



## ***Confirmation of Product Type Approval***

Please refer to the "Service Restrictions" shown below to determine if Unit Certification is required for this product. This certificate reflects the information on the product in the ABS Records as of the date and time the certificate is printed.

Pursuant to the Rules of the American Bureau of Shipping (ABS), the manufacturer of the below listed product held a valid Manufacturing Assessment (MA) with expiration date of 24/JUN/2020. The continued validity of the Manufacturing Assessment is dependent on completion of satisfactory audits as required by the ABS Rules.

And; a Product Design Assessment (PDA) valid until 19/OCT/2018 subject to continued compliance with the Rules or standards used in the evaluation of the product.

The above entitle the product to be called Product Type Approved.

The Product Design Assessment is valid 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.

ABS makes no representations regarding Type Approval of the Product for use on vessels, MODUs or facilities built after the date of the ABS Rules used for this evaluation.

Due to wide variety of specifications used in the products ABS has evaluated for Type Approval, it is part of our contract that; whether the standard is an ABS Rule or a non-ABS Rule, the Client has full responsibility for continued compliance with the standard.

**Product Name: Piping System, Mechanical Joint**

**Model Name(s): Fittings: NiroSan series 9000, NiroSan Gas series 17000,  
NiroSan Industry series 18000 Pipes: NiroSan series 9000, NiroSan F series  
9700, NiroSan ECO series 9600, NiroTherm series 9100**

**Presented to:**

SANHA GMBH & CO. KG  
HAUPTSTRASSE 76  
Germany

**Intended Service:**

Fresh water: cooling water system, condensate return, potable water, dry and wet sprinkler system and non-essential systems [swimming pool, whirlpool and so forth]. Sanitary / drains / scuppers: deck and pool drains [internal], sanitary drains, scuppers and discharge [overboard]. Sounding / vent: water tanks, dry spaces, oil tanks [flash point >60 Deg C]. Inert gas: water seal effluent lines, scrubber effluent lines, main lines, distributions lines. Miscellaneous: brine, control air, service air [non-essential], air conditioning systems, [media: condensed water, ethylene glycol], chilled water

**Description:**

Stainless steel Press fitting system Pipe tube system: Press fittings of austenitic stainless steel (316L/1.4404 and 1.4408) and stainless steel tube system made of austenitic stainless steel (316L/1.4404 with smoothening of the weld seam, 444/1.4521, 304/1.4301), produced by TIG welding process with annealing. Range of diameter: 15mm up to 108mm All these pipes can be combined with three types of fittings – NiroSan Series 9000 (with EPDM sealing ring), NiroSan Gas Series 17000 (with HNBR sealing ring), and NiroSan Industry Series 18000 (with FKM sealing ring)

**Tier:**

3

**Ratings:**

Maximum Working Pressure NiroSan and NiroSan F pipes: 16 bar up to 108 mm

NiroSan ECO and NiroTherm pipes: 16 bar up to 88.9mm and 12 bar up to 108mm  
 Temperature Range EPDM sealing ring: -30 Deg C to +120 Deg C HNBR sealing  
 ring: -20 Deg C to +70 Deg C FKM sealing ring: -20 Deg C to +200 Deg C Pipe  
 Sizes: see Attachment.

**Service Restrictions:**

Unit Certification is not required for these products. Only EPDM/HNBR/FKM  
 sealing rings are approved to be used on ABS classed, vessels, MODU or facilities.  
 NiroSan Press joints are not to be used on CO2, Starting and control air systems.  
 The tube system may not be used in piping systems of Class I and Class II. The  
 tube system approved herein is not to be used on lines carrying toxic and  
 flammable fluids. NiroSan Press joints, which in the event of damage could cause  
 fire or flooding, are not to be used in piping sections directly connected to the sea  
 openings or tanks containing toxic and flammable fluids.

