DNV·GL

Certificate No:
TAK00000RE

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Protective Coating Systems - Seawater Ballast Tanks

with type designation(s)
JOTACOTE UNIVERSAL

Issued to
Jotun A/S
SANDEFJORD, Norway

is found to comply with
DNV GL class programme DNVGL-CP-0108 – Type approval – Protective coating systems for seawater ballast tanks and double-side skin spaces
IMO Resolution MSC.215(82) Performance Standard for Protective Coatings (PSPC)
IACS Unified Interpretations SC223. For Application of SOLAS Regulation II-1/3-2 Performance Standard for Protective Coatings (PSPC) for Dedicated Seawater Ballast Tanks in All Types of Ships and Double-side Skin Spaces of Bulk Carriers.

Application :

For use in ballast tanks, double-skin spaces, cofferdams and similar areas. Surface preparation and coating application as per PSPC or manufacturer's recommendations, whichever is stricter.

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

Issued at **Høvik** on **2017-02-03**
This Certificate is valid until **2022-02-02**.
DNV GL local station: **Sandefjord**

Approval Engineer: **Gisle Hersvik**

for **DNV GL**

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.

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Job Id: **262.1-014380-11**
Certificate No: **TAK00000RE**

Product description

JOTACOTE UNIVERSAL, 2-component epoxy based, light coloured, coating for corrosion protection of steel surfaces.

Manufactured by

Jotun Paints (M) Sdn Bhd, Lot 9143, PN 38500, Kawasan Perindustrian Nilai, 71800 Nilai, Negeri Sembilan, Malaysia

DNV GL local office: Kuala Lumpur

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

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 properties.

JOTACOTE UNIVERSAL is approved for application on blast cleaned surfaces and on shop primed surfaces. The following shop primers are prequalified:

MUKI Z 2001	[Jotun A/S]
Galvany Shopprimer IZ182(J)	[KCC Corp.]
SigmaWeld 165 (Sigma Proferral MC)	[PPG / Sigma Coatings]
SigmaWeld 199	[PPG / Sigma Coatings]
Cerabond 2000	[Chugoku Marine Paints]
Hempel' Shopprimer ZS 15890	[Hempel A/S]
Interplate 317	[International Paint]
Interplate 855	[International Paint]
Interplate 937	[International Paint]
Cathozinc Shop Primer, Type-2 (SP-09)	[Yung Chi Paint & Varnish Mfg. Co]

Surface preparation and coating application as per PSPC or manufacturer's recommendations, whichever is stricter.

The durability of the applied coating system will depend on the steel surface preparation, coating application and the environmental conditions.

The Type Approval Certificate is invalid if the formulation of the epoxy coating **JOTACOTE UNIVERSAL** is changed to a degree deemed significant by DNV GL. If the formulation of any of the listed pre-qualified shop primers is changed to a degree deemed significant by DNV GL that shop primer cannot be used as part of the Protective Coating System.

Type Approval documentation

Tests carried out

Type Testing carried out according to **Type Approval documentation**. The test carried out at DNV Bergen is accepted as alternative to the test procedures in IMO Resolution MSC.215(82) Performance Standard for Protective Coatings (PSPC), ref. IACS PR No. 34 and IACS UI SC223;

- DNV Bergen Report No. BGN-R2706231 of 2006-06-07

The tests reported in the Bodycote, EXOVA and DNV Reports are carried out according to the procedures in IMO Resolution MSC.215(82) Performance Standard for Protective Coatings (PSPC), ref. IACS PR No. 34 and IACS UI SC223;

- Bodycote Report No. N805 311, Issue 1, "Ballast Tank Coating Test Jotacote Universal Epoxy Paint over Hempel 1589 Zinc Silicate Shop Primer" of 2008-10-10.
- Bodycote Report No. N805 312, Issue 2, "Ballast Tank Coating Test Jotacote Universal Epoxy Paint over Sigmaweld 199 Zinc Silicate Shop Primer" of 2009-09-01.
- Bodycote Report No. N805 316, Issue 1, "Ballast Tank Coating Test Jotacote Universal Epoxy Paint over Interplate 855 Zinc Silicate Shop Primer" of 2008-10-10.
- Bodycote Report No. N805 317, Issue 1, "Ballast Tank Coating Test Jotacote Universal Epoxy Paint over Interplate 937 Zinc Silicate Shop Primer" of 2008-10-10.
- EXOVA Test Report No. N950123, Issue 1, "Ballast Tank Coating Test Jotacote Universal on Interplate 317" of 2009-10-19.
- DNV Technical Report No. 2010-5156 / 12CPRAD-13, Rev. 00, "Crossover test of Jotacote Universal on Cathozinc Shop Primer Type-2 (SP-09)" of 2010-05-21.

Marking of product

Product/package shall be marked with *manufacturer's name and address***; Jotun Paints (M) Sdn Bhd, Malaysia**, *type designation*; **JOTACOTE UNIVERSAL**, 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.

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