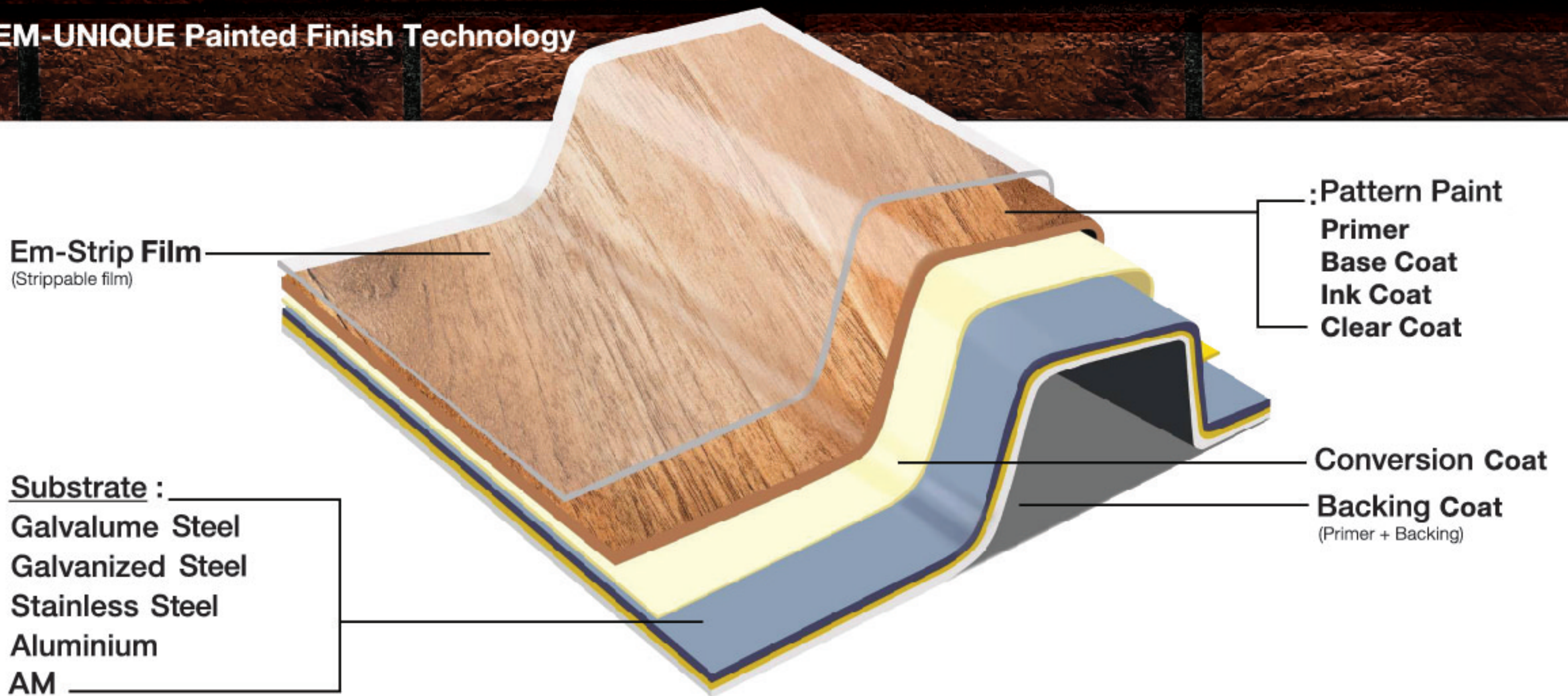


**EM-UNIQUE** pattern painted steel utilises the most advanced manufacturing to create unique patterns and virtual textures. At the same time, we also have Em-Strip Film that will protect the steel surface from scratches during processing, transportation and product installation. Empower Steel's innovative machinery can use various raw materials to coat multiple prints on the steel surface with high precision and quality. **EM-UNIQUE** meets industry standard requirements of AS 2728.

