



CERTIFICATE NUMBER	21-2063743-PDA
EFFECTIVE DATE	06-Jan-2021
EXPIRY DATE	05-Jan-2026
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

TEADIT INTERNATIONAL PROD. GMBH

located at

EUROPASTRASSE 12, A-6322 KIRCHBICHL, Austria

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.

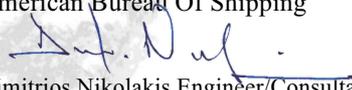
Product: Gasket
Model: 24SH, 30SH, TF1570, TF1574, TF1580, TF1590, NA1002, NA1005, NA1006, NA1100, NA1122, SWG 913/913M
Endorsements:
Tier: 3 - Type Approved, unit certification not required

This Product Design Assessment (PDA) Certificate remains valid until 05/Jan/2026 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


Dimitrios Nikolakis, 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)

TEADIT INTERNATIONAL PROD. GMBH

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Tier: 3 - Type Approved, unit certification not required

Product: Gasket

Model: 24SH, 30SH, TF1570, TF1574, TF1580, TF1590, NA1002, NA1005, NA1006, NA1100, NA1122, SWG 913/913M

Endorsements:

Intended Service:

Marine & Offshore Application.

Description:

24SH is a large gasket sheet produced from 100% pure, multi-directionally expanded PTFE.

30SH is a large gasket sheet produced from 100% pure, multi-directionally expanded PTFE.

TF1570 and TF1574 are structured PTFE - Gasket - Sheet produced from virgin PTFE resin filled with hollow glass micro spheres.

TF1580 is a structured PTFE - Gasket - Sheet and produced from virgin PTFE resin filled with Barium Sulfate.

TF1590 is a structured PTFE - Gasket - Sheet and produced from virgin PTFE resin filled with Silica.

NA1002 is a compressed non-asbestos jointingsheet material produced from Aramid fibres, bonded with Nitrile rubber (NBR). It is being manufactured by means of a hot calender process under quality control standards which are registered under ISO 9001 certification.

NA1005 is a compressed non-asbestos jointingsheet material produced from Aramid fibres, bonded with Nitrile Rubber (NBR). It is being manufactured by means of a hot calender process under quality control standards which are registered under ISO 9001 certification.

NA1006 is a non-asbestos jointing-sheet material produced from cellulose fibres, bonded with Nitrile rubber (NBR). It is being manufactured by means of a hot calender process under quality control standards, registered and certified under ISO 9001.

NA1100 is a universal jointing sheet with high temperature and pressure resistance, manufactured from graphite and carbon fibre, bonded with Nitrile rubber (NBR). It is manufactured by means of a hot calender process under quality control standards which are registered and certified under ISO 9001.

NA1122 is a compressed non-asbestos sheet gasket material produced from a combination of inorganic fibers, bonded with nitrile rubber (NBR). It is being manufactured by means of a hot calender process under quality control standards which are registered under ISO 9001 certification.

Spiral-Wound Gaskets (SWG) 913/913M are made of a preformed metallic strip and a soft filler material (PTFE or graphite), wound together under pressure, and optionally with an inner and/or outer guide ring. The metal strip holds the filler.

Rating:

24SH

Temperature Min./continuous Max.: -240°C/270°C

Pressure: Max. 200 bar

Color: white

30SH

Temperature Min./continuous Max.: -268°C/260°C

Pressure: Max. 200 bar

Color: white

TF1570, T1574

Temperature Min./Max.: -210°C/260°C

Pressure: Max. 55 bar

Color: blue

TF1580:

Temperature Min./Max.: -210°C/260°C

Pressure Max.: 83 bar

Color: Off-White

TF1590:

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Temperature Min./Max: -210°/260°C

