Certificate no.:
TAP000031N

TYPE APPROVAL CERTIFICATE

This is to certify:

that the Gaskets and Sealings

with type designation(s)
SG-IR

issued to
Novus Industrial Technology (Jiangsu) Co., Ltd.
Jingjiang, Jiangsu Province, **China**

is found to comply with
GB/T 4622.3-2007 – Specification of spiral wound gaskets
GB/T 12385-2008 – Standard test method for sealability of gaskets for pipe flanges
GB/T 12622-2008 – Standard test method for compressibility and recovery of gaskets for pipe flanges
ASME B16.20-2023, Metallic Gaskets for Pipe Flanges
ASME B16.5-2020, Pipe Flanges and Flanged Fittings: NPS 1/2 through NPS 24 Metric/Inch Standard

Application:

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.

Issued at **Hamburg** on **2026-04-20**
This Certificate is valid until **2031-04-19**.
DNV local unit: **Jiangyin NB & CMC**

for **DNV**

Approval Engineer: **Thilo Pabst**

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to USD 300 000.

PRODUCT DESCRIPTION

Asbestos free stainless steel Spiral Wound Gasket SG-IR, with Inner & Outer/centering Ring and a V-shaped metal strip with a filler from flexible Graphite or PTFE.
Designed acc. ASME B16.20 / GB/T4622 and intended for pipe flanges acc. ASME

Material:

Spiral Wound Gasket Type	**Standard**	**SG-IR**
Inner Ring	ASTM A240M-24	304, 304L, 316, 316L or equivalent austenitic stainless
Outer (locating/centering) Ring		
Metal Strip/Winding		
Filler	JB/T 7758.2 / GB/T 4622.3 JB/T 6618 / GB/T 4622.3	Graphite [1] or PTFE [2]

Note1: Graphite Filler: Compressibility 18% to 30%, Recovery ≥ 17% (GB/T12622, GB/T4622.3)
Note2: PTFE Filler: Compressibility 18% to 30%, Recovery ≥ 15% (GB/T12622, GB/T4622.3)

Properties:

Technical data	**unit**	**Standard**	**SG-IR** [a)]
Nominal diameter	Inch (DN)	ASME B16.20-2017	NPS ½" to **60"** (DN15 to **DN1500**) [b)]
Ring thickness	mm / Inch		2.97 to 3.33 mm / 0.117" to 0.131"
Pressure Rating	LB (bar)	ASME B16.5	150 LB (20 bar) to 2500 LB (420 bar)
Temperature Range	°C	./.	Graphite: -196°C to 650°C [c)] PTFE: -196°C to 260°C [c)]
Leakage rate (ambient / 25°C)	mg/s*m	ASME B16.20-2017	≤ 0.0137 [d)]
Leakage rate (Nitrogen / -196°C)	cm³/s	GB/T12385	≤ $1.0*10^{-3}$ [d)]

Note a): values partly depending on size and temperature
Note b): covered all sizes between NPS ½" and 60" acc ASME B16.20-2023
Note c) : acc. GB/T4622.3 and JB/T 7758.2 (Graphite) and JB/T 6618 (TPTFE)
Note d): test specimen : SG-IR DN80

APPLICATION/LIMITATION

This is a Non-Class Type Approval Certificate (TA-NONCL - for products where a Type Approval is not mandatory) on basis of test according to international standards.

The above listed types of Spiral Wound Gasket may be used under consideration of the mechanical and technical characteristics as well as physical and chemical properties for the following applications:

- On board of ships and other structures classed by DNV as follows:
  Ship's piping systems as specified in DNV Rules Pt.4, Ch.6 Piping systems, pressurized items and machinery containing including cryogenic applications as following:
  Cargo lines on Oil- and Gas Tanker (DNV Pt.5 Ch.5 – Oil Tanker and Pt.5 Ch. 7 – Liquefied Gas Tanker),
  Gas as Fuel and acc. DNV Pt. 6 Ch.2 - Gas Fuelled Ship Installations: Sec.5 – LNG, Sec.6 LFL, Sec.13- LPG.
  e.g. the following medias: non-flammable gases, oil, fuel oil, water, LNG, LPG

The selection of the gaskets for the corresponding application and appropriate installation has to be in accordance with the instructions of the manufacturer.

Piping/Gaskets shall be hydrostatically tested: 1.5 times of the system design pressure (DNV Pt.4 Ch.6 – Piping)

Piping of all cargo handling systems shall be electrically bonded. (DNV Pt.5 Ch.5 – Oil Tanker and Pt.5 Ch. 7 – Liquefied Gas Tanker).

Limitation / Exclusions

- Pipelines on chemical and gas tankers carrying flammable gases (except LNG, LPG), noxious media, propylene oxide and mixtures of ethylene and propylene oxide.

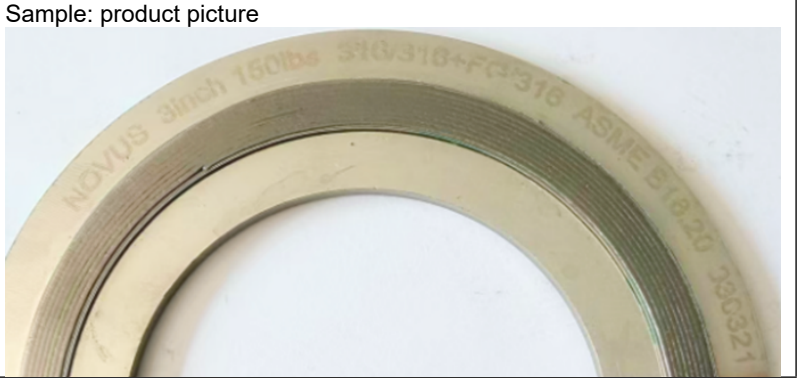
TYPE APPROVAL DOCUMENTATION

TESTS CARRIED OUT

Documentation of tests performed are the basis for this Type Approval as referenced in the list above and DNV Ref.-Nos. 262.1-044159

MARKING OF PRODUCT

For traceability to this Type Approval products shall bear legible and durable marked as following:

Product printing: - Manufacturer's registered trademark: - Size - Nominal Pressure - Materials (inner ring/outer ring+Filler) - Standard Additional identification information - Color of the filler: Graphite = dark grey PTFE = white	Sample: product picture 

PERIODICAL ASSESSMENT

For retention of the Type Approval, a DNV Surveyor shall perform periodical assessment to verify that the conditions for the Type Approval are complied with (refer to the Class Programme DNV-CP-0338, Sec. 4).

To check the validity of this certificate, please look it up in https://approvalfinder.dnv.com

END OF CERTIFICATE