

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Protective Coating Systems**

with type designation(s)
SIGMAGUARD™ CSF 650

Issued to

PPG Coatings Europe B.V. Protective & Marine Coatings
Amsterdam, Netherlands

is found to comply with
DNV GL rules for classification – Ships

Application :

For prevention of pitting corrosion in cargo oil tanks, except for cargo oil tanks in crude oil tankers that shall be coated in accordance with IMO RESOLUTION MSC.288(87). Surface preparation and application shall be as per the Manufacturer's recommendation.

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at **Høvik** on **2017-05-29**

This Certificate is valid until **2022-05-28**.

DNV GL local station: **Rotterdam**

Approval Engineer: **Gisle Hersvik**

for **DNV GL**

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Martin Strande
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.



Product description

SIGMAGUARD™ CSF 650; two-component solvent-free amine-cured epoxy coating.

Manufacturer

PPG Coatings SPRL/BVBA, Tweemontstraat 104, B-2100 Deurne, Belgium

DNV GL local station: Antwerp

Responsibility

The Company (stated on the front page of this Certificate) takes the responsibility that both design and production are in compliance with Rules, Standards and/or Regulations listed on page 1 of this certificate.

Application/Limitation

Important Note:

This coating system **SIGMAGUARD™ CSF 650** is not tested or approved in accordance with IMO RESOLUTION MSC.288(87) PERFORMANCE STANDARD FOR PROTECTIVE COATINGS FOR CARGO OIL TANKS OF CRUDE OIL TANKERS, i.e. the IMO PSPC COT standard, and therefore it can only be used in Cargo Oil Tanks of Crude Oil Tankers with building contract before 1.1.2013.

For prevention of pitting corrosion in Cargo Oil Tanks of Crude Oil Tankers.
Surface preparation and application shall be according to the Manufacturer's recommendation.

This approval is solely connected to the corrosion prevention properties of the coating material. The approval does not include any evaluation of toxicity, contamination, pollution, or fire technical aspects.

Type Approval documentation

Tests carried out

Type Testing carried out in accordance with **Type Approval documentation**.

Marking of product

Product shall be marked with *manufacturer's name*; **PPG Coatings SPRL/BVBA, Deurne, Belgium** and *type designation*; **SIGMAGUARD™ CSF 650**.

The marking is to be carried out in such a way that it is visible, legible and indelible. The marking of product is to enable traceability to the DNV GL Type Approval Certificate.

Periodical assessment

The scope of the Periodical Assessment is to verify that the conditions stipulated for the Type Approval is complied with and that no alterations are made to the product design or choice of materials.

Periodical Assessment to be performed after 2 and 3.5 years (Certificate Retention) and at renewal after 5 years (Certificate Renewal).

The main elements of the Periodical Assessment are to:

- Ensure that **Type Approval documentation** is available.
- Review design, materials, production process, and performance with respect to possible changes, in order to ensure compliance with **Type Approval documentation** and/or referenced material specifications.



Job Id: **262.1-009519-3**
Certificate No: **TAK00000V0**

- Ensure traceability between manufacturer's product marking and DNV GL Type Approval Certificate.

END OF CERTIFICATE