

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Protective Coating Systems - Seawater Ballast Tanks**with type designation(s)
Balloxy HB Light

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 according to 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 **2018-03-05**This Certificate is valid until **2023-03-04**.DNV GL local station: **Sandefjord**for **DNV GL**Approval Engineer: **Gisle Hersvik**

Rikard Törnqvist
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

Balloxy HB Light, 2-component epoxy based, light coloured, coating for corrosion protection of steel surfaces.

Manufactured by

PT. Jotun Indonesia, Kawasan Industri MM2100, Blok KK1, Cikarang Barat, Bekasi 17520, Indonesia

DNV GL local office: Jakarta

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.

Balloxy HB Light is approved for application on blast cleaned surfaces and on prequalified shop primed surfaces. The following shop primers have been prequalified:

MUKI Z 2001	[Jotun A/S]
SigmaWeld 199	[PPG / Sigma Coatings]
Interplate 937	[International Marine Coatings]
Interplate 855	[International Marine Coatings]
Hempel ZS 1589	[Hempel A/S]
KCI Zinc 1000	[Kangnam Jevisco Co., Ltd.]
Cathozinc Shop Primer Type-2 (SP-09)	[Yung Shi Paint & Varnish Mfg. 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 **Balloxy HB Light** 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 in accordance with **Type Approval documentation**. The test carried out at Marintek is accepted as alternative to the test procedures in IMO Resolution MSC.215(82) Performance Standard for Protective Coatings (PSPC), ref. IACS UI SC223:
— Test report from Marintek, Sandefjord, of 1995-03-17.

The tests reported in the Bodycote, EXOVA and DNV Energy Reports are carried out in accordance with the procedures in IMO Resolution MSC.215(82) Performance Standard for Protective Coatings (PSPC), ref. IACS UI SC223:

Job Id: **262.1-004278-10**
Certificate No: **TAK000015T**

- Bodycote Report No. N805 308, Issue 1, "Ballast Tank Coating Test Balloxy HB Light Epoxy Paint over Interplate 937 Zinc Silicate Shop Primer" of 2008-10-10.
- Bodycote Report No. N805 304, Issue 1, "Ballast Tank Coating Test Balloxy HB Light Epoxy Paint over Muki Z 2001 Zinc Silicate Shop Primer" of 2008-10-10.
- Bodycote Report No. N805 303, Issue 2, "Ballast Tank Coating Test Balloxy HB Light Epoxy Paint over Sigmaweld 199 Zinc Silicate Shop Primer" of 2009-01-09.
- EXOVA Test Report No. N950124, Issue 03, "Ballast Tank Coating Test Balloxy HB Light on Interplate 855" of 2010-03-09
- EXOVA Test Report No. N951119, Issue 04, "Ballast Tank Coating Test Balloxy HB Light on Hempel ZS 1589" of 2010-04-10
- EXOVA Test Report No. N951120, Issue 05, "Ballast Tank Coating Test Balloxy HB Light on KCI Zinc 1000" of 2010-04-20
- DNV Energy Technical Report No. 2010-5155 / 12 CPRAD-12, Rev. 02 "Crossover Test of Balloxy HB Light on Cathozinc Shop Primer Type-2 (SP-09)" of 2010-05-07.

Marking of product

Product/package shall be marked with *manufacturer's name and address*; **PT. Jotun Indonesia, Bekasi, Indonesia**, *type designation*; **Balloxy HB Light**, 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