



TYPE APPROVAL CERTIFICATE

Certificate no.:
TAP00001EE
Revision No:
4

This is to certify:
that the Pipe Couplings

with type designation(s)
Style 07

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, see page 2
Max. working press.: 16 bar
Sizes: 2" (60.3 mm) to 12" (323.9 mm)

Issued at **Hamburg** on **2025-01-17**

This Certificate is valid until **2030-01-16**.

DNV local unit: **New York**

Approval Engineer: **Jörg Hille**

for **DNV**



Digitally Signed By:
Sven Klinger
Location: DNV Hamburg,
Germany

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 USD 300 000.

Product description

The Victaulic® Style 07 Zero-Flex Rigid Coupling consist of two cast housings, internal gasket, and two bolts and nuts. Joins cut or roll grooved pipes, as well as grooved fittings, valves, and accessories. Exclusively for use with pipe and products which feature ends formed with the Victaulic® AGS groove profile. Fire endurance resistance is achieved with Gasket Grades E EPDM or T (Type A) Nitrile.

Components and materials

Component	Material
Housings	Grade 65-45-12 Ductile iron per ASTM A536 Grade 65-45-15 Ductile iron per ASTM A395 (upon request)
Gasket	Grade E EPDM, Grade T (Type A) - fire resistant types Grade T Nitrile - non-fire-resistant types
Bolts	Carbon steel oval neck track bolt per ASTM A449 (imperial) and ISO 898-1 Class 9.8 (M10-M16) and Class 8.8 (M20 and greater). Zinc electroplated per ASTM B633 ZN/FE5, finish Type III (imperial) or Type II (metric).
Nuts	Carbon steel hex nuts per ASTM A563 Grade B (imperial - heavy hex nuts) and ASTM A563M Class 9 (metric - hex nuts). Zinc electroplated per ASTM B633 ZN/FE5, finish Type III (imperial) or Type II (metric).

Temperature range

The applicable temperature range of the operating media for the coupling depends on the selected materials of its components:

Gaskets

Grade E EPDM – Green Stripe	-34° C to +110° C / -30 F to +230 F
Grade T Nitrile – Orange Stripe	-29° C to +82° C / -20 F to +180 F
Grade T (Type A) Nitrile Grey Gasket	

Housing

Grade 65-45-12 Ductile iron per ASTM A536	0° C to 350° C
Grade 65-45-15 Ductile iron per ASTM A395	0° C to 350° C
ASTM A449	-29° C to 375° C
ASTM A563	0° C to 350° C

Pipes

For pipe selection, the general recommendations in the Victaulic® Field Installation Handbook I-100, rev. H, section "Pipe Preparation and Grooving Specifications" is to be observed.

In addition, the minimum wall thicknesses specified in the DNV RU-SHIP Rules Pt.4 Ch.6 Piping system, Sec. 9, Tables 2 and 3 are to be observed.

Note: Pipe wall must continue to meet the minimum wall thickness requirements after cut grooving.

Manufacturing locations

- Victaulic Company, 4901 Kesslersville Road, Easton, PA 18040 USA
- Victaulic Company Alburtis Facility, 8023 Quarry Road, Alburtis, 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

Responsibility

Victaulic Company, located in Easton, PA, USA, is responsible for the design and the production procedures with relation to ensuring continued consistent production of the type approved products.

Reference DNV CP-0338 Type approval scheme, Section 4.

Application

The Victaulic® Style 07 couplings are type approved for installation in pipe systems of Class II, and III, and classified as fire resistance class “wet” acc. to ISO 19921/22 test standard in combination with Gasket Grade E EPDM (non-hydrocarbon applications) and Grade T (Type A) Nitrile (hydrocarbon applications) as listed in the table below.

Ref.: DNV-RU-SHIP Pt.4 Ch.6 Piping systems, Sec. 9 - 5.2 Slip-on joints - Machine Grooved Type, Tables 8, 9, 10.

