

APPROVAL OF SERVICE SUPPLIERS

This is to certify that

Belzona Service Nord GmbH
Sittensen, Germany

is granted acceptance for
**Resin Casting of Chock Foundations, Stern Tubes, etc. , in accordance with
Class Programme DNVGL-CP-0484.**

This service supplier certificate will be accepted for use with all rule sets published by DNV GL.
See the following page(s) for details regarding application.

This Certificate is valid until **2020-12-07**.

Issued at **Bremerhaven** on **2018-08-01**

for **DNV GL**

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Eigendorf, Thomas
Team Leader Operations

This Certificate may be withdrawn if:

1. The service provided has been improperly carried out or the results improperly reported.
2. The surveyor has found any deficiencies in the accepted operating systems of the service supplier.
3. The firm has failed to inform of any major changes having effect on the quality of the service rendered.
4. The conditions listed in the certificate are changed and/or are not fulfilled.

Certificate No: **AOSS0000CCC**
Revision No: **1**

Application:

Application of two - component reaction resins for temporary repairs

Belzona Service Nord GmbH is herewith recognized as Application Enterprise according to para. B06 of the aforementioned guideline. Materials, Technical Data and Range of Application according annex.

Manufacturer of the material:

Belzona International Limited
T/A Belzona Polymerics Ltd
Claro Road, Harrogate, HG1 4AY
United Kingdom

Range of Application:

Basic Materials: Carbon steel, Stainless steel, Cast steel
Belzona 1111: Engineering grade repair system for repairing and rebuilding machinery and equipment.
Belzona 1321: Repair system designed for surfacing metals attacked by erosion-corrosion.
Belzona 1311: Repair system designed for rebuilding metals damaged by erosion-corrosion.

The above mentioned materials are approved for temporary repairs as follows:

1. Machinery components:
Cooler jackets, Evaporators, Pump casings, Valve boxes, Cooler covers
2. Insulation of transition zone of stainless steel/carbon steel
3. Burnish of cavitation defects of propellers, coating of propeller nozzles.
4. Casting of bearing bushes (cargo gear winches etc.). Regarding rudder bearings, liners and cones refer to Remarks.
5. Internal coating of tanks (for drinking water tanks approval of the corresponding flag state authority is necessary)
6. Repair of ship's hull damages due to corrosion acc. to DNV GL approved repair Plan.

Remarks:

Planned repair activities for components which affect or might affect the Class of the ship have to be reported in advance to DNV GL. In principle repair work has to be classified as temporary. Its durability has to be surveyed by DNV GL after a suitable time and may be transferred to permanent repair work. Regarding new installation or repair of rudder bearings, liners, cones and installation of propeller shaft bearings, the above specified Belzona Material is approved as permanent installation. However, each application on a newbuilding or vessel in service needs to be approved by DNV GL.