

**TYPE APPROVAL CERTIFICATE****This is to certify:****That the Pipe Couplings with Bolts Not Covered by a National Standard**with type designation(s)  
**Style 07**

Issued to

**Victaulic Company**  
**Easton, PA, USA**

is found to comply with

**DNV GL rules for classification – Ships Pt.4 Ch.6 Piping systems**  
**DNVGL-OS-D101 – Marine and machinery systems and equipment, Edition January 2018**  
**DNV GL class programme DNVGL-CP-0185 – Type approval – Mechanical joints****Application :****Product(s) approved by this certificate is/are accepted for installation on vessels classed by DNV GL.****Temperature range:** EPDM 0°C to +110°C / Nitrile: 0°C to +82°C  
**Max. working press.:** 16 bar  
**Sizes:** 1, 1 1/4, 1 1/2, 2, 2 1/2, 3, 4, 5, 6, 8, 10, 12Issued at **Høvik** on **2019-02-08**for **DNV GL**This Certificate is valid until **2023-06-29**.DNV GL local station: **New York**Approval Engineer: **Iselinn Vindstad**

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**Marianne Spæren Marveng**  
**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.



Job Id: **262.1-009291-20**  
 Certificate No: **TAP00001EE**  
 Revision No: **1**

## Product description

Victaulic Zero-Flex rigid coupling Style 07.

### Design:

Machine grooved type fittings are joined by the coupling, which is comprised of a two piece cast housings. The sealing is provided by a rubber gasket, internal to the coupling.

### 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 or Grade "T (Type A)" Nitrile

### Manufacturing locations:

Victaulic Company  
 4901 Kesslersville Road,  
 Easton, PA 18040 USA

Victaulic Company  
 Alburdis Facility  
 8023 Quarry Road  
 Alburdis, PA 18011 USA

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. Niepodległości 8  
 66-530 Drezdenko, Poland

## Application/Limitation

The Victaulic couplings Style 07 may be used for the following systems:

Systems			Systems		
Flammable fluids (Flash point ≤ 60 °C)			Fresh water		
1	Cargo oil lines	+ 4)	21	Cooling water system	+ 1)
2	Crude oil washing lines	+ 4)	22	Condensate return	+ 1)
3	Vent lines	+ 3)	23	Non-essential system	+
Inert gas			Sanitary/Drains/Scuppers		
4	Water seal effluent lines	+	24	Deck drains (internal)	+ 5)
5	Scrubber effluent lines	+	25	Sanitary drains	+
6	Main lines	+ 2) 4)	26	Scuppers and discharge (overboard)	-
7	Distribution lines	+ 4)	Sounding/ vent		
Flammable fluids (Flash point > 60°C)			27	Water tanks/Dry spaces	+
8	Cargo oil lines	+ 4)	28	Oil tanks (flash point > 60°C)	+ 2) 3)
9	Fuel oil lines	+ 2) 3)			
10	Lubrication oil lines	+ 2) 3)			
11	Hydraulic oil	+ 2) 3)			
12	Thermal oil	+ 2) 3)			
Sea Water			Miscellaneous		
13	Bilge lines	+ 1)	29	Starting/control air	-
14	Sprinkel system	+ 3)	30	Service air (non-essential)	+
15	Foam systems	+ 3)	31	Brine	+
16	Fire main	+ 3)	32	CO <sub>2</sub> system	-
17	Ballast system	+ 1)	33	Steam	+
18	Cooling water system	+ 1)			
19	Tank cleaning services	+			

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20	Non-essential system	+	
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The couplings are permitted for use in systems marked '+', not permitted for systems marked '-'.

Limitations/remarks:

- 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 spaces 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(10) and not used for fuel oil lines.
- 4) Only in pump rooms and open decks - only approved fire resistant types.
- 5) Only above bulkhead deck of passenger ships and freeboard deck of cargo ships.

The couplings with Grade E/EPDM gasket are of fire resistant types, and may be used in systems where fire safe application is required.

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.

Materials chosen for the specific system shall be suitable for the intended medium and environmental conditions.

EPDM may not be used for hydrocarbon services.

The couplings are approved to be used in piping systems of class II and III.

The couplings with sizes 8", 10", and 12" are not to be used in piping systems subject to impulse loading, e.g. hydraulic systems.

### Type Approval documentation

- manufacturer's product catalogue no. 06.02 "Victaulic® Zero-Flex Rigid Coupling Style 07", rev. M
- Seal Selection Guide no. 05.01, rev. AC
- Nitrile Grade T (Type A) Gasket no. 8311, rev. B
- Renewal burst pressure tests witnessed by DNV GL
- CCS burst pressure tests dated July 31, 2017 (witnessed by DNV GL)
- Pull out and vibration testing, project ID 3041856, dated May 24, 2012
- Report of pressure pulsation test on Style 07, report number 12-5676-7, 12-5676-
- IACS Fire test dated September 2006
- American Bureau of Shipping, miscellaneous survey report PA1979951 dated April 2011
- Vibration (Fatigue) Test Report on Victaulic 12" Style 07 Coupling, report number 11820.1
- Vibration (Fatigue) Test Report on Style 07 Zero-Flex® Rigid Coupling, report number 11820.1

### Tests carried out

Repeat assembly, tightness, vacuum, burst, pull-out, vibration and fire test


### Certification

Material certification shall be as per DNVGL-RU-SHIP Pt. 4 Ch. 6 Sec. 2 Table 3.

### Marking of product

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

- manufacturer's name or trade mark
- type designation
- size



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### **Periodical assessment**

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