

TYPE EXAMINATION CERTIFICATE

This is to certify:**That the Insulation Materials for Gas Carriers**with type designation(s)
Chrome-Free Wash Primer VP186

Issued to

**KCC Corporation, Ulsan Plant
Ulsan, Republic of Korea**is found to comply with
**Gaztransport & Technigaz Specification Nr. M3001, Paint for Inner Hull Protection, Rev. B,
January 2008****Application :****For use in MARK III type LNG carriers built under GTT's license.**Issued at **Høvik** on **2017-09-01**This Certificate is valid until **2022-08-31**.DNV GL local station: **Ulsan**for **DNV GL**Approval Engineer: **Gisle Hersvik**

**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 Examination Certificate and not to the approval of equipment/systems installed.



Product description

Chrome-Free Wash Primer VP186: a two-component, etching primer containing phosphoric acid and rust-preventing pigments.

Application/Limitation

Primer for temporary protection of steel plates, especially for inner hull protection of LNG carriers.

The following combinations have been tested:

- KCC VP186 (Dark Green) / Huntsman load bearing epoxy mastic XF 536M-1 / XF 537-1.
- KCC VP186 (Dark Green, Red Brown) / Unitech load bearing epoxy mastic ULBM 100 / ULBM 200.
- KCC VP186 (Dark Green, Red Brown) / KCC load bearing epoxy mastic Koresive EN9771(D).

The products are only approved for use in MARK III type LNG carriers built under licence from GAZTRANSPORT & TECHNIGAZ SA (GTT). Deliveries to actual shipbuilding projects shall be in compliance with the "Paint for Inner Hull Protection" specification, GTT document no. M3001, Rev. B, January 2008.

The product shall have a valid approval from GTT.

Type Examination documentation

Tests carried out

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

The Type Test results on which this Type Examination is based are found in the approval test reports:

- MAT-RPT-001770, Rev. 01, "APPROVAL TEST REPORT OF KOVINYL WASH PRIMER VP 186 RED BROWN WITH EN 9771 D MASTIC BOTH OF KCC FOR SPECIFICATION DOCUMENT M3001 REV. B" of 2016-12-09.
- MAT-RPT-001821, Rev. 01, "APPROVAL TEST REPORT OF KOVINYL WASH PRIMER VP 186 DARK GREEN WITH EN 9771 D MASTIC - BOTH SUPPLIED BY KCC - FOR SPECIFICATION DOCUMENT M3001 REV.B" of 2017-02-06.
- MAT-RPT-001684, Rev. 01, "APPROVAL TEST REPORT OF WASH PRIMER PAINT VP 186 RED BROWN OF KCC WITH ULBM 100/200 MASTIC OF UNITECH FOR SPECIFICATION DOCUMENT M3001 REV. B" of 2016-06-02.
- MAT-RPT-001928, Rev. 01, "APPROVAL TEST REPORT OF KOVINYL WASH PRIMER VP 186 DARK GREEN - SUPPLIED BY KCC WITH ULBM 100/200 MASTIC - SUPPLIED BY UNITECH- FOR SPECIFICATION DOCUMENT M3001REV.B" of 2017-04-04.
- MAT-RPT-001688, Rev. 01, "APPROVAL TEST REPORT OF WASH PRIMER PAINT VP 186 RED BROWN OF KCC WITH XF536M-1/537-1 MASTIC OF HUNTSMAN FOR SPECIFICATION DOCUMENT M3001 REV B" of 2016-08-08.

Marking of product

Product shall be marked with the *manufacturer's name*; **KCC Corporation, Ulsan Plant, Korea** and *type designation*; **Chrome-Free Wash Primer VP186**.

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 Examination Certificate.

Periodical assessment



Job Id: **262.1-026103-1**
Certificate No: **TAK00000Y5**

The scope of the Periodical Assessment is to verify that the conditions stipulated for the Type Examination 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 Examination documentation** is available.
- Review design, materials, production process, and performance with respect to possible changes, in order to ensure compliance with **Type Examination documentation** and/or referenced material specifications.
- Ensure traceability between manufacturer's product marking and the DNV GL Type Examination Certificate.

END OF CERTIFICATE