Pressure Max.: 83 bar

Color: Fawn

NA1002

Temperature Max./Continuous Max. 400°C / 260°C

Pressure Max./ Continuous Max: 110 bar / 80 bar

Color: Green

NA1005

Temperature Max./Continuous Max. 400°C / 240°C

Pressure Max./ Continuous Max: 110 bar / 50 bar

Color: Blue

NA1006

Temperature Max./Continuous Max. 450°C / 270°C

Pressure Max./ Continuous Max: 130 bar / 70 bar

Color: Black

NA1100

Temperature Max./Continuous Max. 450°C / 270°C

Pressure Max./ Continuous Max: 130 bar / 70 bar

Color: Black

NA1122

Temperature Max./Continuous Max. 550°C / 430°C

Pressure Max./ Continuous Max: 150 bar / 102 bar

Color: Black

Spiral-wound Gaskets (SWG) 913/913M

Max Temperature for PTFE filler material: 260°C

Max Temperature for Grafite filler material: 450°C

Max Temperature with steam and under inert conditions: 650°C

Service Restriction:

- 1) Unit Certification is not required for this product.
- 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) No to be used in the following systems:
 - a. for fire mains and hydrants unless adequately protected as per 4-7-3/1.11.1 of Marine Vessels Rules 2021.
 - b. for connection to the shell where the failure of the material in the vent of a fire would give rise to a danger of flooding as per 4-6-2/9.13.1 of Marine Vessels Rules 2021.
 - c. for remote closure of valves on fuel oil tanks unless protected adequately to ensure effective closure facility in the vent of fire as per 4-6-4/13.5.3 of Marine Vessels Rules 2021.

Comments:

- 1) The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.
- 2) Physical properties and manufacturer's acceptance criteria are to meet the design/application requirements.
- 3) Chemical compatibility as per manufacturer's recommendation.

Notes/Drawing/Documentation:

Drawing No. Declaration of conformity signed, DoC, Revision: -, Pages: -

Drawing No. Spiral seals 913 M acc. ASME B 16, Standard Dimensions ASME B16.20, Revision: -, Pages: -

Drawing No. Spiral seals 913M acc. EN 1514-2 2005 DE, Standard Dimensions EN1514, Revision: -, Pages: -

Drawing No. Standards Dimensions V1-2019-293-293, Standard Dimensions, Revision: -, Pages: -

Drawing No. TA ISO 14001 E, certificate, Revision: -, Pages: -

Drawing No. TA ISO 9001 E, certificate, Revision: -, Pages: -

Drawing No. act on form alert, request, Revision: -, Pages: -

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Tier: 3 - Type Approved, unit certification not required

Terms of Validity:

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STANDARDS

ABS Rules:

- 2021 Rules for Building and Classing Marine Vessels: 1-1-4/7.7, 1-1-A3, 1-1-A4, 4-6-1/3.5, 4-6-1/7.5.2, 4-6-2/5.15, 4-6-2/9.5, 4-6-2/9.13.1, 4-6-2/9.15, 4-6-4/13.5.3, 4-6-4/15.3.2, 4-7-3/1.11.1
- 2021 Rules for Building and Classing Mobile Offshore Units: 1-1-A2, 1-1-A3, 1-1-4/9.7.

National:

ASTM F36 (Edition 2015), F37 (Edition 2019), F38 (Edition 2018), F104 (Edition 2020), F152 (Edition 2017), F146 (Edition 2019), F1315 (Edition 2017), F495 (Edition 2019), D792 (Edition 2013).
DIN 28090-2 (Edition 2014), DIN 52913 (Edition 2002), DIN 3535 (Edition 2019).
EN 13555 (Edition 2014).

International:

NA

Government:

NA

EUMED:

NA

OTHERS:

NA

21-2063743-PDA

Attachment to 21-2063743-PDA covering
TEADIT Deutschland GmbH, Gaskets

Models:

24SH, 30SH, TF1570, TF1574, TF1580, TF1590, NA1002,
NA1005, NA1006, NA1100, NA1122, SWG 913/913M

Issuance Date: 6-January-2021

Expiry Date: 5-January-2026

Intended Service:

