



Certificate No. 02-004521/026274

## TYPE APPROVAL CERTIFICATE

This is to certify that this product complies with the Rules for the classification of ships, Part 1 - General requirements, Chapter 3 - Type approval of products.

TYPE AND DESCRIPTION OF PRODUCT:

**Pipe Couplings type:  
GRIP-G (non-fire resistant)  
GRIP-GF (fire resistant)**

MANUFACTURER:

**BEIJING GRIP PIPE Tech. Co., Ltd.**  
No.32 Jinghai 1<sup>st</sup> Road, BDA  
BEIJING  
CHINA

THE PRODUCT MEETS FOLLOWING RULES/REGULATIONS:

CRS Rules for the classification of ships, Part 8 – Piping  
IACS UR P2.7.4 (Rev.10 Jan 2021)- Mechanical joints  
IACS UR P2.11 (Rev.5 Jan 2021)- Type approval of mechanical joints

FURTHER DETAILS OF THE PRODUCT AND CONDITIONS FOR CERTIFICATION ARE GIVEN OVERLEAF.

APPROVAL IS VALID UNTIL: **2028-07-10**

Place and date: Split, 2024-07-10

Seal

Marinko Popović, dipl.ing.

NOTE: This certificate is not valid for equipment, the design or manufacture of which has been varied or modified from the specimen tested. The manufacturer should notify Croatian Register of Shipping of any modification or changes to the product in order to obtain a valid certificate.

**DETAILED PRODUCT DESCRIPTION:**

Slip-on joint grip type coupling with NBR/EPDM sealing sleeves.  
 Type GRIP-G axially restrained with double anchor rings (non-fire resistant).  
 Type GRIP-GF axially restrained with double anchor rings and fire cover (fire resistant).

Casing material: stainless steel AISI 304, AISI 316L according to ASME SA-240  
 Anchor ring and lining material: AISI 301 according to ASME SA-240  
 Additional materials for type GRIP-GF:  
 -Metal fire barrier: AISI304/AISI316L according to ASME SA-240  
 -Fireproof cloth: High silicon oxygen  
 -Expanded fireproof rubber: Flame retardant fire rubber sheet

Model: GRIP-G26.9 up to GRIP-G168.3 and GRIP-GF26.9 up to GRIP-GF168.3  
 Design pressure: 16 bar  
 Model: GRIP-G219.1 and GRIP-GF219.1  
 Design pressure: 10 bar

Design temperature: -25°C up to 100°C with NBR material  
 Design temperature: -30°C up to 120°C with EPDM material

**APPLICATION / LIMITATIONS:**

The slip-on joint grip type couplings of type GRIP-G and GRIP-GF with size range 26.9 up to 219.1 mm are type approved for installation in piping systems of pipe class II and III.

Approved pipe materials: black carbon steel including hot dip galvanised, CuNiFe alloys, copper and stainless steel.

For piping systems with defined "Fire endurance test condition" as specified in the table below, the coupling type GRIP-GF shall be used. Confirmed fire endurance test condition is "30 min wet". Appropriate footnotes in the table below regarding fire resistance capability are to be observed.

For application with indication "Fire endurance test not required" coupling type GRIP-G may be used.

Piping systems		Classification of pipe system	Fire endurance test condition	Notes
<b>Flammable fluids (flash point ≤ 60°C)</b>				
1.	Cargo oil lines	dry	30 min dry	1)
2.	Crude oil washing lines	dry		1)
<b>Inert gas</b>				
3.	Water seal effluent lines	wet	30 min wet	-
4.	Scrubber effluent lines	wet		-
5.	Main lines	dry	30 min dry	1), 2)
6.	Distribution lines	dry		1)
<b>Flammable fluids (flash point &gt; 60 °C)</b>				
7.	Cargo oil lines	dry	30 min dry	1)
8.	Fuel oil lines	wet	30 min wet	2)
9.	Lubricating oil lines	wet		2)
10.	Hydraulic oil	wet		2)
11.	Thermal oil	wet		2)

Piping systems		Classification of pipe system	Fire endurance test condition	Notes
<b>Seawater</b>				
12.	Bilge lines	dry/ wet	8 min dry + 22 min wet	4)
13.	Water filled fire extinguishing systems (e.g., sprinkler)	wet	30 min wet	-
14.	Non water filled fire extinguishing systems, e.g., foam, drencher systems	dry/ wet	8 min dry + 22 min wet	3)
15.	Fire main (not permanently filled)	dry/ wet	8 min dry + 22 min wet	3)
16.	Ballast systems	wet	30 min wet	-
17.	Cooling water systems	wet	30 min wet	-
18.	Tank cleaning services	dry	Fire endurance test not required	-
19.	Non-essential systems	dry, wet		-
<b>Fresh water</b>				
20.	Cooling water systems	wet	30 min wet	-
21.	Condensate return systems	wet	30 min wet	-
22.	Non-essential piping systems	dry, wet	Fire endurance test not required	-
<b>Sanitary/drains/scuppers</b>				
23.	Deck drains (internal)	dry	Fire endurance test not required	5)
24.	Sanitary drains	dry		-
<b>Sounding/vent</b>				
25.	Water tanks/dry spaces	dry, wet	Fire endurance test not required	-
26.	Oil tanks (flash point > 60 °C)	dry		-
<b>Miscellaneous</b>				
27.	Service air piping systems (non-essential), e.g., breathable sounding system	dry	Fire endurance test not required	-

**Footnotes - Fire resistance capability**

- 1) Not approved for installation in pump rooms and open decks.
- 2) 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.
- 3) Installation limited to on exposed open decks, as defined in SOLAS II-2/Reg. 9.2.3.3.2.2(10).
- 4) Not approved for installation in machinery spaces of category A.

**Footnotes - General:**

- 5) Only above bulkhead deck of passenger ships and freeboard deck of cargo ships.

**TYPE APPROVAL DOCUMENTATION:**

Assembly drawing GRIP-GXXX-00, Version number GRIP-G-01  
Assembly drawing GRIP-GFXXX-00, Version number GRIP-GF-01  
Product catalogue “Beijing Grip Pipe Technology Co., Ltd.”

**MARKING OF PRODUCT:**

Each pipe coupling shall bear legible and durable marking on the body or on a plate fixed securely to the body with the following information:

- Manufacturer’s name or trade mark
- Type designation
- Size in mm/ inch
- PN
- Gasket material
- Casing material

**CONDITIONS FOR CERTIFICATION:**

This certificate is issued on the basis of the test reports and the documentation listed in design appraisal letter 1890/TS/VB/026274 of 2024-07-10.

The selection of the pipe couplings for the corresponding application and the right installation are to be in accordance with the instructions specified in the “Install and Use Maintenance Manual”, Document No: GRIP20120606-02