



## Confirmation of Product Type Approval

**Company Name:** YMI CORPORATION

**Address:** 103-75 GOMO-RO 324BEON-GIL, JILLYE-MYEON GIMHAE-SI Korea, Republic of

**Product:** Fender

**Model(s):** Marine Rubber Fender (CL, CN, CY, TR, V)

**Endorsements:**

Certificate Type	Certificate Number	Issue Date	Expiry Date
Product Design Assessment (PDA)	23-2477852-1-PDA	01-APR-2024	07-NOV-2028
Manufacturing Assessment (MA)	23-6112979	01-DEC-2023	30-NOV-2028
Product Quality Assurance (PQA)	NA	NA	NA

### Tier

3 - Type Approved, unit certification not required

### Intended Service

Marine and Offshore Application - Marine Fender for Mooring and Berthing.

### Description

Marine Fender Model:

CL: Marine rubber fender (CELL SHAPE), size range: 300mm (H) ~ 2500mm (H), refer to drawing No. YMIDR-CL-01 shown in the attachment.

CN: Marine rubber fender (CONE SHAPE), size range: 300mm (H) ~ 2000mm (H), refer to drawing No. YMIDR-CN-01 shown in the attachment.

CY: Marine rubber fender (CYLINDRICAL SHAPE), size range: 150mm (OD) x 1000mm (L) ~1600mm (OD) x 3000mm (L), refer to drawing No. YMIDR-CY-01 shown in the attachment.

TR: Marine rubber fender (LEG SHAPE), size range: 400mm (H) x 1000mm (L) ~ 2500mm (H) x 3000mm (L), refer to drawing No. YMIDR-TR-01 shown in the attachment.

V: Marine rubber fender (ARCH SHAPE), size range: 150mm (H) x 1000mm (L) ~ 1000mm (H) x 3000mm (L), refer to drawing No. YMIDR-V-01 shown in the attachment.

Note: OD: Outer Diameter, L: Length, H: Height

### Ratings

Marine Fender, CL, CN, CY, TR, V:

The following physical properties values of rubber have been verified by prototype testing:

- Tensile Strength: Spec (not less than 80% of original value after aging), original 16.0 MPa (Min.), Result: 21.3 MPa, aged for 96 hours at 70°C±1, 12.8 MPa (Min.), Result: 18.9 MPa
- Elongation: Spec (not less than 80% of original value after aging, original 350% (Min.), Result: 430%, Aged for 96 hours at 70°C±1", 280% (Min.), Result: 418.8%
- Hardness(Hs), Spec (not more than 8 points Shore A of increase from original value), original 78° Shore A (Max.), Result: 66° Shore A, aged for 96 hours at 70°C±1, original +8° Shore A (Max.), Result: 70° Shore A
- Ozone Resistance: Spec (ISO 1431-1, JIS K 6259), 50pphm, 20% 40°C, no visible crack after 72 hour exposure, Result: No crack

### Service Restrictions

- Unit Certification is not required for this product. If the manufacturer or purchaser request an ABS Certificate for compliance with a specification or standard, including inspection standards and tolerances, must be clearly defined.
- The scope of type approval is to comply with MSC.1/Circ.1221 dated 11th December 2006.

### Comments

- The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.
- Our approval is based on that the above material has been tested and certified by ABS Surveyor, Report No.: YMI-TA-23-001 dated 20 September 2023 for compliance with PIANC 2002 "Guidelines for the Design of Fender Systems", Appendix A.
- The products are to be installed in accordance with manufacturer's instructions.
- For increased energy use high, extra high or super high capacity foam. For reduced hull pressure use low reaction foam grade.
- Unless specially directed by Administration, this approval is not to be construed as a substitute for Flag Administration's approval for the purpose of SOLAS (Consolidated Edition 2020), as amended.
- This certificate may not be used for EU and US flagged vessels (MED and/or USCG have their own specific/requirements).

### Notes, Drawings and Documentation

Note: PDA Certificate No.: 23-2477852-1-PDA

Drawing No. YMIDR-CL-01, Cell Fender for CL, Revision: -

Drawing No. YMIDR-CN-01, Cone Fender for CN, Revision: -

Drawing No. YMIDR-CY-01, Cylindrical Fender for CY, Revision: -

Drawing No. YMIDR-TR-01, TR Fender for TR, Revision: -

Drawing No. YMIDR-V-01, V Fender for V, Revision: -

Drawing No. YMI-TA-23-001, Test Report witnessed by ABS Surveyor for Marine Rubber Fender dated 20 September 2023, Revision: -

### Term of Validity

This Product Design Assessment (PDA) Certificate remains valid until 07/Nov/2028 or until the Rules and/or Standards used in the assessment are revised or until there is a design modification warranting

design reassessment (whichever occurs first).

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or previous to the effective date of the ABS Rules and standards applied at the time of PDA issuance. Use of the Product for non-ABS units is subject to agreement between the manufacturer and intended client.

#### **ABS Rules**

- 2023 Marine Vessels Rules 1-1-4/7.7, 1-1-A3, 1-1-A4
- 2023 Mobile Offshore Units Rules 1-1-4/9.7, 1-1-A2, 1-1-A3

#### **International Standards**

NA

#### **EU-MED Standards**

NA

#### **National Standards**

NA

#### **Government Standards**

NA

#### **Other Standards**

- PIANC 2002 "Guidelines for the Design of Fender Systems", Appendix A



Corporate ABS Programs  
American Bureau of Shipping  
Print Date and Time: 25-Apr-2024 9:04

ABS has used due diligence in the preparation of this certificate, and it represents the information on the product in the ABS Records as of the date and time the certificate is printed.

If the Rules and/or standards used in the PDA evaluation are revised or if there is a design modification (whichever occurs first), a PDA revalidation may be necessary.

The continued validity of the MA is dependent on completion of satisfactory audits as required by the ABS Rules. The validity of both PDA and MA entitles the product to receive a **Confirmation of Product Type Approval**.

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or prior to the effective date of the ABS Rules and standards applied at the time of PDA issuance. ABS makes no representations regarding Type Approval of the Product for use on vessels, MODUs or facilities built after the date of the ABS Rules used for this evaluation.

Type Approval requires Drawing Assessment, Prototype Testing and assessment of the manufacturer's quality assurance and quality control arrangements. The manufacturer is responsible to maintain compliance with all specifications applicable to the product design assessment. Unless specifically indicated in the description of the product, certification under type approval does

not waive requirements for witnessed inspection or additional survey for product use on a vessel, MODU or facility intended to be ABS classed or that is presently in class with ABS.

Due to wide variety of specifications used in the products ABS has evaluated for Type Approval, it is part of our contract that; whether the standard is an ABS Rule or a non-ABS Rule, the Client has full responsibility for continued compliance with the standard.

Questions regarding the validity of ABS Rules or the need for supplemental testing or inspection of such products should, in all cases, be addressed to ABS.