Certificate No:
TAK000022S

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Protective Coating Systems - Seawater Ballast Tanks

with type designation(s)
Jotacote Universal S120 (one coate system)

Issued to
Jotun A/S
SANDEFJORD, **Norway**

is found to comply with
DNV class programme DNV-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 :

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

Issued at **Hamburg** on **2022-03-25**
This Certificate is valid until **2027-03-24**.
DNV local station: **Norway CMC, East-South**

Approval Engineer: **Enno Brück**

for **DNV**

Thorsten Lohmann
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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.

Product description

Jotacote Universal S120 is a two component polyamine cured epoxy coating based on Covallox Technology.

Manufactured by

Jotun Coatings (ZJG) Co. Ltd. Zhangjiagang No. 39 Nanhai Road, Jiangsu Yangtze River International Chemical Industry Park, Zhangjiagang Free Trade Zone, Jiangsu 215634

DNV local office: Qingdao

Responsibility

The holder of 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 S120 is approved for application on blast cleaned surfaces and on prequalified shop primed surfaces. The following shop primer has been prequalified:

- Muki Z 2001 [Jotun A/S]
- Sigmaweld 165 [PPG Coatings Europe B.V.]
- Galvany IZ 182(S) [KCC]
- KCI Zinc 1000 [Kangnam Jevisco Co., Ltd.]
- Cerabond 2000 [Chugoku Marine Paints, Ltd.]
- Sigmaweld 199 [PPG Coatings Europe B.V.]
- Interplate 937 [International Paint Limited]
- Hempel 15890 [Hempel A/S]
- Galvany IZ 182(J) [KCC]
- Interplate 855 [International Paint Limited]
- Sigmaweld 190 [PPG Coatings Europe B.V.]
- 725-E47 [Xiamen SunRui Ship Coating Co., Ltd.]
- TH-2 [Yejian New-Material Co., Ltd.]
- CD-SG 906 [Ningbo Haidun Coating Co., Ltd.]
- Muki Z 2008 [Jotun COSCO Marine Coatings (Qingdao) Co., Ltd.]
- SD Zinc 1000 HA(S) [COSCO Kansai Paint & Chemicals (Tianjin) Co., Ltd.

Surface preparation and coating application according to 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 S120** is changed to a degree deemed significant by DNV. If the formulation of the listed pre-qualified shop primer is changed to a degree deemed significant by DNV the shop primer cannot be used as part of the Protective Coating System.

Tests carried out

Type Testing carried out in accordance with DNV CP-0108. The tests are carried out according to the procedures in IMO Resolution MSC.215(82) Performance Standard for Protective Coatings (PSPC), ref. IACS UI SC223:

- DNV GL AS Oil & Gas Report No. 2020-5068 Rev 00, "Ballast tank coating test of 1x320 MICRO METER Jotacote Universal S120 v.2 on Muki Z 2001 shop primer", dated 2020-05-22.
- DNV GL AS Oil & Gas Report No. 2020-5460 Rev 00, "Crossover coating test of 1x Jotacote Universal S120 on Sigmaweld 165 shop primer", dated 2020-09-18.
- DNV GL AS Oil & Gas Report No. 2020-5099 Rev 00, "Crossover coating test of 1x Jotacote Universal S120 on Galvany KCC IZ 182(S) shop primer", dated 2020-09-29.

- DNV GL AS Oil & Gas Report No. 2020-5462 Rev 00, “Crossover coating test of 1x Jotacote Universal S120 on KCl Zinc 1000 shop primer”, dated 2020-09-18.
- DNV GL AS Oil & Gas Report No. 2020-5464 Rev 00, “Crossover coating test of 1x Jotacote Universal S120 on Cerabond 2000 shop primer”, dated 2020-09-18.
- DNV GL AS Oil & Gas Report No. 2020-5466 Rev 00, “Crossover coating test of 1x Jotacote Universal S120 on Sigmaweld 199 shop primer”, dated 2020-09-18.
- DNV GL AS Oil & Gas Report No. 2020-5467 Rev 00, “Crossover coating test of 1x Jotacote Universal S120 on Interplate 937 shop primer”, dated 2020-09-18.
- DNV GL AS Oil & Gas Report No. 2020-5469 Rev 00, “Crossover coating test of 1x Jotacote Universal S120 on Hempel 15890 shop primer”, dated 2020-09-18.
- DNV GL AS Oil & Gas Report No. 2020-5477 Rev 00, “Crossover coating test of 1x Jotacote Universal S120 on Galvany IZ 182(J) shop primer”, dated 2020-09-21.
- DNV GL AS Oil & Gas Report No. 2020-5480 Rev 00, “Crossover coating test of 1x Jotacote Universal S120 on Interplate 855 shop primer”, dated 2020-09-22.
- DNV GL AS Oil & Gas Report No. 2020-5481 Rev 00, “Crossover coating test of 1x Jotacote Universal S120 on Sigmaweld 190 shop primer”, dated 2020-09-22.
- Marine Coatings Quality Supervision and Test Center of Chemical Industry Report No. TW 190316-16, “Jotacote Universal S120 (1*320μm) on 725-E47 inorganic zinc silicate shop primer”, dated 2020-12-24.
- Marine Coatings Quality Supervision and Test Center of Chemical Industry Report No. TW 190316-21, “Jotacote Universal S120 (1*320μm) on TH-2 Zinc Silicate shop primer”, dated 2020-12-24.
- Marine Coatings Quality Supervision and Test Center of Chemical Industry Report No. TW 190316-17, “Jotacote Universal S120 (1*320μm) on CD-SG906 inorganic zinc silicate shop primer”, dated 2020-12-24.
- Marine Coatings Quality Supervision and Test Center of Chemical Industry Report No. TW 190316-8, “Jotacote Universal S120 (1*320μm) on Muki Z 2008”, dated 2020-12-24.
- Marine Coatings Quality Supervision and Test Center of Chemical Industry Report No. TW 190316-20, “Jotacote Universal S120 (1*320μm) on SD Zinc 1000 HA(S)”, dated 2020-12-24.

Marking of product

Product/package shall be marked with *manufacturer’s name and address*; **Jotun COSCO Marine Coatings (Qingdao) Co. Ltd**., Shandong, 266109, type designation Jotacote Universal S120, 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 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 (Certificate Retention) and renewal after 5 years (Certificate Renewal) shall be performed acc. DNV CP-0338.

END OF CERTIFICATE