RECOMMENDED END USES

Yieh Phui (China) ColorCool pre-painted steel sheets are suitable for roofing and siding applications in light industrial, residential, suburban and agricultural areas. They can be used in the manufacture of the storerooms and garages that require thermal insulation.

As for heavy industrial or chemical industrial areas, Yieh phui (China) ColorCool CCVF-20/ CCVF-20F/CCVF-20L is recommended. For more information, please contact Yieh Phui (China) or Yieh Phui (China)'s distributor.

ADVERSE CONDITION

Generally speaking, reflection factors depend on the colors.Compared with dark colored steel sheets, lighter colored steel sheets reflect more heat and contribute more cool effects. If you have any further questions regarding Yieh Phui (China) ColorCool

such as specifications, installation location or color selection rather than Yieh Phui (China) ColorCool standard colors, please contact Yieh Phui (China) or Yieh Phui (China)'s distributor.

STANDARD SPECIFICATION

The selections of product specification are Yieh Phui (China) ColorCool CCPE-20/CCSP-20/ CCVF-20、ColorCool CCPE-20F/CCSP-20F/ CCVF-20F or ColorCool CCPE-20L/CCSP-20L/ CCVF-20L ; the selections of coating are Polyester PE, Silicone Modified Polyester SMP or Fluorocarbon PVDF, and substrates are hot-dip zinc, 5% Al-Zn alloy and 55% AI-Zn alloy coated steel sheets respectively. For more information about those abovementioned paints, please refer to Yieh Phui (China)'s PE, SMP and PVDF product catalogues respectively.

煙輝企業 YIEH PHUI

Standard Colors of YIEH PHUI (China) ColorCool

	COUNTY RED	REED YELLOW	MOSS GREEN	LIGHT BLUE	BLUE	CHARCOAL	ASH GREY	POLAR WHITE	LIGHT BEIGE
Color	31U1	2326	2414	35E4	7500	29Q7	390C	28LO	33H1
TSR(%)	≥ 30%	≥ 61%	≥ 41%	≥ 27%	≥ 28%	≥ 28%	≥ 45%	≥ 60%	≥ 58%
Cool effects	–3.6℃	-2.2℃	-3.0℃	-4.0 ℃	-3.8℃	-5.0℃	-2.5 ℃	– 1.0 ℃	– 1.5 ℃

Other colors are available subject to inquiry.



Yieh Phui (China) Changshu Works

1, Yieh Phui Road, Reverside Industrial Park Changshu Economic Development Zone Jiangsu, People's Republic of China TEL:+86-512-52298888

MARKETING & SALES DICISION

TEL:+86-512-52298412 · 52298413 · 52298414 FAX:+86-512-52298406 · 52298408

TECHNICAL SERVICE

TEL:+86-512-52298611 FAX:+86-512-52298456 WEBSITE:http://www.yiehphuichina.com E-mail:sales@yiehphuichina.com

经销商/Distrbutor	
)



2008.11





ColorCool CCPE-20/CCSP-20/CCVF-20

ColorCool CCPE-20F/CCSP-20F/CCVF-20F

ColorCool CCPE-20L/CCSP-20L/CCVF-20L

DESCRIPTION

Yieh Phui ColorCool CCPE-20/CCSP-20/ CCVF-20,CCPE-20F/CCSP-20F/CCVF-20F, CCPE-20L/CCSP-20L/CCVF-20L pre-painted steel sheets all use a 2 coat 2 bake system (2C2B) with solar reflective pigments infused into topcoats such as Polyester(PE), Silicone Modified Polyester (SP) and Fluorocarbon (VF) respectively. 20 means dry film thickness of topcoats mentioned above. As for the substrates, except for hot-dip zinc coated steel sheets, a letter suffix F or L following the number 20 refer to 5% AI-Zn alloy and 55% AI-Zn alloy coated steel sheets respectively. With high solar reflectance and high thermal emittance, Yieh Phui (China) ColorCool products can reduce the heat transfer to interior and lower air-conditioning expense.

Yieh Phui (China) ColorCool PERFORMANCE

Traditional roofing and siding absorb more solar energy (infrared and visible light) on steel surface, which increases interior temperature and reduces indoor comfort. In order to reduce interior temperature and improve comfort levels, energy demand raises resulting in soaring air-conditioning expense and greenhouse effect. The effects are move severe in the topics and subtropical zones. Due to continued high-energy price and increased demand for energy saving, Yieh Phui (China) developed **ColorCool** products with a surface coating infused

Yieh Phui (China) ColorCool **Pre-painted Steel Sheets**

with inorganic solar reflective pigments. By reflecting infrared and visible light, Yieh Phui (China) ColorCool products achieve cool effects.

Yieh Phui (China) ColorCool EFFECT

- 1. High TSR (TSR, total solar reflectance)-Yieh Phui (China) ColorCool products have an average total solar reflectance of 0.25 or more. Different colors have different TSR parameter. For more information, please see Yieh Phui (China) ColorCool standard colors on the back cover.
- 2. Indoor temperature reduction($\triangle T$) -Cooling effciency of Yieh Phui (China) ColorCool pre-painted steel sheets compared with conventional coated steel sheets are show below :

Item		Yieh Phui (China) ColorCool	Conventional PE/SMP/PVDF coatings
Cool effects (by colors)		Cool down (1-5℃)	No cool effects
тор	Initial reflectance	≥25%	_
(%)	3 years later	≥20 %	_

Remarks:

- (a) Lighter color sheets will reflect more sunlight and contribute more cool effects.
- (b) The compared results are evaluated on the model house under Lab-controlled-conditions







Environmentally Friendly

Energy Distribution of Sun Radiation



IR (Infrared,>700nm): 50% of energy Visible (Visible Light, 400~700nm): 47% of energy UV (Ultraviolet, <400nm): 3% of energy





Thermal Insulation Experiment

Conditions: 1. Apparatus: 150W prefocus lamp 2. Initial Temperature: room temperature (25°C-30°C) 3.Test Period: 30 min



(Nippon Paint's Simulation Test)



Actual Achievement

Example1: Energy cost reduction Roof Material : GL (hot-dip 55% Al-Zn coated steel sheet) Size : 6,200m² Coating : Polyurethane (solar reflective pigments added) Air Conditioning : $5 \rightarrow 3$ sets Expected Result Electric Power Saving : 31,000Kw Energy Costs Saving : ¥550,000 CO₂ Emission Reducing :11 tons (From May to September)

Example 2 :

Good thermal insulation results in energy savings. It saves about JPY 16 million for a period of 10 years.

Temperature comparison:



(The data of actual achievements are provided by Nippon Paint)

Test	Result	

Anthracitic Black	Conventional	Thermal Insulation	
Roof backside temperature(°C)	80 (°C)	76 (°C)	
Indoor temperature (°C)	56 (°C)	53 (°C)	

Moss Green	Conventional	Thermal Insulation	
Roof backside temperature (°C)	84 (°C)	80 (°C)	
Indoor temperature(°C)	58 (°C)	54 (°C)	

