

TYPE APPROVAL CERTIFICATE

This is to certify:**that the Gaskets and Sealings**with type designation(s)
MICALIT P, MICALIT F

issued to

Donit Tesnit d.o.o.
Medvode, Slovenia

is found to comply with

ASTM F36:15(2021) Standard Test Method for Compressibility and Recovery of Gasket Materials**ASTM F152:95(2017) Standard Test Methods for Tension Testing of Nonmetallic Gasket Materials****DIN 28090-2 Static gaskets for flange connections – Gaskets made from sheets – Part 2: Special test procedures for quality assurance****DIN 52913 Testing of static gaskets for flange connections – Compression creep testing of gaskets made from sheets**

Application:**Products approved by this certificate are accepted for installation on all vessels classed by DNV.**

Type:	Temperature range:	Max. working press.:
MICALIT P	up to 950°C	40 bar
MICALIT F	up to 950°C	5 bar

Issued at **Hamburg** on **2026-03-17**This Certificate is valid until **2031-03-16**.for **DNV**DNV local unit: **Rijeka**Approval Engineer: **Christian Kaemmer**
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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 300,000 USD.

Product description

MICALIT P: Flat gasket material consisting of Phlogopite mica, Silicon resin and Tanged stainless-steel insert (AISI 316L; 0,1 mm).

MICALIT F: Flat gasket material consisting of Phlogopite mica, Silicon resin.

Dimensions of gasket material:

Sizes: 1000 x 1200 mm
 Thicknesses: 0.5 mm, 1.0 mm, 1.5 mm, 2.0 mm, 3.0 mm
 Tolerances: Length and width: ± 50 mm; Thickness: ± 0.1 mm for thickness up to 1.0 mm / ± 10 % for thickness above 1.0 mm

Flat gasket material **MICALIT P** and **MICALIT F** do not contain asbestos.

Technical data	Standard	MICALIT P	MICALIT F	Unit
Max. operating temperature		950	950	°C
Max. operating pressure		40	5	bar
Mica content		80	92	%
Binder content		7	8	%
Stainless steel content		13	-	
Density	DIN 28090-2	2	1,9	g/cm ³
Color	-	Yellow-Brown	Yellow-Brown	
Compressibility	ASTM F36J	31	24	%
Recovery	ASTM F36J	27	43	%
Weight loss (at 800°C)	DIN 52911	3	3	%
Tensile Strength	ASTM F152	25	19	MPa
Residual stress 50 MPa, 300°C, 16 h		33	29	MPa
Dielectric Strength 50 %RH, 23°C, 24 h		14	17	kV/mm
Thermal Conductivity at 20°C		-	0.3 perpendicular 3.0 horizontal	W/(mK)
Compression modulus	DIN 28090-2			
At room temperature: ϵ KSW		20.3	13.4	%
At elevated temperature: ϵ KSW/200°C		4.1	5.8	

Application

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 gasket material sheet type may be used under consideration of the mechanical and technical characteristics as well as physical and chemical properties on board ships and other structures classed by DNV:

- Ship's piping systems as specified in DNV-RU-SHIP Pt.4, Ch.6 Piping systems and cargo lines on oil tankers.
- Piping/Gaskets shall be hydrostatically tested: 1.5 times of the system design pressure.
- Piping of cargo handling systems on Oil Tanker shall be electrically bonded. (DNV-RU-SHIP Pt.5 Ch.5 – Oil Tanker)

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

LIMITATION

- Pipelines for LNG, flammable gas systems and cryogenic fluids.
- Cargo lines on chemical and gas tankers carrying flammable and/or noxious media, propylene oxide and mixtures of ethylene and propylene oxide.

Type Approval documentation

TESTS CARRIED OUT

Marking of product

- Manufacturer's name / label
- Product type

Periodical assessment

For retention of the Type Approval, a DNV Surveyor shall perform periodical assessment after two years (+/- 90 days) and after 3.5 years (+/- 90 days) to verify that the conditions for the Type Approval are complied with. Refer to DNV - CP-0338, Sec.4.

The certificate is only valid if required periodical assessments are carried out with satisfactory results.

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

Manufactured by:

Donit Tesnit d.o.o.; Medvode; Slovenia