



Marine & Offshore

Certificate number: 45703/A3 BV

File number: ACM 135/2208/10

Product code: 2105H

*This certificate is not valid when presented without the full attached schedule composed of 7 sections*

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## TYPE APPROVAL CERTIFICATE

*This certificate is issued to*

**Victaulic Company**

Easton - UNITED STATES OF AMERICA

*for the type of product*

**MECHANICAL JOINTS - SLIP-ON JOINTS - MACHINE GROOVED TYPE**

Style W07 AGS Rigid Coupling & Style W77 AGS Flexible Coupling

**Requirements:**

- BUREAU VERITAS Rules for the Classification of Steel Ships

*This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.*

**This certificate will expire on: 27 Jul 2021**

**For Bureau Veritas Marine & Offshore,**

At BV PORT EVERGLADES CENTRE, on 07 Oct 2019,

Flavio Rosas



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with Bureau Veritas Marine & Offshore. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

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BV Mod. Ad.E 530 June 2017

This certificate consists of 3 page(s)

## THE SCHEDULE OF APPROVAL

### 1. PRODUCT DESCRIPTION

#### **VICTAULIC AGS Rigid Coupling Style W07 & Flexible Coupling Style W77 for steel pipes**

##### 1.1 Rating

Nominal Size - Inches	14" to 24"
Max. Working Pressure - psi (bar)	232 (16)
Temperature Range (°C)	0 / 110

##### 1.2 Material specification

Coupling Housing	Ductile iron
Gasket	EPDM

*When other choices of materials are used per manufacturer's recommendations, the BV agreement is to be obtained.*

### 2. DOCUMENTS AND DRAWINGS

- Drawing for gasket N° G-140-W07-004 Rev.E dated 17/12/2014
- Coupling assembly 14" to 24" N°C-140-W77-003 Rev.H dated 09/01/2018
- Drawings for coupling housing:

Size	Style W07	Style W77
14"	N° H-140-W07-002 Rev. P dated 14/06/2019	N° H-140-W77-001 Rev. M dated 01/04/2019
16"	N° H-160-W07-002 Rev. P dated 26/01/2017	N° H-160-W77-001 Rev. M dated 23/01/2017
18"	N° H-180-W07-002 Rev. M dated 23/01/2017	N° H-180-W77-001 Rev. M dated 23/01/2017
20"	N° H-200-W07-002 Rev. M dated 29/03/2012	N° H-200-W77-001 Rev. L dated 24/10/2011
22"	N° H-220-W07-002 Rev. D dated 22/03/2011	N° H-220-W77-001 Rev. E dated 08/06/2017
24"	N° H-240-W07-002 Rev. M dated 18/10/2011	N° H-240-W77-001 Rev. L dated 24/10/2011

*No departure from the above documents shall be made without the prior consent of the Society. The manufacturer must inform the Society of any modification or changes to these documents and drawings.*

### 3. TEST REPORTS

- 3.1 Type test reports dated 26/01/2016 including: repeat assembly test, vacuum test, tightness test, burst test, pull out test, & vibration test performed on sizes 14", 20" & 24"
- 3.2 Fire endurance test dated 26/01/2016 performed on size 20 & 24" of type W07 and on size 14" of type W77 as per ISO 19921:2005.
- 3.3 Vibration test carried out on type W07 of the same family subjected to more severe vibration conditions.
- 3.4 Pressure pulsation test not carried out.

### 4. APPLICATION / LIMITATION

4.1 May be used on board for services of Class II, & III:

- **Flammable fluids (flash point ≤ 60°C)** - cargo oil (4), crude oil washing (4), vent lines (3)
- **Inert gas** - water seal/scrubber effluent, main lines (2+4), distributions lines (4)
- **Flammable fluids (flash point > 60°C)** - cargo oil (4), fuel oil (2+3), lubricating oil (2+3), hydraulic oil (2+3), thermal oil lines (2+3)
- **Sea water** – bilge/ballast/cooling water (1), water/non-water filled fire extinguishing systems (3), fire main, tank cleaning/non-essential lines
- **Fresh water** - cooling water (1), condensate return (1), non-essential lines
- **Deck drains (internal)** (6), sanitary drains
- **Sounding and venting** - water tanks/dry spaces, oil tanks (flash point > 60°C) (2+3)
- **Miscellaneous** - service air (non-essential), brine, steam (5)

*(1)- Inside machinery spaces of category A – only approved fire resistant types.*

*(2)- Not inside machinery spaces of category A or accommodation spaces. May be accepted in other machinery space provided the joints are located in easily visible and accessible positions.*

*(3)- Approved fire resistant types except in cases where such mechanical joints are installed on exposed open decks, as defined in SOLAS II-2/Reg. 9.2.3.3.2.2 (10) and not used for fuel oil lines.*

- (4)- Only in pump rooms and open decks – only approved fire resistant types.  
 (5)- May be used for pipes on deck with a design pressure of 10 bar or less.  
 (6)- Only above bulkhead deck of passenger ships and freeboard deck of cargo ships.

4.2 Not to be used for scuppers and discharge (overboard), starting/control air and CO2 system.

4.3 The gasket material must be compatible with the fluid to be conveyed, and the maximum working temperature according to the manufacturer's recommendation.

4.4 Not to be used in those systems where pressure pulsation other than water hammer is expected.

4.5 Assembly instructions given by the manufacturer are to be complied with the manufacturer's recommendation.

4.6 In all cases, the associated pipes are to be suitably supported and anchored. The joints are to be at any time accessible, excepting inside tanks where permitted by the Bureau Veritas rules.

## **5. PRODUCTION SURVEY REQUIREMENTS**

5.1 The product are to be supplied by **Victaulic Company** in compliance with the type described in this certificate.

5.2 This type of product is within the category HBV of Bureau Veritas Rule Note NR320 and as such does not require a BV product certificate.

5.3 **Victaulic Company** has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR320 for HBV products.

For information, **Victaulic Company** has declared to Bureau Veritas the following production sites:

**The Quality Castings Company: 1200 North Main Street, 44667 Orrville, USA**

**Victaulic De Mexico S. de R.L. de C.V.: Avenida Aeroespacial 12601, Parque Industrial Sur, 31385 Tabalaopa, Chihuahua, MEXICO**

**Dalian Refrigeration Co., Ltd Casting Department: 106 Liaohe East Road, Jinzhou District, Dalian, China**

## **6. MARKING OF PRODUCT**

Each coupling shall be clearly marked with at least:

- Manufacturer's name or logo
- Type designation
- Size
- Maximum working pressure

## **7. OTHERS**

It is **Victaulic Company** responsibility to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.

*This certificate supersedes the Type Approval Certificate N° 45703/A2 BV issued on 06/06/2018 by the Society.*

\*\*\* END OF CERTIFICATE \*\*\*