

# TYPE EXAMINATION CERTIFICATE

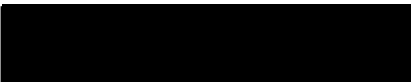
## This is to certify:

**That the Gaskets and Sealings**

with type designation(s)

**Graphite flat gasket material - Metal reinforced, Type GRAFILIT SP**

Issued to



is found to comply with

**DIN 28090**

**DIN 3535-6**

**ASTM F36**

## Application :

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

**Temperature range:**

**Max. working press.:** see certificate and manufacturer's instructions

**Design:**

**Sizes:**

Issued at **Hamburg** on **2018-11-15**

This Certificate is valid until **2023-11-14**.

DNV GL local station: **Koper**

Approval Engineer: **Guido Friederich**



for **DNV GL**  
Digitally Signed By: Drews, Olaf  
Location: DNV GL SE Hamburg, Germany  
Signing Date: 2018-11-14

**Olaf Drews**  
**Head of Section**

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 Examination Certificate and not to the approval of equipment/systems installed.



## Product description

Graphit based gasket material sheets with stainless steel (AISI 316) reinforcing inserts.

### GRAFILIT SP

| Technical data                  | Standard    | SP         | Unit              |
|---------------------------------|-------------|------------|-------------------|
| Thickness of gasket sheets      |             | 1,0 to 3,0 | mm                |
| Thickness of reinforcing sheets |             | 0,1        | mm                |
| Colour                          |             | Black      |                   |
| Density of graphite             | DIN 28090-2 | 1,0        | g/cm <sup>3</sup> |
| Chloride content                |             | < 50       | ppm               |
| Compressibility                 | ASTM F36A   | 35         | %                 |
| Recovery                        | ASTM F36A   | 17         | %                 |
| Permeability                    | DIN 3535-6  | max. 1     | mg/(s·m)          |

Note <sup>1</sup> :

## Application

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 for the following applications:

- Ship's piping systems, pressurized items and machinery containing e.g. the following fluids: non flammable gases, oil, fuel oil, water.

<sup>1</sup> The selection of the gaskets for the corresponding application and appropriate installation has to be in accordance with the instructions of the manufacturer.

## Limitation / Exclusions

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

## Type Examination documentation

DVGW type examination certificate DG-5126BL0564, gasket material Grafilit SP, dated 2016-07-04  
DIN DVGW type examination certificate NG-5124BL0368, gasket material Grafilit SP, dated 2016-07-12  
CTI Test Report No. NLSH 130 70 214 78 601, dated 2013-07-10, for asbestos-free content acc. to IMO Res. MEPC 197(62)

Donit Tesnit laboratory protocol for testing material Grafilit SP, dated 2013-08-02

Manufacturer's confirmation / declaration for asbestos-free content, doc. no. 05-2014

ISO 9001 2015; ISO 14001 2015: - Cert. Reg.No. 12 100/104 7202, TMS/TÜV Süd

Specification GRAFILIT SP

ESG Certificate for Identification of asbestos fibres – Analysis Report No.B78081, dated 2013-09-06

DNV GL Type Approval Assessment Report, dated 2018-08-22

Job Id: **262.1-028374-1**  
Certificate No: **TAP00001EV**

## Marking of product

The flat gasket shall be clearly marked with the following minimum signs:

- Manufacturer's name / label
- Gasket sheet material non asbestos
- Product type

## Certificate Retention Survey

A condition for retention of the Type Approval Certificate in its validity period is that periodical assessments are successfully carried out.

The objective of the periodical assessment is to verify that the conditions for the type approval have not been altered.

- The main scope of the periodical assessment will normally include:
- Verification of the TA applicant's production and quality system w.r.t ensuring continued consistent production of the type approved products at the TA applicant's own premises and at other companies that are given the responsibility for manufacturing of the products.
- Review of the TA documentation and that this is still used as a basis for the production
- Review of possible changes to the design, the material and the performance of the product
- Verification of the product marking

**END OF CERTIFICATE**