

TYPE APPROVAL CERTIFICATE

Certificate no.:
TAP00000JG
Revision No:
1

This is to certify:

that the **Expansion Joint for Pipe, Slide Type and Flexible Type**

with type designation(s)
Hegawa FittoSize Coupling

issued to

Hegawa B.V.
Sint-Oedenrode, Noord-Brabant, Netherlands

is found to comply with

DNV rules for classification – Ships Pt.4 Ch.6 Piping systems
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/+90 °C
Max. working press.: 10 bar
Sizes: DN50 to DN600

Issued at **Hamburg** on **2026-07-10**

This Certificate is valid until **2031-07-09**.

DNV local unit: **Rotterdam, Product Certification /Verification**

Approval Engineer: **Christian Kaemmer**

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

HEGAWA FittoSize coupling: Slip-on type couplings with NBR gaskets, restrained by bolts. Trackhead bolts are tightening the moving end-rings towards each other, compressing the wedge-shaped rubber gaskets in the space formed by the end-ring, the flare middle-ring and the pipe surface.

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

HEGAWA FittoSize couplings is type-approved for application for pipe-classes II and III in piping systems as specified in DNV-RU-SHIP Pt.4, Ch. 6, Sec. 9 Table 8, 9 and 10 and classified as type: Slip-on joints of "Slip type".

HEGAWA FittoSize couplings is type-approved for "fire endurance test not required", fire endurance test condition according to DNV-Rules "Ships" Pt. 4, Ch. 6, Sec. 9 Table 9.

Application of this expansion joint inside tanks is only permitted for the same media in the tank.

HEGAWA FittoSize coupling is to be used where compensation of axial movement of clamped pipes is considered necessary. Usage as a connection of pipes is not permitted. Rubber elements shall be replaced by new parts in case of repeated installation or use.

HEGAWA FittoSize coupling is **not** type-approved for:

- Piping arranged in cargo holds, tanks and other spaces which are not easily accessible.
- Piping sections directly connected to the ship's side below the bulkhead deck of passenger ships and freeboard deck of cargo ships or tanks containing flammable fluids:
if: An event of damage could cause fire or flooding.
- Fuel Oil and lube oil systems inside machinery spaces of category A or accommodation spaces.
- Systems where fire resistance is required.
- Systems containing oxygen (more than 25% by volume)

Selection of materials

It shall be noted that the selection of the materials considers the applicable service condition with respect to type of media, flow velocity, media temperature and installation area of the piping system. In particular, the resistance to corrosion, erosion, oxidation and other deterioration during projected service life are to be considered.

References: DNV Rules "Ships" Pt.4 Ch.6 – Section 2 – (table 1) - Materials.

Sea water application

Sea water application includes sea water piping systems and installation of piping systems on open deck.

Type Approval documentation

Hegawa standard fit to size couplings 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.

Burst pressure test reports dated 12-05-2026

Type Approval Assessment Report dated 23-06-2026

Tests carried out

Tightness test, burst pressure 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, 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>