DNV·GL

Certificate No:
TAP00000JG

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Pipe Couplings

with type designation(s)
Hegawa Standard Fit-to-Size Couplings

Issued to
Hegawa B.V.
Sint-Oedenrode, Netherlands

is found to comply with
DNV GL rules for classification – Ships Pt.4 Ch.6 Piping systems
DNV GL class programme DNVGL-CP-0185 – Type approval – Mechanical joints

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Temperature range:	**0/+90 °C**
Max. working press.:	**10 bar**
Sizes:	**DN50 to DN600**

This Certificate is valid until **2021-04-19**.
Issued at **Høvik** on **2016-10-10**

DNV GL local station: **Rotterdam, Product Certification /Verification**

Approval Engineer: **Simon Ratcliffe**

for **DNV GL**

Digitally Signed By: Marveng, Marianne Spæren
Location: DNV GL Høvik, Norway
Signing Date: 11.10.2016

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.

Product description

Slip-on type couplings with NBR gaskets, not considered fire resistant.

Materials

	DN50 to DN100	DN125 to DN200	DN250 to DN600
Middle ring and follower	Malleable Iron Grade 35-10	Rolled steel to BS EN 10025:1993 S275, (BS 4360 Grade 43A), ductile iron to BS 2789 Grade 420/12	Rolled steel to BS EN 10025:1993 S275, (BS 4360 Grade 43A)
Bolts	Steel Grade 8.8, hot dip galvanised to BS 729	Carbon steel to BS 970-1 Grade 070 M20, hot dip galvanised to BS 729	Carbon steel to BS 970-1 Grade 070 M20, hot dip galvanised to BS 729
Nuts & washers	Steel Grade 4, hot dip galvanised to BS 729	Carbon steel to BS 970-1 Grade 070 M20, hot dip galvanised to BS 729	Carbon steel to BS 970-1 Grade 070 M20, hot dip galvanised to BS 729
Gasket	NBR to BS EN 681-1 : 1996, Type "WA"	NBR to BS EN 681-1 : 1996, Type "WA"	NBR to BS EN 681-1 : 1996, Type "WA"
Finish	Hot dipped galvanised to BS 729	Hot dipped galvanised to BS 729	Hot dipped galvanised to BS 729

Application/Limitation

Not approved for systems where fire resistance is required.
Not approved for systems containing oxygen (more than 25% by volume)
Not approved for scuppers and discharge (overboard), starting/control air, Co2 systems.

Slip on couplings are not permitted in

- bilge lines inside ballast and fuel tanks.
- sea water and ballast lines including air and overflow pipes inside cargo holds and fuel tanks.
- fuel and oil lines including air and overflow pipes inside machinery spaces, cargo holds and ballast tanks.
- non water filled pressure water spraying systems (dry pipe systems).
- in piping sections directly connected to sea openings or tanks containing flammable liquids.

The slip-on couplings are approved for class II and III piping in the following systems:

Allowable systems	**Notes**
Flammable fluids (flash point ≤ 60 °C)	
Cargo oil lines	4)
Crude oil washing lines	4)
Vent lines	3)
Inert gas	
Water seal effluent lines	
Scrubber effluent lines	
Main lines	2), 4)
Distrubution lines	4)
Flammable fluids (flash point > 60 °C)	
Cargo oil lines	4)
Fuel oil lines	2), 3)
Lubricating oil lines	2), 3)
Hydraulic oil lines	2), 3)
Thermal oil lines	2), 3)
Sea water	
Bilge lines	1)

Water filled fire extinguishing systems (eg sprinkler)	3)
Non water filled fire extinguishing systems (eg foam, drencher systems)	3)
Fire main (not permanently filled)	3)
Ballast system	1)
Cooling water system	1)
Tank cleaning services	
Non-essential systems	
Fresh water	
Cooling water system	1)
Condensate return	1)
Non-essential systems	
Sanitary/drains/scuppers	
Deck drains (internal)	6)
Sanitary drains	
Sounding/vent	
Water tanks/dry spaces	
Oil tanks (flash point > 60 °C)	2), 3)
Miscellaneous	
Service air (non essential)	
Brine	
Steam	

Notes – fire resistance
If mechanical joints include any components which may readily deteriorate in case of fire, they are to be of an approved fire resistant type under consideration of the following footnotes:

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. 9.2.3.3.2.2(10) and not used for fuel oil lines.
4) Only in pump rooms and open decks - only approved fire resistant types

Notes - General:
5) Slip type slip-on joints as shown in Table 11. 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.

Type Approval documentation

Hegawa standard fit to size coulings data sheet, 2008
General drawings, DN50 – DN100, DN125 – DN 200, DN250 – DN300, DN350 – DN600.
Burst and leakage test reports (DN50, DN350, DN600), dated 2006-01-18 and 2011-07-04.
Vacuum test report, 16.4005.1-3, dated 5th October 2016.

Tests carried out

Tightness test, burst test, vacuum testing.

Marking of product

Each pipe coupling shall bear legible and durable marking on the body or on a plate fixed securely to the body as follows:

- Manufacturer`s Mark
- Type
- Size
- Maximum Allowable Working Pressure

- Gasket Material

Periodical assessment

For retention of the Type Approval, the DNV GL Surveyor shall perform a survey every second year to verify that the conditions for the type approval are complied with, and to witness burst test and tightness test on samples of couplings selected at random from stock or from the running production.