



Type Approval Certificate

This is to certify that the undernoted product(s) has/have been tested in accordance with the relevant requirements of the GL Type Approval System.

Certificate No. 17 395 - 00 HH

Company Marine Service Jaroszewicz s.c.
Spolka Cywiln Wieslaw Jaroszewicz, Malgorzata Jaroszewicz, Dorota Rata
ul. Bielanska 23
70-703 Szczecin, POLAND

Product Description Pourable compound (resin and hardener) for chocking of propulsion plants and auxiliary machinery

Type EPY

Environmental Category None

Technical Data / Range of Application Surface pressure exerted on Cast Resin chocks caused by dead weight of machinery and bolt preloading force: max. 5.0 N/mm².
Surface pressure exerted on Cast Resin chocks caused by dead weight of machinery: max. 0.7 N/mm².
Temperature in way of Cast Resin chocks: max. 80°C.
Barcol hardness of Cast Resin chocks: min. 40.
Temperature of post-curing for Cast Resin chocks: min. 4h at 70°C.
Height of Cast Resin chocks:
5 to 50 mm (pouring in one layer is permitted)
50 to 100 mm (pouring in successive layers of 15 to 25 mm thickness is required).

Test Standard GL Guidelines for the Approval of Reaction Plastics and Composite Materials for the Seating and Repair of Components; Edition 2006

Documents Test Reports of Politechnika Szczecinska / Technical University Szczecin:
No. 46/90, 47/90, 48/90, 49/90 dated Nov./Dec. 90, No. 14/91, 17/91, 18/91, 19/91, 22/91 dated July/Sept. 91, No.10541-88-500 dated Nov.94, No. 1/97 dated March 97.

Remarks Special conditons/restrictions acc. to page 2 of Certificate.
General conditions acc. GL 'Regulations for the Seating of Propulsion Plants'.

Valid until 2015-11-30

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File No. II.G.12

Hamburg, 2011-12-05

Type Approval Symbol



Germanischer Lloyd

i.a. w
Stefan Röhr

i.a. Michalek
Guido Michalek

This certificate is issued on the basis of "Guidelines for the Performance of Type Approvals Part 1, Procedure".

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- 1.- For mixing and processing of the Cast Resin the manufacturer's instructions have to be observed. Pouring has to be carried out under supervision of the Cast Resin manufacturer or an authorized representative.
- 2.- Of each batch (resin and hardener) which is employed for Cast Resin seating, a sample has to be taken on board and has to be marked accordingly.
- 3.- For mounting, locating and attachment of the components, the latest edition of GL 'Regulations for the Seating of Propulsion Plants' has to be observed.
- 4.- After curing of the Cast Resin chocks and prior to tightening of the holding-down bolts a Barcol hardness test has to be performed in each case under supervision of the local GL Surveyor.
- 5.- A sign plate has to be fitted on the machinery seated on Cast Resin chocks indicating the name of the used Cast Resin type, the name of the responsible firm, the date of pouring and the tightening torque of the holding-down bolts and/or data on which the bolt prestressing has been based.
- 6.- The representatives authorized by the Cast Resin manufacturer to perform foundation work have to be stated to GL Head Office in writing including name list of the responsible persons.
- 7.- Seating of propulsion plants on Cast Resin chocks with the primary components as diesel engines, turbines, generators for propulsion, gear boxes, power-take-off drives, thrust bearings, shaft bearings, shaft generators, stern tubes, steering gears and windlasses is subject to approval by Germanischer Lloyd Head Office in any case. To this effect, drawings and calculations acc. to the latest edition of GL 'Regulations for the Seating of Propulsion Plants' have to be submitted to GL Head Office for approval exclusively by the Cast Resin manufacturer or an authorized representative .

This Type Approval Certificate may be withdrawn if decided by GL Head Office or upon its expiry. GL Head Office is to be informed in writing about any changes in manufacturing, mixing, processing, conditions of application and authorized representatives.

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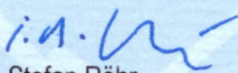
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