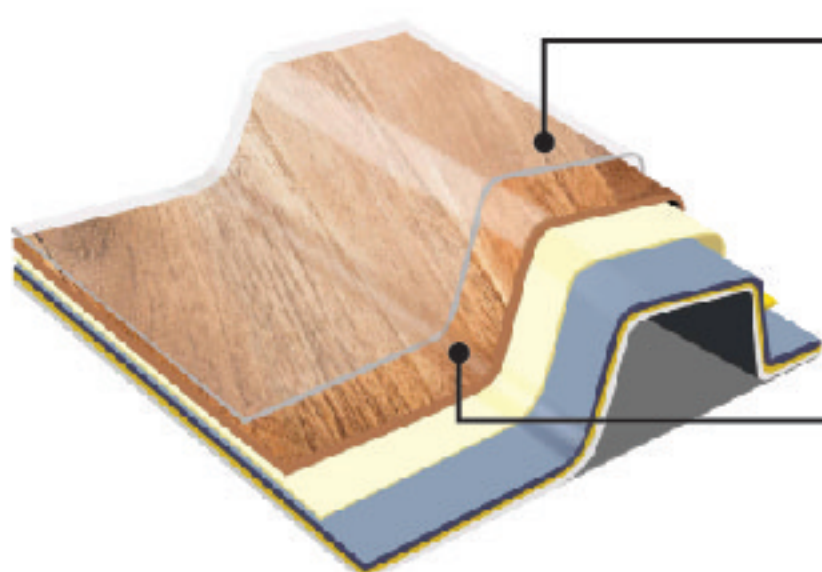
## EM-UNIQUE Painted Finish Technology



|                                   |                                                                                               |
|-----------------------------------|-----------------------------------------------------------------------------------------------|
| <b>Substrate</b>                  | Galvalume Steel (AZ150, AM 100, AM150)<br>Galvanized Steel, Stainless Steel and Aluminium     |
| <b>Material Grade</b>             | G550 and G300                                                                                 |
| <b>Surface Treatment</b>          | Chemical Conversion Coating                                                                   |
| <b>Base Coat</b>                  | Paint System : PVDF or Advance Durability Polyester 15 µm*, Corrosion Inhibitive Primer 5 µm* |
| <b>Ink Coat</b>                   | PVDF (Ink) or Advance Durability Polyester (Ink) 1 µm per Layer                               |
| <b>Clear Coat</b>                 | High Durability Polyester 10 µm*                                                              |
| <b>Backing Coat</b>               | Paint System : Modified Polyester 5 µm*, Corrosion Inhibitive Primer 5 µm*                    |
| <b>Strippable Film</b>            | Em-Strip Film                                                                                 |
| <b>Base Metal Thickness (BMT)</b> | 0.42, 0.48, 0.55mm. (Up to 1.20mm.)**                                                         |
| <b>Width</b>                      | 940 -1200mm. (Up to 1270mm.)                                                                  |

\*Triple spot minimum coat thickness 80% of nominal value and After painted thickness (APT) will depending on pattern design.

\*\*In addition to the table the thickness can be produced is 0.25-1.20 mm.



### Em-Strip Film

High quality clear film has been designed for Empower Steel products to prevent abrasion during fabrication, transportation and installation. So that the product's surface will be maintained as beautiful as new.

\*\*\* (As an optional)

### Pattern Paint Technology

Utilising of the most advanced manufacturing to create unique patterns and virtual textures.

## Follow Industrial Standard

| Properties           | Test Method                    | Purpose                            | Standard                                              |
|----------------------|--------------------------------|------------------------------------|-------------------------------------------------------|
| Dry film Thickness   | Dry film Thickness Measurement | Paint Thickness                    | TIS 2753, ASTM D5796, AS/NZS 1580.108.1               |
| Paint Film Hardness  | Pencil Hardness                | Hardness properties of paint layer | TIS 2753, ASTM D3363, JIS G3322                       |
| Paint Adhesion       | Cross Cut                      | Adhesion between paint layer       | TIS 2753, ASTM D3359-02, JIS G3322, AS1580.408.4      |
|                      | T-bend                         | Colour adhesion and flexibility    | TIS 2753, ASTM D4145, AS/NZS 2728 (App.F), JIS G3322  |
|                      | DuPont impact                  | Colour adhesion and flexibility    | TIS 2753, JIS G3322                                   |
|                      | Reverse impact                 | Colour adhesion and flexibility    | AS/NZS 2728 (App.E)                                   |
| Gloss                | 60° Gloss meter                | Colour gloss                       | ASTM D523, AS/NZS 1580.602.2                          |
| Corrosion resistance | Salt Spray Test (SST)          | Corrosion resistant properties     | TIS 2753, ASTM B117 AS/NZS 1580.408.4, 481.1.9, 481.3 |

## Additional Product Qualification Tests

| Properties            | Test Method                             | Purpose                                 | Standard                                  |
|-----------------------|-----------------------------------------|-----------------------------------------|-------------------------------------------|
| Weathering Resistance |                                         |                                         |                                           |
| Chalking              | QUV                                     | Weather resistant properties            | ASTM D4214 method D, AS/NZS 1580.481.1.11 |
| Colour fading         | QUV                                     | Weather resistant properties            | ASTM G154, ASTM D2244 AS/NZS 1580.601.4   |
| Humidity resistance   | QCT (Cleveland)                         | Relative humidity resistance properties | ASTM D4585 / D4585M, AS/NZS 1580.481.1.9  |
| Solvent resistance    | Mechanical Rubbing (MEK)                | Dryness of paint                        | ASTM D5402 or D7835/ D7835M               |
| Colour Shading        | Light Source (Colour-Visual)            | Colour difference                       | AS/NZS 1580.601.1                         |
|                       | Colour spectrophotometer ( $\Delta E$ ) | Colour deviation                        | ASTM D2244                                |

## Product Warranty

| Product Warranty             | Years     |
|------------------------------|-----------|
| Perforation due to corrosion | 35 years  |
| Colour Peeling and Flake     | 10 years* |
| Colour Fading and Chaking    | 5 years*  |

\*The number of years warranty it only for southeast asia in the vertical position panel (90°).

- EM-UNIQUE** pattern paint steel products have a base metal thickness (BMT) not less than 0.42 mm Grade G550 and are metallic coated with 55% Aluminium-Zinc (AZ150) After paint thickness (APT) not less than 0.52 mm. Pattern Name : General Wood PW-GW-001\*\*
- This product is not suitable for use in coastal areas less than 1 kilometer, areas with high corrosion, areas with water logged including applications that are buried in the ground, use in improper areas and non-standard installation affects the product warranty  
(Please refer to the warranty document or contact customer service to detail)
- Protection film applied (Em-Strip<sup>™</sup> Film) is intended for prevent scratches during transportation and installation. After installation should be peeled off. If left it long time the sunlight and heat can make it more difficult removal
- Finish coat means the top layer of product which is exposed to the external environment directly. This coating are applied by paints that quality meets the product warranty
- Improper storage or improper oil using of forming may affect to the color quality and long-term durability of product. Should be storage in dry place. In case of a part of product gets the wet or moist should be separated and dried immediately
- Product warranty is subject to the terms and conditions of the Empower Steel company only.

\*\*Example of writing product specification for project work