

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Protective Coating Systems - Cargo Oil Tanks**with type designation(s)
Jotacote Universal N10 QD

Issued to

Jotun A/S
SANDEFJORD, Norway

is found to comply with

DNV GL class programme DNVGL-CP-0139 – Type approval – Protective coating systems for cargo oil tanks**IMO Resolution MSC.288(87) Performance Standard for Protective Coatings (PSPC)****IACS Unified Interpretations SC259. For Application of SOLAS Regulation II-1/3-11****Performance Standard for Protective Coatings for Cargo Oil Tanks of Crude Oil Tankers (PSPC-COT), adopted by Resolution MSC.288(87).****Application :****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.**Issued at **Hamburg** on **2019-09-30**This Certificate is valid until **2024-09-29**.DNV GL local station: **Sandefjord**for **DNV GL**Approval Engineer: **Enno Brück**

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.



Product description

Jotacote Universal N10 QD, is a two component polyamine cured pure epoxy coating.

Manufactured by

Jotun Paints (Europa) Ltd., Stather Road Flixborught, Scunthorpe North Lincolnshire DN 15 8 RR, United Kingdom.

DNV GL local office: Manchester

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 N10 QD, 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] |
| - Muki Z 2008 | [Jotun A/S] |
| - Galvany IZ 182(S) | [KCC Corporation] |
| - SD Zinc 1000HA(S) | [COSCO Kamsai Paint and Chemicals (Tianjin) co., Ltd.] |
| - KCI Zinc 1000 | [KCI] |
| - Sigmaweld 199 | [Sigma Coatings] |
| - Sigmaweld 165 | [Sigma Coatings] |

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 N10 QD** is changed to a degree deemed significant by DNV GL. If the formulation of the listed pre-qualified shop primer is changed to a degree deemed significant by DNV GL the shop primer cannot be used as part of the Protective Coating System.

Tests carried out

Type Testing carried out in accordance with DNV GL CP-0139. The tests are carried out according to the procedures in IMO Resolution MSC.288(87) Performance Standard for Protective Coatings (PSPC), ref. IACS UI SC259:

- COT bv, Report No.: LAB19-0184-REP, "Crude Oil Test 160 µm Jotacote Universal N10 QD, AL 160 µm Jotacote Universal N10 QD, Buff over Muki Z 2001", date 2019-03-26.
- DNV GL AS Oil & Gas, Materials Bergen, Report No.: 2018-5273, "Jotacote Universal N10 QD over Muki Z 2008", date 2018-09-25.

Job Id: **262.1-032506-1**
Certificate No: **TAK00001T8**

- DNV GL AS Oil & Gas, Materials Bergen, Report No.: 2018-5270, "Jotacote Universal N10 QD over Galvany IZ 182(S)", date 2018-09-12.
- DNV GL AS Oil & Gas, Materials Bergen, Report No.: 2018-5271, "Jotacote Universal N10 QD over SD Zinc 1000 HA(S)", date 2018-09-25.
- DNV GL AS Oil & Gas, Materials Bergen, Report No.: 2018-5272, "Jotacote Universal N10 QD over KCI Zinc 1000", date 2018-09-12.
- DNV GL AS Oil & Gas, Materials Bergen, Report No.: 2018-5269, "Jotacote Universal N10 QD over Sigmaweld 199", date 2018-09-12.
- DNV GL AS Oil & Gas, Materials Bergen, Report No.: 2018-5257, "Jotacote Universal N10 QD over Sigmaweld 162", date 2018-09-12.
- DNV GL AS Oil & Gas, Materials Bergen, Report No.: 2018-5318, "Jotacote Universal N10 QD + Jotacote Universal N10 over Muki Z 2001", date 2018-10-26.
- DNV GL AS Oil & Gas, Materials Bergen, Report No.: 2018-5318, "Jotacote Universal N10 + Jotacote Universal N10 QD over Muki Z 2001", date 2018-10-26.

Marking of product

Product/package shall be marked with *manufacturer's name and address*; **Jotun Paints (Europa) Ltd.**, Stather Road Flixborought, Scunthorpe North Lincolnshire DN 15 8 RR, United Kingdom, *type designation* **Jotacote Universal N10 QD**, 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 (Certificate Retention) and renewal after 5 years (Certificate Renewal) shall be performed acc. DNV GL CP-0338.

END OF CERTIFICATE