



Type Approval Certificate

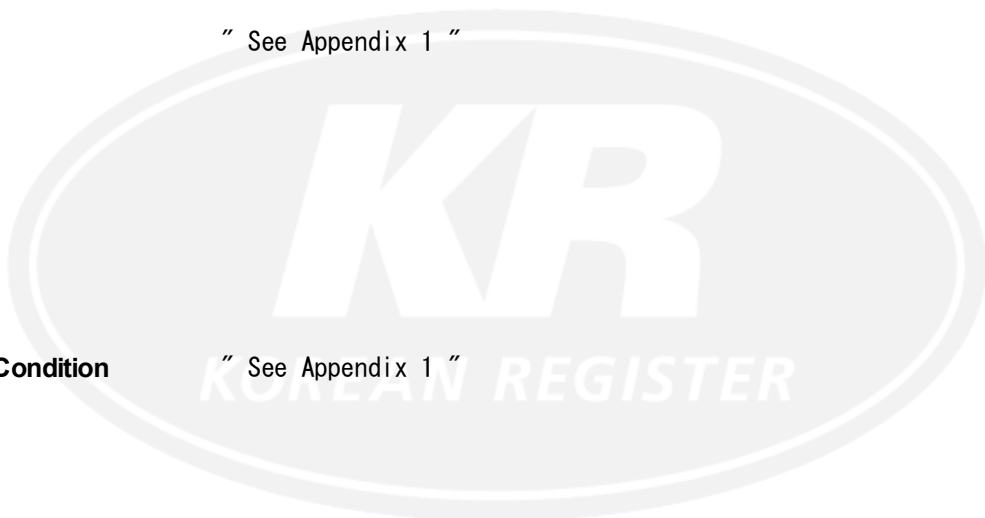
[Mechanical Joints]

Initial Approval 6 May 2013

Manufacturer Victaulic Company
 4901 Kesslersville Road, Easton, PA 18040, USA

Product Description Mechanical Joints (Slip-on joints – Grooved type)
 Model : Victaulic Style W77 AGS flexible coupling

“ 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 5 May 2028

Issued at Busan, Korea on 29 July 2023



This certificate is signed electronically in accordance with IMO FAL.5/Circ.39/Rev.2. Validation and authentication of the certificate can be confirmed from "<http://e-cert.krs.co.kr>" by using the tracking No(ME23033515243) and certificate No.(NYK05774-PE006).



KOREAN REGISTER

*General Manager of
Marine & Ocean Equipment 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 July 2023

A. Product Description

1. Product Specification

- 1) Model : Victaulic Style W77 AGS flexible coupling
- 2) Size : DN350(14") ~ DN600(24")
- 3) Max. Working Press. : 20 bar
- 4) Temperature Range : -34 °C ~ 110 °C

2. Approved Drawings and Documents

- 1) C-140-W77-003_rev.J, G-140-W07-004_rev.E, H-240-W77-001_rev.N, H-160-W77-001_rev.O, H-180-W77-001_rev.O, H-200-W77-001_rev.N, H-220-W77-001_rev.F, H-240-W77-001_rev.N

3. Test Reports, etc.

- 1) Test reports performed on 11 March 2011(24") and 4 Oct. 2011(16") for the following test items : tightness, vacuum, burst, fire endurance, flexural bend.

B. Approval Condition

1. Application & Limitation

- 1) As the fire endurance test is conducted under '30 min wet' condition, the mechanical joints are to be mounted in accordance with "Table 5.6.10 Application of Mechanical Joints, Pt.5, Ch.6 Sec.1" of Rules for the Classification of Steel Ships.
- 2) Limitation
 - 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.
 - Material of mechanical joints is to be compatible with the piping material and internal and external media.
 - 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.
 - 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.

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

* Place of Production

- 1) The Quality Castings Company
1200 North Main Street, Orrville, OH 44667 USA
- 2) Victaulic de Mexico, S. de R.L de C.V
Avenida Aeroespacial 12601, Parque Industrial Chihuahua Sur, Chihuahua, CH 31385 Mexico
- 3) Dalian Refrigeration Co., Ltd
No. 106 Liaohe East Road, Jinzhou District, Dalian, Liaoning, 116630 China

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