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Yieh Phui PE

Finest Steel at **Yieh Phui**

Yieh Phui
Polyester (PE)
Pre-Painted Steel Sheets

PE

YP-PE-2010E1

義联集團
E UNITED GROUP

ColorZinc PE-20
Pre-Painted Galvanized Steel Sheet

ColorFan® PE -20F
Pre-Painted 5% Al-Zn Coated Steel Sheet

ColorLume® PE -20L
Pre-Painted 55% Al-Zn Coated Steel Sheet

Yieh Phui Polyester (PE) Pre-Painted Steel Sheets

Description

Yieh Phui PE (Polyester) color sheets, including ColorZinc PE-20, ColorFan[R] PE-20F and ColorLume[R] PE-20L, all use a 2 coat-2 bake system (2C2B) with the latest improved Polyester (PE) as the topcoat. As for the substrate, it can be chosen from hot-dip zinc, 5% Al-Zn alloy and 55% Al-Zn alloy coated steel sheets. In other words, those are the superior pre-painted steel sheets with the same paint coating system but different base metals. These steel sheets have excellent roll formability, good weathering resistance, outdoor stability and various pleasing colors.

The three categories of **Yieh Phui** olyester Pre-Painted Steel Sheets (hereinafter called **Yieh Phui** PE) will perform for a period of 10 years(*) mininium prior to perforation when exposed to normal atmospheric conditions. But in industrial or polluted areas, and areas with severe sea corrosion, the life span is relatively shorter.

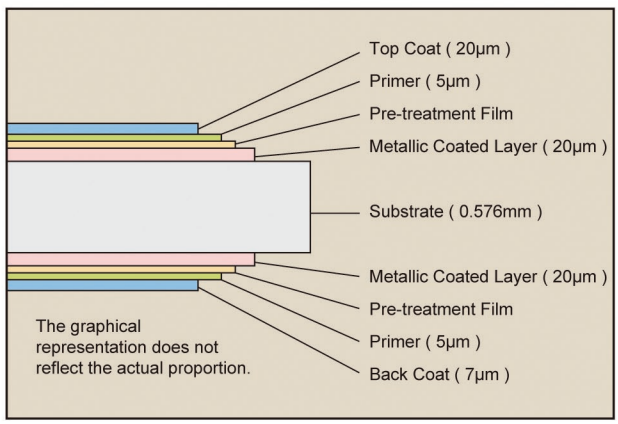
Normally, **Yieh Phui**: is for use in light air polluted areas or products which require multiple forming processes.

Recommended End Uses

The three categories of Yieh Phui PE are suitable to be used for roofing, sidir **Yieh Phui**, storerooms and water pipes of buildings in light industrial, business or residential districts, suburban, rural areas, home appliances and so forth.

Other Products Recommended for Tough Conditions

The three categories of Yieh Phui PE are not suitable to be used in tough en **Yieh Phui** for instance, heavily polluted industrial districts and areas with severe sea corrosion or strong polarization. For these types of harsh environments, the following products are recommended



(please refer to Yieh Phui's other catalogues):

ColorEmboss[R] EV-200 (**Yieh Phui** PVC Plastisol Embossed Steel Sheets) can be used in coastland with severe corrosion, and heavily polluted chemical industrial districts.

Yieh Phui PVDF Pre-Painted Steel Sheets can be used in any heavily corroded, freezing and hot environments, and areas under strong sunlight.

Yieh Phui High Build PVDF Pre-Painted Steel Sheets can be used in areas with severe corrosion or coastland where sea wind carries sand because high build film requires special coating system. For more information, please contact our sales representatives.

Standard Specifications

The following order specifications for **Yieh Phui** PE products differ in the types of substrate used: ColorZinc PE-20, ColorFan[R] PE-20F and ColorLume[R] PE-20L. The inspection and testing processes are in accordance with the regulations in this catalogue.

Remarks:
All the dry film thickness shown in this catalogue is "Nominal Dry Film Thickness".

JIS Mark Qualified Factory

ISO 9001 Registered Firm

ISO 14001 Registered Firm

QC 080000 IECQ HSPM Registered Firm

OHSAS 18001 Registered Firm

Energy Saving

Green Coated Steels

Anti-Microbial

CO 2 Reduction

Substrate

- ColorZinc PE -20 uses hot-dip galvanized steel sheets as its substrate. According to ASTM A653M standard, coating mass is Z275 (total both sides, 275g/m² min.)
- ColorFan[R] PE -20F uses 5% Al-Zn alloy coated steel sheets as its substrate. According to ASTM A875M standard, coating mass is ZGF 275 (total both sides, 275g/m² min.)
- ColorLume[R] PE -20L uses 55% Al-Zn alloy coated steel sheets as its substrate. According to ASTM A792M standard, coating mass is AZM150 (total both sides, 150g/m² min.)

Standard thickness of substrate is 0.576mm. Other thickness is also available subject to customers' needs.

Coating System

Two-sided 2C2B (2 Coat 2 Bake) coating system is used.

Pre-treatment

Based on different production equipment, Yieh Phui uses proper pre-treatment to achieve good adhesion of the paint film. Yieh Phui uses Bonderite made by Chemetall S. A., France or Surfcoat made by Nippon Paint, Japan, to form a precise conversion film on the steel surface.

