



CERTIFICATE NUMBER	20-HG1945654-PDA
EFFECTIVE DATE	25-Feb-2020
EXPIRY DATE	24-Feb-2025
ABS TECHNICAL OFFICE	Hamburg Engineering Department

CERTIFICATE OF Product Design Assessment

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

SANHA GMBH & CO. KG

located at

**HAUPTSTRASSE 76, D-01909 GROSSHARTHAU-SCHMIEDEFELD,
Germany**

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 Press Fitting System

Model SANHA Therm series 24000 and SANHA Therm Industry series 28000 carbon steel fittings in combination with welded tubes:

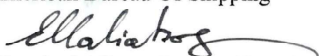
SANHA Therm and SANHA Therm DZ. Sealing ring: Black EPDM/Red...

This Product Design Assessment (PDA) Certificate remains valid until 24/Feb/2025 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


Efstratios Maliatsos, Engineer/Consultant

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)

SANHA GMBH & CO. KG

HAUPTSTRASSE 76

D-01909 GROSSHARTHAU-SCHMIEDEFELD

Germany

Telephone: +49 2054 9250

Fax:

Email: info@sanha.com

Web: <http://www.sanha.com>

Tier: 3 - Type Approved, unit certification not required

Product: Pipe Press Fitting System

Model: SANHA Therm series 24000 and SANHA Therm Industry series 28000 carbon steel fittings in combination with welded tubes:

SANHA Therm and SANHA Therm DZ. Sealing ring: Black EPDM/Red FKM.

Intended Service:

For use in Class III Fresh/Seawater, Fire Main, Water Spray, Foam, Sprinkler, Sanitary, Water, Heating, Fuel/Lubrication/Hydraulic Oil and Compressed Air Piping Systems.

Description:

Pipe fitting system with O-ring seals. Fittings are pressed (crimped) in place by means of specially dedicated pressing tools.

Fitting and pipes of unalloyed steel to DIN/EN 10305-3 (E195): 2016-08, Material No. 1.0034, Seal rings: Black EPDM/Red FKM.

SANHA carbon steel system pipe also available with either externally galvanized surface (SANHA Therm) or in the internally and externally galvanized version (SANHA Therm DZ).

Rating:

MAWP up to 16 bar, W.T. -15°C to 120°C for SANHA Therm series 24000 and -15°C to 200°C for SANHA Therm Industry series 28000 with pipe sizes (O.D. x t) [mm]: 12 x 1.2 mm up to 89.9 x 2.0 mm

MAWP up to 12 bar, W.T. -15°C to 120°C for SANHA Therm series 24000 and -15°C to 200°C for SANHA Therm Industry series 28000 with pipe sizes (O.D. x t) [mm]: 108 x 2.0 mm

Service Restriction:

1. Unit Certification is not required for this product as per 4-6-1/Tab. 2 of the 2020 Marine Vessels Rules.
2. 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.
3. All pipes are to be hydro statically tested according 2-3-12/29 of the 2020 Marine Vessels Rules and an affidavit covering this test may be accepted by the Surveyor.
4. Not to be used in potable water systems and for flammable fluids with flash point below 60°C.
5. Ferrous materials used in piping systems operating at lower than -18°C are to have adequate notch toughness properties.
6. These pipes are not to be used on Gas Carriers cargo piping without prior notice to ABS.

Comments:

1. Each particular application, including deck/bulkhead penetrations, of the pressure system is to be specifically approved in connection with the relevant system and installation.
2. Upon installation on board the vessel, the Surveyor is to verify that a pressure relief valve is provided and set in accordance with 4-6-2/9.9 of the 2020 Marine Vessels Rules.
3. Use of the fittings pipe system in accordance with manufacturer's instructions.
4. The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.

Notes/Drawing/Documentation:

Drawing No. Correspondence, SANHA Therm declaration of conformity, Revision: -, Pages: 1

Drawing No. Correspondence, OfferAcceptance, Revision: -, Pages: -

Drawing No. SANHA Therm application form ABS, SANHA Therm PDA Revalidation form ABS, Revision: -, Pages: -

Terms of Validity:

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STANDARDS

ABS Rules:

2020 Marine Vessels Rules: 1-1-4/7.7, 1-1-A3, 1-1-A4, 2-3-12/29, 4-6-1/7.1, 4-6-2/5.9, 4-6-2/9.9, 4-6-4/13.7.1, 4-6-6/3.3, 4-6-6/5.11.3, 4-6-7/3.5.1, 4-6-7/5.3.2

2019 Mobile Offshore Unit Rules: 1-1-4/9.7, 1-1-A2, 1-1-A3, 4-2-2/5, 4-2-2/11, 4-2-2/17, 4-2-6/3.7, 4-2-6/5.5

National:

NA

International:

ISO 19921:2005 (Reviewed 2009)

Government:

NA

EUMED:

NA

OTHERS:

IACS Requirements UR P2 & P2 (Rev.5 Nov 2001 & Rev. 9 Oct 2018)