

CERTIFICATE NUMBER EFFECTIVE DATE EXPIRY DATE ABS TECHNICAL OFFICE 24-2532018-PDA 09-Apr-2024 08-Apr-2029 Houston ESD - Ship Equipment

CERTIFICATE OF

Product Design Assessment

This is to certify that a representative of this Bureau did, at the request of

DRESSER PIPELINE SOLUTIONS, NATURAL GAS SOLUTIONS NA LLC

located at

41 FISHER AVENUE, , BRADFORD, PA, United States, 16701

assess design plans and data for the below listed product. This assessment is a representation by the Bureau as to the degree of compliance the design exhibits with applicable sections of the Rules. This assessment does not waive unit certification or classification procedures required by ABS Rules for products to be installed in ABS classed vessels or facilities. This certificate, by itself, does not reflect that the product is Type Approved. The scope and limitations of this assessment are detailed on the pages attached to this certificate.

Product: Pipe Coupling

Model: Style 38 and Style 40

Endorsements:

Tier: 2 - PDA Issued

This Product Design Assessment (PDA) Certificate remains valid until 08/Apr/2029 or until the Rules and/or Standards used in the assessment are revised or until there is a design modification warranting design reassessment (whichever occurs first).

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or previous to the effective date of the ABS Rules and standards applied at the time of PDA issuance. Use of the Product for non-ABS units is subject to agreement between the manufacturer and intended client.

American Bureau Of Shipping

Mohamed C Boukamcha, Engineer/Consultant

Mohamed C Boukamcha

NOTE: This certificate evidences compliance with one or more of the Rules, Guides, standards or other criteria of ABS or a statutory, industrial or manufacturer's standards. It is issued solely for the use of ABS, its committees, its clients or other authorized entities. Any significant changes to the aforementioned product without approval from ABS will result in this certificate becoming null and void. This certificate is governed by ABS Rules 1-1-A3/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010)

DRESSER PIPELINE SOLUTIONS, NATURAL GAS SOLUTIONS NA LLC

41 FISHER AVENUE

BRADFORD PA

United States 16701 Telephone: 814-362-9200

Fax: 800-362-9363

Email: DPS.info@dresserngs.com

Web: www.dresserngs.com

Tier: 2 - PDA Issued

Product: Pipe Coupling
Model: Style 38 and Style 40

Endorsements:

Intended Service:

Pipe couplings for approved applications, as per 4-6-2/Tables 10 & 11 of the Rules, in shipboard piping systems.

Description:

Slip on couplings with removable center pin pipe stops.

Sizes: 2" through 32" with 5/8 tie bolts (3-28 bolt pattern)

Middle ring material AISI 1020 carbon steel or equivalent with minimum tensile stress 58 ksi and a minimum yield stress 30 ksi.

Alternative material: Type 300 Series Stainless Steels with equivalent minimum tensile and yield stress. (ref. ASTM A240)

Follower ring material A283, Gr. C or equivalent.

Alternative material: Type 300 Series Stainless Steels with equivalent minimum tensile and yield stress. (ref. ASTM A240)

Tie bolts to ASTM A307 and comply with ANSI/ASME B18.2.1 or B18.2.4.5M or equivalent.

Alternative material: Type 300 Series Stainless Steels (ref. ASTM A593)

Nuts to ASTM A563 or A563M and comply with ANSI/ASME B18.2.2 or B18.2.4.6M or equivalent.

Alternative material: Type 300 Series Stainless Steels (ref. ASTM A594)

Rating:

300 psi for NON Fire Resistant / 275 psi for Fire Resistant - 200 °F

Service Restriction:

