DNV·GL

Certificate No:
**TAM00000ZR**

# TYPE APPROVAL CERTIFICATE

## This is to certify:

**That the Pourable Compound for Foundation Chocking**

with type designation(s)
**CMP LINER BLUE**

Issued to
**Chugoku Marine Paints, Ltd. (Hiroshima Head Office)**
**OTAKE CITY, HIROSHIMA, Japan**

is found to comply with
**DNV GL class programme DNVGL-CP-0432 – Type Approval – Pourable compounds for foundation chocking**

## Application :

**For foundation chocking of diesel engines, reduction gears, thrust bearings, rudder actuators, stern tubes and other auxiliary machinery.**

**Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.**
**Max. service temperature: 80 °C**
**Max. total surface pressure: 4.5 N/mm$^2$**
**Max. pressure/weight: 0.9 N/mm$^2$**

Issued at **Høvik** on **2018-10-15**
This Certificate is valid until **2023-10-14**.
DNV GL local station: **Hiroshima**

Approval Engineer: **Gisle Hersvik**

for **DNV GL**

**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.


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## Product description

**CMP LINER BLUE**; Two-component, solvent-free, epoxy pourable compound for foundation chocking,

## Manufactured by

**Chugoku Marine Paints, Ltd., Shiga Factory**, 2306-7, Mikami, Yasu-shi, Shiga-ken, 520-2323, Japan

DNV GL local station: Hiroshima

## 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

The approval is valid for foundation chocking of diesel engines, reduction gears, thrust bearings, rudder actuators, stern tubes and other auxiliary machinery.

For max. service temperatures the max. loading limit is as following:

| | |
|---|---|
| Max. Service Temperature [°C] | 80 |
| Max. Total Surface Pressure [N/mm$^2$] | 4.5 |

For lower service temperatures the max. loading limits are to be in accordance with Manufacturer's recommendations.

Surface pressure exerted on Cast Resin chocks caused by dead weight of machinery: max. 0.7 N/mm². In exceptional cases a surface pressure caused by dead weight of machinery is permitted up to 0.9 N/mm² (e.g. lowspeed Two-Stroke-Engines)

Chocking plan with boltstress-calculation to be submitted for approval in each particular case.

The tightening-up of engine and reduction gear holding-down bolts, controlled at installation, is to be checked after trial trip when cooled down. Information about this is to be given at the delivery of the compound.

The manufacturer's instructions to casting and curing of the compound are to be followed.

After hardening of the chocks and prior to tightening of the holding-down bolts a Barcol hardness test has to be performed with a result of at least 35.

*The approval is also valid for offshore use with reference to Rules for Classification – Offshore Units - DNVGL-RU-OU-0101 Offshore drilling and support units.*

## Type Approval documentation

## Tests carried out

Type Testing carried out in accordance with **Type Approval documentation**.

## Marking of product

The product/package to be marked with *manufacturer's name* and/or *trademark*, *place of production* and *type number identification*.

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 the DNV GL Type Approval Certificate.

END OF CERTIFICATE