DNV·GL

Certificate No:
TAP000007Z

TYPE APPROVAL CERTIFICATE

This is to certify:

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

with type designation(s)
Style /W77 AGS

Issued to
Victaulic Company
EASTON PA, United States

is found to comply with
DNV GL rules for classification – Ships Pt.4 Ch.6 Piping systems

Application :

See certificate

Temperature range:	**-34°C to +110ºC (-30°F to + 230°F)**
Max. working press.:	**20 bar (290 psi)**
Sizes:	**DN350 (14") to DN600 (24")**

This Certificate is valid until **2018-06-30**.

Issued at **Høvik** on **2016-01-21**
DNV GL local station: **New York** for **DNV GL**

Approval Engineer: **Mohsen Mohebbi**

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.

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Job Id:
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Product description

Victaulic Style /W77 AGS flexible coupling.

Design:

Grooved pipe and 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.

The coupligs are found to comply with Type Approval Programme No. 5-792.20 (Pipe couplings April 2010)

Materials:

Coupling housings: Ductile iron to ASTM A-536 Grade 65-45-12
Bolts and nuts: Carbon steel ASTM A-183 heat-treated to 110, 000 psi minimum tensile strength
Gasket: EPDM

Manufactured by

Victaulic Company
4901 Kesslersville Road,
Easton, PA 18040
USA

Victaulic De Mexico S.de R.L. de C.V.
Avenida Aerospacial 12601
Parque Industrial Sur
Tabalaopa Chihuahua, CHIH.
CP 31385
Mexico

Dalian Refrigeration company Ltd.
No. 106, Liaohe East Road,
Jinzhou District, Dalian Liaoning Province,
China 116033

Responsibility

Victaulic Company
4901 Kesslersville Road,
Easton, PA 18040
USA

Application/Limitation

The wall thickness and the material of the pipes are to be in accordance with the current DNV GL Rules.

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 14” thru 24” Style /W77 flexible coupling is fire tested and is therefore to be regarded as a fire resistant type.

Grade E / EPDM gasket material is fire tested and is therefore of fire resistant type.

The Victaulic couplings may be used for the following systems on board:

Systems	Systems
Flammable fluids (Flash point ≤ 60 °C)	Fresh water

1	Cargo oil lines	+ 5)	21	Cooling water system	+ 1)
2	Crude oil washing lines	+ 5)	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)	+ 4)
5	Scrubber effluent lines	+	25	Sanitary drains	+
6	Main lines	+ 2) 5)	26	Scuppers and discharge (overboard)	- (no)
7	Distribution lines	+ 5)			
Flammable fluids (Flash point > 60°C)			Sounding/ vent		
8	Cargo oil lines	+ 5)	27	Water tanks/Dry spaces	+
9	Fuel oil lines	+ 3) 2)	28	Oil tanks (flash point > 60°C)	+ 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	-(no)
14	Fire main and water spray	+ 3)	30	Service air (non-essential)	+
15	Foam systems	+ 3)	31	Brine	+
16	Sprinkler system	+ 3)	32	C02 system	-(no)
17	Ballast system	+ 1)	33	Steam	+ 6)
18	Cooling water system	+ 1)			
19	Tank cleaning services	+			
20	Non-essential system	+			

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.
4) Above free board deck only.
5) In pump rooms and open decks – only approved fire resistant types.
6) Approved slip type joints as shown in DNV GL Pt.4 Ch.6 Sec.9 Table 11, provided that they are restrained on the pipes, may be used for pipes on deck with a design pressure of 10 bar or less.

If compression couplings include any components which readily deteriorate in case of fire, they are to be of approved fire resistant type as required for Slip-on joints.

Type Approval documentation

Tests carried out

Tightness, vacuum, burst, fire endurance, flexural bend

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

Periodical assessment

For retention of the Type Approval, a DNV GL Surveyor shall perform a survey - every second year and before the expiry date of this certificate to verify that the conditions for the type approval are complied with. The Surveyor shall witness burst testing of samples of couplings selected at random from stock or from the running production as a part of this survey

END OF CERTIFICATE