- 1. Unit Certification is not required for this product. If the manufacturer or purchaser request an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.
- 2. Coupling sizes for use in specific systems are restricted to those which are in compliance with the Rule Cite tables listed below in "Standards"
- 3. Location installation limitations:
- a) Fresh Water systems in accessible locations only.
- b) Sea water cooling system in accessible locations only and inboard of the required shell valves.
- c) Bilge systems in accessible locations only and not in cargo holds or deep tanks.
- d) Ballast systems in accessible locations only or when the pipelines pass through other ballast tanks.
- e) Cargo oil piping on oil tanker in accessible locations, cargo tanks and pump room.
- f) Fuel oil transfer systems on deck and through other fuel oil tanks only. Not acceptable in oil lines in pipe duct keels.
- g) Lube oil transfer system on deck and through other lube oil tanks only. Not acceptable in oil lines in pipe duct keels.
- i) Compressed air systems in accessible locations only.
- j) Sanitary systems in accessible locations only and in board of the required shell valves.
- k) Potable water systems in accessible locations only.
- 1) Fire systems in accessible locations only on deck and inside tanks only. (Also, see comment c) below.
- m) Inert gas system on deck only.
- n) Vents, overflows and sounding piping of tanks to service listed above in accessible locations provided they are not located in such a position that subsequent leakage would create hazards by way of fire, damage to electrical systems or cargo and by release of noxious or toxic vapors in enclosed spaces.

DRESSER PIPELINE SOLUTIONS, NATURAL GAS SOLUTIONS NA LLC

41 FISHER AVENUE

BRADFORD PA

United States 16701 Telephone: 814-362-9200

Fax: 800-362-9363

Email: DPS.info@dresserngs.com

Web: www.dresserngs.com

Tier: 2 - PDA Issued

Comments:

a) The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.

b) All couplings are to have gaskets which are suitable for intended services and in accordance with manufacturer's

Gaskets are to be one of the following depending on the intended service and suitability:

- Grade 27 Buna S Blend
- Grade 42 Buna N Blend
- Fluorocarbon, Butyl
- EPDM or high temperature carded glass (1200 °F). These gaskets may also be of the armored type.
- c) When these couplings are installed in fire fighting systems, only High temperature Carded Glass gaskets or Grade
- 42 Buna N Blend gaskets with the Dresser Coupling Thermal Insulating Shroud are to be used.
- d) The alignment and axial displacement is not to exceed values as per the manufacturer's recommendations (max, 3/8) inch). Installation to ensure that the coupling is not subject to pipe bending stresses.
- e) All couplings are to be provided with means to prevent slippage. This is to be accomplished by center pin pipe stops.
- f) The middle ring is to be made of low carbon steel or stainless steel with a minimum tensile strength of 58,000 psi, and yield strength of at least 30,000 psi. Mill certificates verifying physical properties are to be made available to the attending Surveyor upon request.
- g) The cent stop bolt/pins are to be stainless steel.

Notes/Drawing/Documentation:

Drawing No. GE DRESSER STAINLESS ADD TA, GE DRESSER STAINLESS ADD TA, Revision: -, Pages: -Drawing No. 38-2886, ½ x 7 Style 38 and 40 ABS Couplings with Removable Pipe Stops. Revision: A, Pages: 1 Drawing No. 38-2889, ½ x 7 Style 38 and 40 ABS Couplings with Removable Pipe Stops, Revision: B, Pages: 1 Drawing No. 38-2938, Style 38 and 40 Fire Shroud and Marine Coupling, General Arrangement, 2" NPS Through 32" N, Revision: B, Pages: 1

Terms of Validity:

This Product Design Assessment (PDA) Certificate remains valid until 08/Apr/2029 or until the Rules and/or Standards used in the assessment are revised or until there is a design modification warranting design reassessment (whichever occurs first).

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or previous to the effective date of the ABS Rules and standards applied at the time of PDA issuance. Use of the Product for non-ABS units is subject to agreement between the manufacturer and intended client.

STANDARDS

ABS Rules:

2024 Rules for Conditions of Classification, Part 1, 1-1-4/7.7, 1-1-A3, 1-1-A4, which covers the following: 2024 Marine Vessels Rules 4-6-1/7, 4-6-2/5.9, 4-6-2/9.6, 4-6-4 Table 4, 4-6-2/Tables 10/11/12, 4-6-5/Table 3

National:

ANSI/ASME B18.2.1 or B18.2.4.5M, 2012 Edition ISO 19921 / ISO 19922 for FR couplings, 2005 Edition

DRESSER PIPELINE SOLUTIONS, NATURAL GAS SOLUTIONS NA LLC

41 FISHER AVENUE BRADFORD PA

United States 16701 Telephone: 814-362-9200

Fax: 800-362-9363

Email: DPS.info@dresserngs.com

Web: www.dresserngs.com

Tier: 2 - PDA Issued

International:

NA

Government:

NA

EUMED:

NA

OTHERS:

NA