

# TYPE APPROVAL CERTIFICATE

**This is to certify:****That the Gaskets and Sealings**

with type designation(s)

**AFM 30; AFM 34; AFM 34 IGV;  
AFM 37; AFM 38; AFM 39/2; AFM 34 CO ME,  
AFM20; AFM 22; Xtreme plus; CHEMOTHERM SPE**

Issued to

**Reinz-Dichtungs-GmbH  
Neu-Ulm, Germany**

is found to comply with

**DIN 86076:2007****DIN 28090****ASTM F36 Standard Test Method for Compressibility and Recovery of Gasket Materials****Application :****Refer to "Application/Limitation" on page 3.**Issued at **Hamburg** on **2020-11-03**This Certificate is valid until **2025-11-02**.for **DNV GL**DNV GL local station: **Augsburg**Approval Engineer: **Christian Kaemmer**

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**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 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 GL AS, its parent companies and subsidiaries as well as their officers, directors and employees ("DNV GL") 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

### **AFM 30; AFM 34; AFM 34 IGV; AFM 37; AFM 38; AFM 39/2; AFM 34 CO ME:**

Asbestos-free gasket materials consisting of aramide fibres, inorganic fillers processed with high-grade elastomers.

### **AFM 20; AFM 22; Xtreme plus:**

Asbestos-free soft material compound containing aramide fibres, inorganic fillers and high-grade binder elastomers on pegged galvanized or stainless-steel core.

### **Chemotherm SPE:**

Asbestos-free material made of expanded graphite on pegged stainless steel core, also with inner eyelet

### **Technical data:**

Based on nominal of thickness 2 mm unless otherwise specified.

Technical data	AFM 30	AFM 34	AFM 34 IGV
<b>Density</b> (DIN 28090-2) [g/cm <sup>3</sup> ]	1,75 – 1,95	1,8 – 2,0	2,0 – 2,2
<b>Compressibility</b> (ASTM F36 J) [%]	7 – 15	5 – 8	> 5
<b>Recovery</b> (ASTM F36 J) [%]	> 50	> 55	> 60
<b>Tensile strength across</b> (DIN 52910) [N/mm <sup>2</sup> ]	> 9	> 12	~ 20

Technical data	AFM 37	AFM 38	AFM 39/2
<b>Density</b> (DIN 28090-2) [g/cm <sup>3</sup> ]	1,9 – 2,1	1,5 – 1,7	1,75 -1,95
<b>Compressibility</b> (ASTM F36 J) [%]	7 – 15	15 – 25	9 – 18
<b>Recovery</b> (ASTM F36 J) [%]	> 50	> 60	> 50
<b>Tensile strength across</b> (DIN 52910) [N/mm <sup>2</sup> ]	> 6	> 5	> 5

Job Id: **262.1-034060-1**  
Certificate No: **TAP000026R**

Technical data	AFM 20	AFM 22	Xtreme Plus	CHEMOTHERM SPE
Thickness	1,3 mm	1,3 mm	1,6 mm	2,0 mm
Density of soft material (DIN 28090-2) [g/cm <sup>3</sup> ]	1,9	2,0	- - -	1,0
Compressibility (ASTM F36 J) [%]	6 - 14	7 - 13	5 - 15	30 - 45
Recovery (ASTM F36 J) [%]	> 55	> 55	> 40	10 - 20

### Application/Limitation

The above listed gasket material sheet is Type Approved for ship's piping systems as specified in DNV GL Rules Pt.4, Ch.6 "Piping systems" and for cargo lines on oil tankers.

The gasket material is not Type Approved for cargo lines on chemical and gas tankers, carrying flammable and/or noxious media, propylene oxide and mixtures of ethylene and propylene oxide and not Type Approved for pipe-lines for LNG, flammable gas systems and cryogenic fluids.

It may be used under consideration of the mechanical and technical characteristics as well as physical and chemical properties. The selection of the gaskets for the corresponding application and appropriate installation has to be in accordance with the instructions of the manufacturer.

### TYPE APPROVAL DOCUMENTATION

### TESTS CARRIED OUT

Job Id: **262.1-034060-1**  
Certificate No: **TAP000026R**

## MARKING OF PRODUCT

For traceability of products, marking shall be legible and indelible.  
Products are to be marked at least as follows:

- Manufacturer's name / label
- Product name

Marking sample:



## PERIODICAL ASSESSMENT

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

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