

TYPE APPROVAL CERTIFICATE

Certificate No:
TAP00000VG
Revision No:
2

This is to certify:

That the Pipe Couplings with Bolts Not Covered by a National Standard

with type designation(s)
Style W07 AGS

Issued to

Victaulic Company
Easton, PA, USA

is found to comply with

DNV rules for classification – Ships Pt.4 Ch.6 Piping systems
DNV-OS-D101 – Marine and machinery systems and equipment, Edition July 2021
DNV class programme DNV-CP-0185 – Type approval – Mechanical joints

Application :

Products approved by this certificate are accepted for installation on all vessels classed by DNV.

Temperature range: 0 °C to +110 °C
Max. working press.: 16 bar(g)
Sizes: 14" to 24"

Issued at **Hamburg** on **2022-07-13**

for **DNV**

This Certificate is valid until **2027-07-12**.

DNV local station: **New York**

Approval Engineer: **Ana Cristina Do Carmo Insfran**

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Olaf Drews
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 Approval Certificate and not to the approval of equipment/systems installed.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



Product description

Victaulic Style W/07 AGS rigid coupling.

Design: Slip on machine grooved type fittings comprising of two-piece cast housings & sealing is provided by a rubber gasket, internal to the coupling.

Sizes covered: 14", 16", 18", 20", 22" & 24"

Materials:

Housing: ASTM A536 grade 65-45-12
Bolts: ASTM A449 type 1
Nuts: ASTM A563 grade B
Gasket: EPDM grade 'E'

Application/Limitation

Couplings shall not be used for piping subjected to pressure shock, excessive strains, and vibration.

Couplings may be used for class III piping with the exception that they shall not be used in piping fitted on ship sides and bottom and on sea chests. For class II applications, couplings may be used in hydraulic piping systems where failure would not render the system inoperative or introduce a fire risk.

EPDM sealing shall not be used for hydrocarbon applications.

When used in systems where vacuum may occur, precautions shall be taken to prevent the internal gasket from being drawn into the gap of the two pipe ends.

The couplings shall not be used in systems where pressure pulsation other than water hammer is expected.

Couplings covered under the certificate (14" thru 24") are considered fire resistant types.

The couplings may be used according to latest requirements of governing rules in following applications:

- a. Flammable fluids (flash point $\leq 60^{\circ}\text{C}$)
 - Cargo oil lines ⁽¹⁾
 - Crude oil washing lines ⁽¹⁾
 - Vent lines
- b. Inert gas
 - Water seal effluent lines
 - Scrubber effluent lines
 - Main lines ^{(1) (2)}
 - Distributions lines ⁽¹⁾
- c. Flammable fluids (flash point $> 60^{\circ}\text{C}$)
 - Cargo oil lines ⁽¹⁾
 - Fuel oil lines ⁽²⁾
 - Lubricating oil lines ⁽²⁾
 - Hydraulic oil ⁽²⁾
 - Thermal oil ⁽²⁾
- d. Sanitary/drains/scuppers
 - Deck drains (internal) ⁽³⁾
 - Sanitary drains
 - Scuppers and discharge (overboard)
- e. Sea water
 - Bilge lines
 - Water filled fire extinguishing systems, e.g., sprinkler systems
 - Non water filled fire extinguishing systems, e.g., foam, drencher systems
 - Fire main (not permanently filled)
 - Ballast system
 - Cooling water system
 - Tank cleaning services
 - Non-essential systems
- f. Fresh water

- Cooling water system
 - Condensate return
 - Non-essential system
 - g. Sounding/vent
 - Water tanks/Dry spaces
 - Oil tanks (f.p. > 60°C) ⁽²⁾
 - h. Miscellaneous
 - Starting/Control air
 - Service air (non-essential)
 - Brine
 - CO₂ system
 - Steam
- 1) Only in pump rooms and open decks
 2) Not inside machinery spaces of category A or accommodation spaces. May be accepted in other machinery spaces provided the joints are located in easily visible and accessible positions.
 3) Only above bulkhead deck of passenger ships and freeboard deck of cargo ships.

The installation of couplings shall be in accordance with the manufacturer's assembly instructions.

Material for couplings under class II piping system applications shall be delivered with Works Certificate approved by the Society.

Type Approval documentation

Type Approval Application dated on 2020-03-23
 Type Approval Assessment Report - Periodical + Renewal dated on 2022-07-03
 Letter of location dated on 2021-02-18
 ISO 9001:2015 – Certificate Nr. 104 issued by LPCB Valid until 2024-05-22
 Victaulic de Mexico, S de R.L. de C.V. - ISO 9001:2015, Certificate no.: 747001638 valid until 2023-08-13
 The Quality Castings Company – ISO 9001:2015 Certificate No.: 98.328 valid until 2022-10-22
 Bingshan Refrigeration & Heat Transfer Technologies Co., Ltd. – ISO 9001:2015
 Certificate No.: 0421Q10223R8L – valid until 2023-12-03
 Weifang Yuchuan Machinery Co., Ltd. ISO 9001:2015 –
 Certificate No.: 00120Q38103R6M/3700 valid until 2023-10-09
 Letter Victaulic – updated assembly drawings dated on 2020-04-02
 Prototype testing witnessed by DNV GL for:

- size 14" Style W07 AGS coupling on steel pipe dated 2016-01-26
- size 20" Style W07 AGS coupling on steel pipe dated 2016-02-26
- size 24" Style W07 AGS coupling on steel pipe dated 2016-02-26

Fire test report under 14" Style W77 AGS coupling on steel pipe dated 2016-01-26
 (Coupling and gasket material is identical to W07 AGS coupling)
 Datasheet – Victaulic ® AGS Rigid coupling – Style W07 – Nr. 20.02 3852 Rev. V dated on 10/2021 (Reference only)
 Drawings Nr.:
 G-140-W07-004 Rev. E; H-240-W07-002 Rev. O; H-200-W07-002 Rev. O; H-180-W07-002 Rev. P;
 H-140-W07-002 Rev. Q; C-140-W07-003 Rev. J; H-220-W07-002 Rev. E; H-160-W07-002 Rev. R.

Tests carried out

Tightness, repeated assembly, burst pressure, pull-out, vibration, fire resistance & vacuum tests.

Manufacturing Locations

Victaulic de Mexico, S.de R.L. de C.V.
Avenida Aeroespacial 12601
Parque Industrial Chihuahua Sur
Colonia Tabalaopa,
Chihuahua, Chih., C.P.31385, Mexico

The Quality Castings Company
1200 N. Main Street
Orville, OH 44667

Bingshan Refrigeration & Heat Transfer Technologies Co., Ltd
No106, Liaohe East Road
Economic and Technological Development Zone
Dalian, Liaoning Province 116630

Weifang Yuchuan Machinery Co., Ltd.
No 3999 Weizhou Road
Fangzi District, Weifang City
Shandong Province, P.R. China

Marking of product

For traceability to this type approval, the couplings are at least to be marked with:

- Manufacturer's name or trademark
- Type designation
- Size

Periodical assessment

For retention of the Type Approval, a DNV Surveyor shall perform periodical assessment after two years (+/- 90 days) and after 3.5 years (+/- 90 days) to verify that the conditions for the Type Approval are complied with Refer to DNV-CP-0338, Sec.4.

The certificate is only valid if required periodical assessments are carried out with satisfactory results. To check the validity of this certificate, please look it up in <https://approvalfinder.dnv.com>

Ende of Certificate