



CERTIFICATE NUMBER  
EFFECTIVE DATE  
EXPIRY DATE  
ABS TECHNICAL OFFICE

24-0019117-PDA  
08-Aug-2024  
07-Aug-2029  
Houston ESD - Piping

## CERTIFICATE OF Product Design Assessment

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

### **ROVANCO PIPING SYSTEMS**

located at

**20535 S E FRONTAGE ROAD, , JOLIET, IL, United States, 60431**

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 System, Pre-insulated  
**Model:** Insul 8- Cryo and Rhino- Shield  
**Endorsements:**  
**Tier:** 2 - PDA Issued

This Product Design Assessment (PDA) Certificate remains valid until 07/Aug/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

Electronically signed by:

John Vincent Bog-Acon Ulep,  
Senior Principal 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 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)

## ROVANCO PIPING SYSTEMS

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**Tier: 2 - PDA Issued**

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**Product:** Pipe System, Pre-insulated  
**Model:** Insul 8- Cryo and Rhino- Shield  
**Endorsements:**

### Intended Service:

Insul 8- Cryo: Marine applications including LNG, Propane, Butane systems

Rhino- Shield: Marine applications including Fuel, Oil, Chemicals, Process Fluids systems

### Description:

Insul 8- Cryo: Pre-insulated Stainless Steel or Carbon Steel piping with PIR foam and HDPE or Metal jacket

Rhino- Shield: Pre-engineered double wall containment Piping

### Rating:

Insul-8 Cryo Features:

Stainless Steel or Carbon Steel Carrier Pipe: Available in 1/2" to 36" diameter; Stainless Steel; Schedule 10 or Schedule 20; ASTM A333 Grade 6 SMLS, ASTM A53 Grade B ERW; ASTM A106 Grade B SMLS

Insulations: Polyisocyanurate (PIR) Foam Insulation; Cryogel Insulation

Rhino-Shield Features:

Stainless Steel or Carbon Steel Carrier Pipe: Available in 1/2" to 36" diameter; Stainless Steel; Schedule 10 or Schedule 20; ASTM A106 Grade B SMLS; ASTM A53 Grade B ERW; ASTM A333 Grade 6 SMLS

Above Ground Outer Containment: Spiral Lock Seam Galvanized, Aluminum or Stainless Steel Metal; ASTM A139 Grade B Spiral Welded Carbon Steel with Rhinocoat or Red Mil Primer

Below Ground Outer Containment: HDPE: Water-tight; thickest (0.175" to 0.200") available in the industry; conforming to ASTM D3350; Type III, Category 5, Class C; & Grade P23/P34; Carbon Steel with Rhinocoat Fusion Bonded Epoxy Coating; Stainless Steel; Schedule 10 or Schedule 20

### 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.

### Comments:

1. The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.
2. Customer must specify intended use to determine type and standards for carrier pipe, thicknesses, and choice of insulation and jacketing materials.
3. Pipe specification, pipe material, and wall thickness specified by the customer must be submitted for review for each installation.

### Notes/Drawing/Documentation:

Drawing No. ENGINEERING DRAWING RHINO SHIELD DOUBLE WALL DETAILS

Drawing No. ENGINEERING DRAWINGS FOR LNG insulated

Drawing No. ISO 9001 CERTIFICATION 17066 Rovanco Piping Systems 08-Aug-2022

Drawing No. LNG INSULATED DOUBLE LAYER PIPE HEAT GAIN

Drawing No. LNG INSULATED PIPE WITH AIR SPACE HEAT GAIN

Drawing No. LNG INSULATED PIPE HEAT GAIN

Drawing No. PRODUCT DATA SHEET Stainless-Steel-Roll-Jacketing data sheet

Drawing No. PRODUCT DATA SHEET HiTherm North America LLC\_Product Rebranding Letter\_8-18-23

Drawing No. PRODUCT DATA SHEET Rhino-Shield Double Wall Containment BROCHURE

Drawing No. PRODUCT DATA SHEET A106 Grade B Seamless Pipe Material

Drawing No. PRODUCT DATA SHEET Data sheet ASTM A333 grade 6 Pipe

Drawing No. PRODUCT DATA SHEET PIR300 25-50 Degree Foam\_Flame Smoke Test 2019

Drawing No. PRODUCT DATA SHEET Cryogel\_Z\_Datasheet\_English

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Drawing No. PRODUCT DATA SHEET Insul-8 Cryo Above Below Ground Piping brochure

Drawing No. PRODUCT DATA SHEET Cryogel-Z-US-SDS-03.15.2024

Drawing No. Quality Control Manual 10-24-22

Drawing No. STRESS CALCS LNG SAMPLE

Drawing No. Welding Certs 5-6-24

**Terms of Validity:**

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**STANDARDS****ABS Rules:**

Rules for Condition of Classification (2024): 1A-1-4/7.7, 1A-1-A3 and A4, which covers the following:

Rules for Building and Classing Marine Vessels (2024): 4-6-1/7.1, 4-6-2/5.11, 5C-8-5, 5C-8-6 and 5C-13-7

Rules for Conditions of Classifications – Offshore Units and Structures (2024): 1B.1.4/9.7, 1B-1-A2 and A3, which covers the following:

Rules for Building and Classing Mobile Offshore Units (2024): 4-2-2/9

**National:**

NA

**International:**

ASTM E84-2018b

**Government:**

NA

**EUMED:**

NA

**OTHERS:**

N/A