



CERTIFICATE NUMBER

DATE

14-SQ1245716-PDA

05 September 2014

ABS TECHNICAL OFFICE

CN Shanghai ESD

CERTIFICATE OF DESIGN ASSESSMENT

This is to Certify that a representative of this Bureau did, at the request of
AIGI ENVIRONMENTAL INC. - NANJING

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: **Gasket**

MODEL: **Rubber/PTFE/Graphite/Fiber Gasket**

This Product Design Assessment (PDA) Certificate 14-SQ1245716-PDA, dated 05/Sep/2014 remains valid until 04/Sep/2019 or until the Rules or specifications used in the assessment are revised (whichever occurs first).

This PDA is intended for a product to be installed on an ABS classed vessel, MODU or facility which is in existence or under contract for construction on the date of the ABS Rules or specifications used to evaluate the Product.

Use of the Product on an ABS classed vessel, MODU or facility which is contracted after the validity date of the ABS Rules and specifications used to evaluate the Product, will require re-evaluation of the PDA.

Use of the Product for non ABS classed vessels, MODUs or facilities is to be to an agreement between the manufacturer and intended client.

AMERICAN BUREAU OF SHIPPING

Bin-Hong Wang

Bin-Hong Wang

Engineer

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 manufacturing process without approval from ABS will result in this certificate becoming null and void. This certificate is governed by the terms and conditions as contained in ABS Rules 1-1-A3/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010).

AIGI ENVIRONMENTAL INC.

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Tier: 2

Product: Gasket

Model: Rubber/PTFE/Graphite/Fiber Gasket

Intended Service:

Flange connections & valve bonnets for air, steam, oils, water & gas

Description:

See Attachement

Ratings:

See Attachement

Service Restrictions:

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.

Comments:

1. The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.
2. Except metal/graphite gasket, all the others are NOT suitable for using in the fire-fighting system, shell connection services and lubricating/fuel oil tank valves subjected to a static head of oil, unless the gasket materials are to be tested of passing a recognized fire test acceptable to the Bureau [Some examples of recognized fire tests acceptable to Bureau are: (1) U.K. DOT Appendix D Fire Test(test temp: 1000 degrees Fahrenheit); (2) API 607 Fire Test (test temp: 1250 degrees Fahrenheit); (3) IACS UR P2.11.5.5.6 Fire Endurance Test (test temperature 1472 degrees Fahrenheit)].

Term of Validity:

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STANDARDS

ABS Rules:

- 2014 Rules for Condition of Classification 1-1-4/7.7, 1-1-A3 and 1-1-A4;
- 2014 Steel Vessel Rules 4-6-2/9.13.1, 4-6-4/13.5.3 and 4-7-3/1.11.1;
- 2014 Offshore Support Vessel 4-6-2/9.13.1, 4-6-4/13.5.3 and 4-7-3/1.11.1;
- 2014 Steel Vessel Rules Under 90M 4-4-1/9;
- 2014 Mobile Offshore Drilling Units Rules 1-1-4/9.7, 1-1-A2, 1-1-A3

National:

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Tier: 2

national.

GB/T 4622.3-2007, GB/T 12622-1990, GB/T 12385-1990, GB/T 9129-2003, GB/T 528-1998, GB/T 531-1999,
GB/T 3512-2001

International:

NA

Government Authority:

NA

EUMED:

NA

Others:

NA

Product Specification

NO	Product	Type	Specification	Material	Temperature Range	Pressure
1	Graphite Spiral Wound Gasket	AIGI 35	ID>14mm OD<4m	Metal + Metal Belt + Graphite	-250°C to 870°C	≤ 30MPa
2	PTFE Spiral Wound Gasket	AIGI 35		Metal + Metal Belt + PTFE Belt	-200°C to 260°C	≤ 30MPa
3	Metal Reinforced Flexible Graphite Gasket	AIGI 39	ID>8mm A-G OD<1.5m H OD<1.0m	Quality Graphite + Metal	≤ 450°C (Oxidizing) ≤ 870°C (Non-Oxidizing)	≤ 14MPa
4	Flexible Graphite Gasket	AIGI38	ID>8mm OD<1.5m	Quality Graphite	≤ 450°C (Oxidizing) ≤ 870°C (Non-Oxidizing)	≤ 14MPa
5	PTFE Gasket	AIGI36	ID>5mm OD<1.5m	PTFE	-200°C to 260°C	≤ 10.3 kg/cm ²
6		AIGI1841M	ID>5mm OD<1.5m	Expanded PTFE	-268°C to 315°C	≤ 21MPa
7	Non-Asbestos Fiber Compressed Gasket	AIGI3001M	ID>5mm OD<2m	Aramid Fiber + Others	≤ 240°C	≤ 11MPa(Max. Pressure) ≤ 5MPa(Continuous Pressure)
8		AIGI3501M	ID>5mm OD<2m	Special Fiber + Aramid Fiber	≤ 250°C	≤ 10MPa(Max. Pressure) ≤ 5.5MPa(Continuous Pressure)
9	Enhanced Modified PTFE Gasket	AIGI126	ID>5mm OD<1.5m	PTFE + Glass Fiber	-200°C to 260°C	≤ 4MPa
10	Rubber Gasket	AIGI141	ID>5mm OD<1.5m	NBR	-50°C to 120°C	≤ 1.7MPa
11		AIGI142	ID>5mm OD<1.5m	FKM	-20°C to 200°C	≤ 4MPa
12		AIGI144	ID>5mm OD<1.5m	CR	-40°C to 120°C	≤ 1.7MPa
13		AIGI146	ID>5mm OD<1.5m	EPDM	-50°C to 150°C	≤ 2MPa
14		AIGI147	ID>5mm OD<1.2m	MVQ	-55°C to 230°C	≤ 2MPa