

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Shop Primers

with type designation(s)

HEMPEL'S SHOPPRIMER ZS 15890 and HEMPEL'S SHOPPRIMER ZS 1589K

Issued to

Hempel A/S

Kgs. Lyngby, Denmark

is found to comply with

DNV GL class programme DNVGL-CP-0109 – Type approval – Shop primers for corrosion protection of steel plates and sections

DNV GL rules for classification – Ships

DNV GL offshore standards

Application :

The shop primer is approved for application on blast cleaned steel plates and sections.

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

Issued at **Høvik** on **2017-03-13**

This Certificate is valid until **2022-03-12**.

DNV GL local station: **Copenhagen**

for **DNV GL**

Approval Engineer: **Gisle Hersvik**

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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

HEMPEL'S SHOPPRIMER ZS 15890 and HEMPEL'S SHOPPRIMER ZS 1589K, two-component, solvent-borne ethyl zinc silicate silicate shop primer.

Manufactured by

Hempel Manufacturing (Malaysia) Sdn Bhd, Batu 6, Jalan Batu Pahat, 86000, Kluang, Johor Darul Takzim, Malaysia

DNV GL local office: Singapore

Hempel (Korea) Co., Ltd.,
Ju Young Industrial Co., Ltd., 70-7, Yusan-dong, Yangsan-si, Gyeongsangnam-do, Korea

DNV GL local office: Pusan

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

The shopprimer is approved for application on blast cleaned steel plates and sections.

The approval test does not include any examination of possible effects of welding with this primer on the welder's state of health.

This approval verifies only that the shopprimer tested has no detrimental effect on the finished weld, it is presumed that the film thickness applied is in accordance with the manufacturer's recommendation.

Type Approval documentation

Tests carried out

Type Testing carried out according to **Type Approval documentation**, and in accordance with DVS-Guideline 0501, March 1976, ref. SLV Duisburg GmbH Test Report No. 99 34 081/1 of 1999-12-20, with result:

- Mean pore area 0,6 mm² (max. allowed pore area 125 mm²).

Marking of product

Product/package shall be marked with *manufacturer's name, place of production and type designation, and date of production/batch number*.

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.



Job Id: **262.1-014030-2**
Certificate No: **TAK00000TD**

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

END OF CERTIFICATE