Type Approval Certificate

[Mechanical Joints]

Initial Approval 2 July 1996

Applicant Victaulic Company

4901 Kesslersville Road, Easton, PA 18040, USA

Product Description Type : Victaulic Style 77 Flexible Couplings

* Additional Manufacturing Place
  - Dalian Bingshan Metal Technology Co., Ltd.
    No.9 Northeastern 7th Street Economic and Technology Development Zone,
    Dalian, Liaoning, 116600, China

  - Victaulic Polska Sp. z o.o. ul.
    Niepodległo?ci 8, 66-530 Drezdenko, Poland

″ See Appendix 1 ″

Approval Condition ″ See Appendix 1 ″

THIS IS TO CERTIFY that the above-mentioned product has been approved in accordance with the relevant requirement of this Society's Rules and / or of the recognized standards as follows.

Pt 5, Ch 6, Sec 1 of the Rules for the Classification of Steel Ships.

This Certificate is valid until 1 July 2031

Issued at Busan, Korea on 29 October 2026

This certificate is signed electronically in accordance with IMO FAL-LEG-MEPC-MSC.1 /Circ.1. Validation and authentication of the certificate can be confirmed from "http://e-cert.krs.co.kr" by using the tracking No(ME26049506291) and certificate No.(NYK05774-PE004).

KOREAN REGISTER

General Manager of Certification of Materials & Components Team

Note : *1. This certificate will be valid subject to complying with the approval conditions described on the certificate and/or on the Rules of this Society.*
2. This certificate will be invalid from the expiry date aforementioned unless the extension or renewal has been granted to the applicant or the manufacturer.
3. Any significant modifications or changes in design or construction to the above product without approval from this Society will render this certificate invalid.
4. Should the specified rules, regulations or standards be amended during the validity of this certificate, the product is to be re-approved by this Society in accordance with the requirements as amended.

Product Description and/or Approval Condition

Date of Issue : 29 October 2026

A. Product Description

1. Product Specification

1) Design : Machine Grooved Type
2) Size (inch) : 3/4″ ~ 12″ / 14″ ~ 24″
3) Design Pressure (bar) : 16 / 15.5
4) Design Temperature (℃) : -34 ~ +110 (EPDM), -29 ~ +82 (Nitrile)
5) Materials ;
   Coupling housings : Ductile iron ASTM A-536 Grade 65-45-12
   Bolts and nuts : Carbon Steel ASTM A-183
   Gasket : Grade 'E' EPDM, Grade 'T' Nitrile

2. Approved Drawings and Documents

1) C-140-W77-003_rev.K, H-140-W77-001_rev.Q, H-160-W77-001_rev.R, H-180-W77-001_rev.R, H-200-W77-001_rev.R, H-220-W77-001_rev.J, H-240-W77-001_rev.R

3. Test Reports, etc.

1) Fire endurance test reports "IACS Fire Test" dated on 24 Sep. 2006
2) Tests report for W77 dated 4 Oct. 2011
3) Tests report for W77 dated 27 Jan. 2016 and 3 Mar. 2016

B. Approval Condition

1. Application & Limitation

1) As the fire endurance tests were conducted under the '30 min wet' condition, the mechanical joints shall be installed in accordance with Table 5.6.10, "Application of Mechanical Joints" Pt.5, Ch.6 Sec.1 of the Rules for the Classification of Steel Ships.
2) Where the application of mechanical joints results in reduction in pipe wall thickness, this is to be taken into account in determining the minimum wall thickness of the pipe to withstand the design pressure.
3) Material of mechanical joints is to be compatible with the piping material and internal and external media.
4) These mechanical joints, which in the event of damage could cause fire or flooding, are not to be used in piping sections directly connected to the sea openings or tanks containing flammable fluids.
5) These mechanical joints are not to be used in pipelines in cargo holds, tanks, and other spaces which are not easily accessible. Application of these inside tanks may be permitted only for the same media that is in the tanks.
6) Mechanical joints are to be applied in accordance with the requirements specified in IACS UR P2.7.4, Table 8.

2. Individual Product Cert. and Drawing Approval Requirement

1) Individual Product Certification is required where the mechanical joints are intended to use for Class Ⅰ or Ⅱ piping system.

3. Marking

1) For traceability to this type approval, the couplings are at least to be marked with Manufacturer's name, trade mark, Type designation and size.

4. Others

- N/A

< End of Certificate >