Top Primer

Polyurethane (PU) with high anti-corrosion function is used as the top primer, with 5μm nominal dry film thickness.

Top Coat

The latest improved Polyester with high formability is used as the top coat, with 20μm nominal dry film thickness.

Top Color & Gloss

For color selection, please refer to Yieh Phui's standard color panels or availability subject to inquiry. Generally, top coat gloss is ≤ 85.G.U.(Gloss Unit, 60° reflection angle, based on ASTM D 523 standard).

Back Primer

Polyurethane (PU) with high anti-corrosion function is used as back primer, with 5μm nominal dry film thickness.

Back Coat

Epoxy resin with anti-corrosion function or polyester coating with excellent formability is used as back coat, both with 7μm nominal dry film thickness.

Color & Gloss of Back Coat

Selections of back coat colors are beige, grayish white and gray. For more information, please see Yieh Phui's standard color panels. General back coat gloss is ≤ 65 G.U. (Gloss Unit, 60° reflection angle, based on ASTM D 523 standard).

Strippable Film

The strippable film can be stuck on the surface of these three categories of **Yieh Phui** PE subject to customers' requirement. The strippable film can decrease the mechanical damages caused during transporting, storing or the forming processes. The film has to be taken off within 1 month if it is installed outdoors, or within 9 months if it is stored/installed indoors, otherwise, it will become harder to peel off in warm conditions.

Performance – Typical Properties

Pencil Hardness – ASTM D 3363

3H min.(No gouge) / H min.(No scratch)

The surface hardness of the paint can be assessed using a equivalent calibrated wood pencils meeting the following scale of hardness:

6B, 5B, 4B, 3B, 2B, B, HB, F, H, 2H, 3H, 4H, 5H, 6H.

Softer ← → Harder

Impact Test – ASTM D 2794

A 500g hammer is used to punch a 12.7mm or 15.9mm diameter impact object from 50cm height. The impact material then hits right on the steel sheet underneath. Stick the tape onto the impact point tightly and then peel off rapidly in 180°. The film adheres well without any flakes.

Erichsen Test – ASTM E 643

Forming a depth of 7 mm shape deformation with 12±6 mm/min. velocity, and peel off rapidly in 180° with 3M #600 tape. The film adheres well without any flakes.

Bending Test – ASTM D 4145

Take a sample and bend it in 180° so that the inner diameter is 3 times or 4 times of the sheet thickness (3T or 4T) . Then stick the tape tightly and peel off rapidly in 180°. The film adheres well without any flakes.

Solvent Resistance – ASTM D 5402

Take a cotton and moisten it with M.E.K. solvent, then press 1kg force and wipe – back and forth more than 100 times (Conventional paint). The substrate won't be revealed.

Accelerated Corrosion and Weathering Test

Salt Spray Test – ASTM B 117 or JIS K5600-7-1

After 500 hours, no red rust, blisters (over 6F) and corrosions can be seen in the areas 5mm outside the notch.

Note: 150 hours for un-guaranteed side (back-side)

Weathering Test – QUV ASTM G 154 or JIS K5600-7-8

After 500 hours, no apparent color changes or chalking.

Humidity Resistance Test – ASTM D 2247

After 1,000 hours, no apparent changes can be seen.

Chemical Resistance-Spot Test – ASTM D 1308

• After 24 hours of dropping 5% H_2SO_4 on the surface, there are no apparent changes.

• After 24 hours of dropping 5% NaOH on the surface, there are no apparent changes.

Handling and Forming

In order not to damage the surface of the steel, it must be handled cautiously during transporting, forming, processing and packaging. Any improper lubricants used will affect the function of steel sheets and pollute their surface. We strongly recommend not to do so.

Storage

Under any circumstances, do not store steel coils in a humid environment. The capillarity may cause mist or water inhaling into the surface and unable to evaporate normally. This can easily deteriorate steel properties, affect its appearance and shorten its life span. The storage methods foresaid are recommended for sheared steel sheets likewise.

* Note :

1. The life span of Yieh Phui PE depends on individual atmospheric conditions. For more information, please contact our sales representatives or Customer Technical Service Division.
2. Suggestions for, or descriptions of, the end use or application of products or methods of working contained in this catalogue are for information only and Yieh Phui accepts no liability thereof.
3. Before using products supplied or manufactured by Yieh Phui, the customer should satisfy themselves of their suitability of the products for the proposed end use.

TAIWAN HEAD OFFICE (YPE):

燁輝企業股份有限公司
YIEH PHUI ENTERPRISE CO., LTD.

369, Yuliao Road, Chiaotou Hsiang, Kaohsiung Hsien, Taiwan 82544

MARKETING & SALES DIVISION
TEL：+ 886-7-6117181~EXT. 7442 · 7440 · 7482 · 7490
TEL：+ 886-7-6122303 · 6130443 · 6112400 · 6122328
FAX：+ 886-7-6130464 · 6112397 · 6123130

CUSTOMER TECHNICAL SERVICE DIVISION
TEL：+ 886-7-6114131
FAX：+ 886-7-6114180

WEBSITE：http：//www.yiehphui.com.tw
E – MAIL ：sales@yiehphui.com.tw

Distributor