



## How to protect your assets with the right paint system

by Ir. Chong Chee Meng

Ir. Chong Chee Meng is currently the Chairman in Civil and Structural Engineering Technical Division (CSETD).

The Civil and Structural Engineering Technical Division (CSETD) organized a webinar talk on 'How to protect your assets with the right paint system'. The webinar talk was held on 8<sup>th</sup> October 2020 via Go To Webinar platform. The speaker was En. Effendy Bin Salim, who has more than 20 years of experience within the coatings industry and is currently the business technical expertise partner in Hempel. He has accumulated extensive experience both in protective and marine segments of the coating industry and provide technical training for the south and east asia region.

This talk was moderated by Ir Chong Chee Meng, chairman of CSETD and was attended by 138 participants. The 138 participants included engineers from engineering consultants, contracting firms, government agencies and local authorities as well as faculty members from local institutions of higher learning.

En Effendy started the talk by explaining the reason of using paint. Paint is used as protection to prevent the corrosion of steel, degradation of wood and fouling of ship. Other than that it also used as abrasion resistance and as warning/safety sign. Paint also used for decoration due its color and appearance. En Effendy reiterated that the paint specification is critical because customer expects durability, maintenance is expensive due to areas are often difficult to access and to avoid failures.

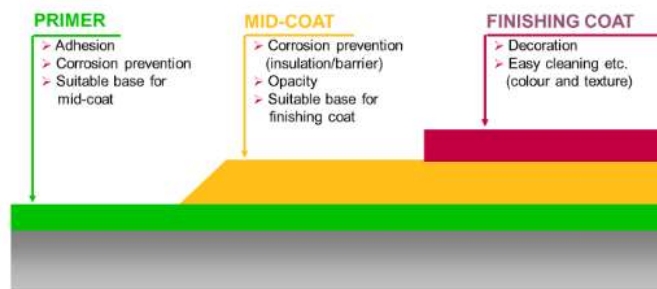
En Effendy highlighted the key considerations in specification which are substrate, environment, surface preparation, quality of paint, coating system, application and thickness. Coating system consists of primer, mid-coat and finishing coat. The purposes of primer are for adhesion, corrosion prevention and as suitable base for mid-coat. The purposes of mid-coat are as insulation/barrier, opacity and as suitable base for finishing coat. The functions of finishing coat are as decoration and for easy cleaning. En Effendy stressed that surface preparation (removal of oil and grease by emulsion) before application of paint is very important.

After that, En Effendy introduced to the participants the main international standard for corrosion protection of steel by paint, ISO 12944. This standard was developed in the 90's with 1<sup>st</sup> edition in 1998. The standard contains a series of instructions intended to guide the professional to the required corrosion protection. After lengthy explanation on the ISO 12944, En Effendy moved to 2<sup>nd</sup> part of the presentation which is on fire protection using paint. Intumescent coating such as paint can contain, minimise the impact or slow the spread of fire. The advantages of intumescent coating are low installation cost, allow for more open building design, use of different steel sizes and shapes, damage resistant, lower risk of corrosion under the insulation and improved aesthetic finish.

At the end of the talk, there were questions raised by the participants which En Effendy answered and clarified in more details.

## Painting Specification

### SYSTEM BUILD-UP:



Surface preparation :  
Removal of oil and grease by emulsion. HPW to remove salts.  
Dry abrasive blasting to Sa2.5

	System example (C3)	DFT
ZRE	Zinc Rich Epoxy	50 µm
EPO	Epoxy	100 µm
PU	Polyurethane	50 µm
	<b>Total</b>	<b>200 µm</b>

1 of the presentation slides