



CERTIFICATE NUMBER

DATE

04-HS455070-1-PDA

27 April 2010

ABS TECHNICAL OFFICE

Houston SED - Ship Systems

CERTIFICATE OF DESIGN ASSESSMENT

This is to Certify that a representative of this Bureau did, at the request of
**NIL-COR LLC, AN ANDRONACO INDUSTRIES COMPANY -
KENTWOOD**

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. It will remain valid as noted below or until the Rules or specifications used in the assessment are revised (whichever occurs first).

PRODUCT: Valve, FRP Ball & Butterfly

MODEL: Series 300M, 310M, 310, 310HD, 410M, 500M, 610M, 700, 710

ABS RULE: 2010 Steel Vessels Rules 1-1-4/7.7, 4-6-3/5.15 and 4-6-3/7.7, 4-6-3/5.1, 4-6-3/5.5, 4-6-3/5.7, 4-6-3/5.9, 4-6-2/5.9.4

OTHER STANDARD: None;

AMERICAN BUREAU OF SHIPPING

Hans P. Haendler

Engineering Type Approval Co-ordinator

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 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).

NIL-COR LLC, AN ANDRONACO INDUSTRIES COMPANY

4855 BROADMOOR AVENUE
KENTWOOD
MI 49512
United States
Telephone: 616-554-3100

Product: Valve, FRP Ball & Butterfly

Model: Series 300M, 310M, 310, 310HD, 410M, 500M, 610M, 700, 710

Intended Service:

Marine & Offshore Application - Piping Systems as listed in 4-6-3/Table 1, Columns I and K, of the Steel Vessels Rules, in Locations where No Fire Endurance Test is Required.

Description:

Series 300M: Graphite-reinforced vinylester body.

Flanged Ball Valves - Sizes 1" - 6"

Ball Check Valve - Size 1" - 4"

Wafer Butterfly Valves - Size 3" - 12"

Full Face Wafer Butterfly Valves - Size 3" - 8"

Lug Butterfly Valves - Size 3" - 8"

Series 310M: Fiberglass - reinforced vinylester body.

Flanged Ball Valves - Sizes 1" - 6"

Ball Check Valve - Size 1" - 4"

Wafer Butterfly Valves - Sizes 3" - 12"

Full Face Wafer Butterfly Valves - Size 3" - 8"

Lug Butterfly Valves - Size 3" - 8"

Series 310: Graphite-reinforced vinylester body.

Wafer Swing Check Valves - Sizes 3" - 12"

Series 300HD: Fiberglass-reinforced vinylester body.

Wafer Butterfly Valves - Sizes 14" - 42"

Series 410M: Fiberglass - reinforced polysulfone body.

Flanged Ball Valves - Sizes 1" - 4"

Ball Check Valve - Size 1" - 4"

Series 500M: Graphite fibre-polyphenylenesulfide body.

Flanged Ball Valves - Sizes 1" - 4"

Series 610M: Fiberglass - reinforced epoxy body.

Flanged Ball Valves - Sizes 1" - 6"

Series 700: Elastomer Lined Composite body.

Full Face Wafer/Lug Butterfly Valves - Sizes 2" - 12"

Series 710: Lined Fiberglass composite body.

Full face Wafer/Lug Butterfly Valves - Sizes 2" - 16"

Ratings:

Temperature limits (-) 50°F to 250°F (see also Service Restrictions)

Ball Valves & Ball Check Valves:

1", 1½", 2" Dia. - Max Working Pressure - 200 psig

3" Dia - Max Working Pressure - 125 psig

4" - 6" Dia - Max Working Pressure - 90 psig

Butterfly Valves

3" - 6" Dia. - Max. Working Pressure - 150 psig

8" - 12" Dia. - Max. Working Pressure - 80 psig

Service Restrictions:

Unit Certification is not required for this product. If the manufacturer or purchaser request an ABS Certificate for

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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 (hydrotest certificate to be submitted upon request).

1. Usage limited to Applications where "No Fire Endurance Test Required" by Table 4-6-3/1 of the Steel Vessels Rules and is to be fitted on only Open Decks and within Tanks, Cofferdams, Void Spaces, Pipe Tunnels and Ducts as No Fire Endurance Test or Flame Spread Test has been carried out in accordance with 4-6-3/5.11 and 4-6-3/5.13 of the Steel Vessels Rules and within the Specific System's Restrictions.
2. Not to be used in Firefighting Systems.
3. Manufacturer's Chemical Resistance Guide is to be referenced for Chemical Applications and Temperature Limits.
4. Wafer Butterfly Valves are not to be used for connections to the Vessel Shell.
5. ONLY Series 300 Graphite-Reinforced Ball & Butterfly Valves are considered conductive (SV Rules 4-6-3/7.7) and can be used in areas classified as 'Hazardous' per SV Rules 4-8-4/27 and MODU Rules 4-1-3/1. All other products are to be used only where 'non-conductive' components are required (or in 'Non-Hazardous Areas').
6. Acceptability of the tests performed may be subject to approval by the Administration of the vessel's Registry.

Comments:

All valves are to be hydrostatically tested by the manufacturer to the pressure required by the pressure rating of the valve. The certificate of test is to be submitted upon request.

Notes / Drawings / Documentation:

This Product Design Assessment (PDA) is valid only for products intended for use on ABS classed vessels, MODUs or facilities which are in existence or under contract for construction on the date of the ABS Rules used to evaluate the Product.

Term of Validity:

This product/model is covered under Product Design Assessment (PDA) Certificate # 04-HS455070-1-PDA, dated 27/Apr/2010. This PDA Certificate expires 26/Apr/2015. It will remain valid for 5 years from date of issue or until the Rules or specifications used in the assessment are revised (whichever occurs first). It is valid for all vessels contracted on or before the date of the Rules used in this evaluation.

STANDARDS

ABS Rules:

2010 Steel Vessels Rules 1-1-4/7.7, 4-6-3/5.15 and 4-6-3/7.7, 4-6-3/5.1, 4-6-3/5.5, 4-6-3/5.7, 4-6-3/5.9, 4-6-2/5.9.4

National:

NA

International:

NA

Government Authority:

NA

EUMED:

NA

Others:

None