Marine & Offshore Applications

Drawing List

Engineering Office:	Hamburg Engineering Department	
Submitter:	TEADIT INTERNATIONAL PROD. GMBH (444760)	
Drawing No	Revision No	Drawing Title
act on form alert	-	request
TA_ISO 14001_E	-	certificate
TA_ISO 9001_E	-	certificate
Declaration of conformity_signed	-	DoC
Standards_Dimensions_V1-2019-293-293	-	Standard Dimensions
Spiral seals 913 M acc. ASME B 16	-	Standard Dimensions ASME B16.20
Spiral seals 913M acc. EN 1514-2 2005_DE	-	Standard Dimensions EN1514

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Drawing List as per 16-1549485-1PDA of October 2019:

Engineering Office:	Hamburg Engineering Department	
Submitter:	TEADIT DEUTSCHLAND GMBH (444760)	
Drawing No	Revision No	Drawing Title
PDA Request DOC200819-20082019092208	-	PDA Request DOC200819-20082019092208
Correspondence	-	Fee Confirmation

Drawing List as per 16-1549485-PDA of August 2016

Engineering Office:	Hamburg Engineering Department	
Submitter:	TEADIT DEUTSCHLAND GMBH (444760)	
Drawing No	Revision No	Drawing Title
Product information TEADIT NA 1122	-	Product information TEADIT NA 1122
Product Information TEADIT 30SH	-	Product Information TEADIT 30SH
Correspondence	-	Type approval request form

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Drawing List as per 15-145552-1-PDA of January 2016:

Engineering Office:	Hamburg Engineering Department	
Submitter:	TEADIT DEUTSCHLAND GMBH (444760)	
Drawing No	Revision No	Drawing Title
2015-11-23 Application Form	-	Application Form
2015-11-23 Declaration of Conformity	-	Declaration of Conformity
Correspondence	-	CorrespondenceNamenaenderung

Drawing List as per 15-1296050-PDA of January 2015:

Engineering Office:	Hamburg Engineering Department	
Submitter:	TEADIT DEUTSCHLAND GMBH (444760)	
Drawing No	Revision No	Drawing Title
1570_BAM_D_31	-	1570_BAM_D_31
1580_BAM_D_26	-	1580_BAM_D_26
Correspondence	-	2013-06-04 GL NA1002, Na1005, NA1100
2013-09-16 BAM TF1590	-	2013-09-16 BAM TF1590
24SH_BAM_D_31	-	24SH_BAM_D_31
Correspondence	-	ABSapplicationInclAsbFreeDecl
Correspondence	-	certificate_Teadit_24SH_TF1570_TF1580_TF1590_TF1510
Correspondence	-	CorrespondenceConfirmation
Correspondence	-	GL 5476708
Correspondence	-	GL 5476808
TEADIT_24SH_DE	-	TEADIT_24SH_DE
TEADIT_24SH_EN	-	TEADIT_24SH_EN
TEADIT_NA-1002_DE	-	TEADIT_NA-1002_DE
TEADIT_NA-1002_EN	-	TEADIT_NA-1002_EN
TEADIT_NA-1005_DE	-	TEADIT_NA-1005_DE
TEADIT_NA-1005_EN	-	TEADIT_NA-1005_EN
TEADIT_NA-1040_EN	-	TEADIT_NA-1040_EN
TEADIT_NA-1100_DE	-	TEADIT_NA-1100_DE
TEADIT_NA-1100_EN	-	TEADIT_NA-1100_EN
TEADIT_SWG_DE_2013345	-	TEADIT_spiral_wound_gaskets_DE_2013345
TEADIT_SWG_EN_2013345	-	TEADIT_spiral_wound_gaskets_EN_2013345
TEADIT_TF_1570_DE	-	TEADIT_TF_1570_DE
TEADIT_TF_1570_EN	-	TEADIT_TF_1570_EN
TEADIT_TF_1580_DE	-	TEADIT_TF_1580_DE
TEADIT_TF_1580_EN	-	TEADIT_TF_1580_EN
TEADIT_TF_1590_DE	-	TEADIT_TF_1590_DE
TEADIT_TF_1590_EN	-	TEADIT_TF_1590_EN