**Comments:**

The selection of the fittings and pipes for the corresponding application and the  
 right mounting with the stipulated pressing tool is to be in accordance with the  
 instructions of the manufacturer;

**Notes / Documentation:**

Drawing No. ABS Test Proposal, Test Proposal for Extension of Approval,  
 Revision: -, Pages: 1 Drawing No. Asbestos free declaration, Asbestos Free Form,  
 Revision: -, Pages: 1 Drawing No. Copy of ABS test proposal 11-28-2013, Initial  
 Test Proposal, Revision: -, Pages: 1 Drawing No. Correspondence,  
 Correspondence 22-05-2015, Revision: -, Pages: 1 Drawing No. Correspondence,  
 Correspondence 22-05-2015 2nd, Revision: -, Pages: 1 Drawing No. IMA Test  
 Report K042\_14, Test results for Extension of Approval, Revision: -, Pages: 1  
 Drawing No. Pressure Calculations NiroSan, Pressure Calculations, Revision: -,  
 Pages: 1 Drawing No. SANHA NiroSan System Approval Range, PDA Range of  
 Approval, Revision: -, Pages: 1 Drawing No. SANHA NiroSan System Catalogue,  
 Sanha Product Catalogue, Revision: -, Pages: 1 Drawing No. Type Approval  
 NiroSan - Schmiedfeld, PDA Request Form, Revision: -, Pages: 1 Drawing No.  
 mechanical joining process, Technical Manual - Joining Process, Revision: -,  
 Pages: 1

**Term of Validity:**

This Product Design Assessment (PDA) Certificate 13-LD1089318-1-PDA, dated  
 30/Jun/2015 remains valid until 19/Oct/2018 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.

**ABS Rules:**

Classification of Drilling Systems 2012 (Up-dated Feb 2014), 1-1-4/9.7, 1-1-A2 and  
 3, 4/Table 1, 5/3.3, 6/7.1 Rules for Building and Classing Steel Vessels (2015)  
 1-1-4/7.7, 1-1-A3 and 4, 2-3-12, 4-6, 2-4-4/17, 4-6-2/5.9 and 5.15. Mobile Offshore  
 Drilling Units (2015) 1-1-4/9.7, 1-1-A2 and 3, 4-2-2/5 Bulk Carriers for Service on  
 Great Lakes (1978) Up-date April 2008 1-1-4/7.7, 1-1-A3 and 4 Steel Vessels for  
 Service on Rivers and Intracoastal Waterways (2015) 1-1-4/7.7, 1-1-A3 and 4,  
 Steel Vessels Under 90 Meters (295 Feet) in Length (2015) 1-1-4/7.7, 1-1-A3 and  
 4, Offshore Support Vessels (2015) 1-1-4/7.7, 1-1-A3 and 4.

**National Standards:****International Standards:**

Material No. 1.4404/316L, 1.4521/444, 1.4301/304, according to DIN EN 10088  
 and fabricated according to DIN EN 10312 and DVGW - W 541

**Government Authority:****EUMED:****Others:****Model Certificate****Model Certificate No****Issue Date****Expiry Date**

PDA

13-LD1089318-1-PDA

30/JUN/2015

19/OCT/2018



## ABS Programs

ABS has used due diligence in the preparation of this certificate and it represents the information on the product in the ABS Records as of the date and time the certificate was printed. Type Approval requires Drawing Assessment, Prototype Testing and assessment of the manufacturer's quality assurance and quality control arrangements. Limited circumstances may allow only Prototype Testing to satisfy Type Approval. The approvals of Drawings and Products remain valid as long as the ABS Rule, to which they were assessed, remains valid. ABS cautions manufacturers to review and maintain compliance with all other specifications to which the product may have been assessed. Further, unless it is specifically indicated in the description of the product; Type Approval does not necessarily waive witnessed inspection or survey procedures (where otherwise required) for products to be used in a vessel, MODU or facility intended to be ABS classed or that is presently in class with ABS. Questions regarding the validity of ABS Rules or the need for supplemental testing or inspection of such products should, in all cases, be addressed to ABS.