Piping systems		Application/Limitation
Flammable fluids (flash point ≤ 60°C)		
1	Cargo oil lines	Not approved in pump rooms and on open decks.
2	Crude oil washing lines	
3	Vent lines	May be installed on exposed open decks, as defined in SOLAS-II/Reg. 9.2.3.3.2.2(10) and not used for fuel oil lines.
Inert gas		
4	Water seal effluent lines	No limitation
5	Scrubber effluent line	
6	Main lines	Not approved in pump rooms and on open decks. Not approved 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
7	Distribution lines	Not approved in pump rooms and on open decks.
Flammable fluids (flash point > 60 °C)		
8	Cargo oil lines	Not approved in pump rooms and on open decks.
9	Fuel oil lines	Not approved 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.
10	Lubricating oil lines	
11	Hydraulic oil	
12	Thermal oil	
Seawater		
13	Bilge lines	Not approved
14	Water filled fire extinguishing systems, e.g. fire main, sprinkler systems	No limitation
15	Non water filled fire extinguishing systems, e.g., drencher systems	Not approved
16	Fire main (not permanently filled)	No limitation
17	Ballast systems	
18	Cooling water systems	
19	Tank cleaning services	
20	Non-essential systems	No limitation
Fresh water		
21	Cooling water systems	No limitation
22	Condensate return systems	
23	Non-essential piping systems	
Sanitary/drains/scuppers		
24	Deck drains (internal)	Only above bulkhead deck of passenger ships and freeboard deck of cargo ships.
25	Sanitary drains	No limitation
26	Scuppers and discharge (overboard)	Not approved
Sounding/vent		
27	Water tanks/dry spaces	No limitation
28	Oil tanks (flash point > 60 °C)	Not approved 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.
Miscellaneous		
29	Starting/control air	Not approved
30	Service air piping systems (non-essential)	No limitation
31	Brine	
32	CO2 systems	Not approved
33	CO2 systems	
34	Steam	May be used for pipes on deck with a design pressure of 10 bar or less.

Limitation

In addition to the table on page 3 the following installation limitations apply:

Slip-on joints

- are not approved for installation in pipelines arranged in cargo holds and other spaces which are not easily accessible.
- are not approved for installation inside of tanks. May be permitted in tanks only for the same media that is in the tanks.
- are not approved in pipeline sections directly connected to sea openings or tanks containing flammable liquids which in the event of damage could cause flooding or fire.

Guidance notes

"easily accessible" as defined in MSC/Circ. 734

That means during normal operating conditions:

- .1 located in a space normally entered without the use of tools;
- .2 clear of or protected from obstructions, moving equipment and hot surfaces that prevent operation or servicing
- .3 within arm's reach, or, within reach of a normally employed remote control device".

Type Approval documentation

TAP00001EE rev. 3

Work scope : Renewal, update fire resistance capability acc. to DNV Rules Ship Pt.4 Ch.6 Piping systems, Ed. 2024

- **Test reports**
- Burst pressure tests witnessed by DNV: Style 07, 2inch and 8inch at Victaulic Easton, USA, dated 11.11.24.
- **Documents**
- Installation Guide I-100, Rev. H, dated 03/2023.
- Victaulic General Catalogue, G-103, Rev. E 2020
- DNV Assessment report production site Victaulic Easton, USA, dated 10.07.2023.
- Seal Selection Guide Elastomeric Seal Construction Victaulic data sheet 05.01, Rev AG updated 10/2022

Tests carried out

Tightness test, repeated assembly test, burst pressure test, pull-out test, vibration (endurance) test, pressure pulsation test, vacuum test, fire endurance test "wet" condition.

Refer to the Class Programme DNV CP-0185.

Marking of product

Each pipe coupling shall bear legible and durable marking on the body and on the gasket.

Scope of marking shall be at least as follows:

Coupling Housing

Marking scope	Example
Manufacturer's name or Trademark	"Victaulic" or "V"
Model number	07
Size inch / mm	2"/60,3mm
Traceability	Foundry symbol, Date Code

Gasket

Marking scope	Example
Manufacturer's name or Trademark	"V"
Model/Size/Material	07 2"/60,3mm, color code mark
Additional symbols	Gasket Manufacturer's Symbols
	Date Plug
	Cavity number

Periodical assessment

For retention of the Type Approval, a DNV Surveyor shall perform periodical assessment to verify that the conditions for the Type Approval are complied with. Refer to the Class Programme DNV-CP-0338, Section 4.

In addition, burst pressure testing on selected sizes to be carried out in the course of renewal of the certificate.

To check the validity of this certificate, please look it up in <https://approvalfinder.dnv.com>

--- END OF CERTIFICATE ---