

TYPE EXAMINATION CERTIFICATE

This is to certify:

That the Fender

with type designation(s)
FE Element Fender

Issued to

ShibataFenderTeam AG
Hamburg, Germany

is found to comply with
Guidelines for the Design of Fender Systems : 2002 (PIANC 2002)

Application :

Moulded rubber fender for marine application

Issued at **Hamburg** on **2018-03-06**

for **DNV GL**

This Certificate is valid until **2022-10-31**.

DNV GL local station: **Hamburg**

Approval Engineer: **Joachim Rehbein**

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 Examination Certificate and not to the approval of equipment/systems installed.



Product description

FE Element Fender: Moulded rubber

Size H [mm]: FE 250 up to FE 2000

Assessed production site

- Shibata Industrial Co., Ltd., 1058 Nakao, Uozumi-cho, Akashi-city, Hyogo-pref., 674-0082, Japan
- Shibata Asia Sdn. Bhd., Lot PT, 34252 Jalan Sekolah, 42100 Klang Selangor, Malaysia

Application/Limitation

This type of fender is approved according to the 'Guideline for the design of Fender Systems: 2002, Appendix A – Constant Velocity' issued by the International Navigation Association(PIANC).

Any significant changes in design and/or quality of the material will render the approval invalid.

If there are any changes to the product design, the design documentation and / or the TE certificate, information about this and revised documentation shall be sent to the DNV GL local office.

Type Examination documentation

- Initial TE – documentation for certificate KBZ 1156 HH

Renewal documentation:

- Renewal TA Assessment Report (90.02a), 2017-11-28 at Shibata Industrial Co, Japan
- Renewal TA Assessment Report (90.02a), 2017-11-21 at Shibata Asia Sdn. Bhd., Malaysia
- Supporting documentation (TDS, product catalogue 08/2017 E, deflection and material tests October and November 2016 at Shibata Asia Sdn. Bhd., Malaysia)

Tests carried out

According Type Examination documentation

Marking of product

Product shall be marked with manufacturer's name and type designation.

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 Examination Certificate.

Periodical assessment

Periodical assessments will be carried out bi-yearly(Certificate Retention) and at renewal after 5 years (Certificate Renewal). When possible, this assessments may be harmonised with normal surveys for product certification and / or other surveys and audits carried out.

A Type Approval Certificate may be renewed for a further period of validity, at the customer's request. An application for renewal shall be submitted to the DNV GL local office.

END OF CERTIFICATE