業廢棄物毒性特性溶出程序。

Note 1: TCLP: Toxicity Characteristic Leaching Procedure.

| 是否經認可<br>Approved | 檢驗項目<br>Testing items                                       | 檢驗值<br>Values | 單位<br>Units | 檢驗方法<br>Testing methods | 備註<br>Note |
|-------------------|-------------------------------------------------------------|---------------|-------------|-------------------------|------------|
| 是<br>Yes          | 事業廢棄物毒性特性溶出程序<br>Toxicity Characteristic Leaching Procedure | —             | —           | NIEA R201.15C           | —          |
| 是<br>Yes          | 萃出液中六價鉻<br>Extracts of hexavalent chromium                  | ND            | mg/L        | NIEA R309.12C           | MDL=0.010  |
| 是<br>Yes          | 萃出液中總鎘<br>Extracts of total cadmium                         | ND            | mg/L        | NIEA R306.13C/M104.02C  | MDL=0.010  |
| 是<br>Yes          | 萃出液中總銅<br>Extracts of total copper                          | 0.021         | mg/L        | NIEA R306.13C/M104.02C  | MDL=0.050  |
| 是<br>Yes          | 萃出液中總鉛<br>Extracts of total lead                            | 0.022         | mg/L        | NIEA R306.13C/M104.02C  | MDL=0.050  |
| 是<br>Yes          | 萃出液中總銀<br>Extracts of total silver                          | ND            | mg/L        | NIEA R306.13C/M104.02C  | MDL=0.014  |
| 是<br>Yes          | 萃出液中總砷<br>Extracts of total arsenic                         | ND            | mg/L        | NIEA R306.13C/M104.02C  | MDL=0.033  |
| 是<br>Yes          | 萃出液中總汞<br>Extracts of total mercury                         | ND            | mg/L        | NIEA R314.12C           | MDL=0.0004 |

註2：低於方法偵測極限之測定以“ND”表示，並註明其方法偵測極限及單位(MDL)。

註3：如高於方法偵測極限，但小於可定量極限值(QDL)時，應註明可定量極限值及單位。

Note2：Below the method detection limits were determined by "ND". Indicating the method detection limits and units (MDL).

Note3：If above method detection limit, but less than the quantifiable limit (QDL), identifying quantitative limits and units.



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(2)不得含有放射線。 No radioactive rays.

| 樣品名稱<br>Sample name                                | 比活度偵測值<br>AI values | 綠建材規範值<br>Green building material<br>specification value | 偵測結果<br>Testing<br>results |
|----------------------------------------------------|---------------------|----------------------------------------------------------|----------------------------|
| 水性聚氨酯耐磨塗料<br>Water Based Polyurethane Hard Coating | <0.1                | $\leq 1$                                                 | 符合<br>OK                   |

(3)不得含有行政院環境保護署公告之毒性化學物質、無機鹵化物及其他蒙特婁公約管制化學品。

No toxic substance proclaimed by the Environmental Protection Administration.

### 3.健康危害項目之逸散速率

### Health hazard items-dispersion rate

(1)甲醛(HCHO) < 0.08 mg/m<sup>2</sup> · hr。 Formaldehyde (HCHO) < 0.08 mg/m<sup>2</sup> · hr.

| 甲 醛 (HCHO) 試驗結果 Formaldehyde testing results                                                                                                                                                                                        |                                                                       |                                                                  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|------------------------------------------------------------------|
| 時 間 (hr)                                                                                                                                                                                                                            | 甲醛-逸散濃度 (mg/m <sup>3</sup> )<br>Formaldehyde-dispersion concentration | 甲醛-逸散速率 (mg/m <sup>2</sup> · hr)<br>Formaldehyde-dispersion rate |
| 48                                                                                                                                                                                                                                  | ND                                                                    | ND                                                               |
| 甲醛試驗期程共歷經48小時，其逸散速率 <input checked="" type="checkbox"/> 已 <input type="checkbox"/> 未達穩態<br>Formaldehyde testing period: 48 hrs. Dispersion rate <input checked="" type="checkbox"/> achieved <input type="checkbox"/> not achieved. |                                                                       |                                                                  |

(2) 總揮發性有機物質(TVOC) < 0.19 mg/m<sup>2</sup> · hr。 TVOC < 0.19 mg/m<sup>2</sup> · hr.

| 總揮發性有機物質 (TVOC) 試驗結果 TVOC testing results                                                                                                                                                                                     |                                                               |                                                            |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------------|
| 時 間 (hr)                                                                                                                                                                                                                      | TVOC-逸散濃度 (mg/m <sup>3</sup> )<br>TVOC-Dispersion concentrate | TVOC-逸散速率 (mg/m <sup>2</sup> · hr)<br>TVOC-Dispersion rate |
| 48                                                                                                                                                                                                                            | ND                                                            | ND                                                         |
| TVOC試驗期程共歷經48小時，其逸散速率 <input checked="" type="checkbox"/> 已 <input type="checkbox"/> 未達穩態<br>TVOC testing period: 48 hrs. Dispersion rate <input checked="" type="checkbox"/> achieved <input type="checkbox"/> not achieved. |                                                               |                                                            |



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