

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Shop Primers

with type designation(s)
HEMUCRYL SHOPPRIMER 1825K

Issued to

Hempel A/S
Kgs. Lyngby Hovedstaden, 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 **2017-12-22**

This Certificate is valid until **2022-12-21**.

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

HEMUCRYL SHOPPRIMER 1825K; One-component waterborne acrylic based primer.

Manufactured by

Hempel Korea Co., Ltd., Pusan, Korea at **Ju Young Industrial Co., Ltd.**, 70-7 Yusan-dong, Yangsan, 626-230 Kyungnam, Korea.

DNV GL local station: 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 shop primer is approved for application on blast cleaned steel plates and sections.

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

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

Type Approval documentation

Tests carried out

Type Testing carried out in accordance with **Type Approval documentation**, and in accordance with DNV GL test procedure, ref. KTR Technical Report No. 2017-TBU-379, Rev. 00 "Testing for Prefabrication Primer" of 2017-12-14, with the following result:

— max. 3.9% porosity (max. allowed porosity 15%).

Marking of product

Product shall be marked with *manufacturer's name*; **Hempel Korea Co., Ltd., Pusan, Korea / Ju Young Industrial Co. Ltd., Kyungnam, Korea** and *type designation*.

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.



Job Id: **262.1-009095-4**
Certificate No: **TAK000012U**

- 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 the DNV GL Type Approval Certificate.

END OF CERTIFICATE