



## RETALL

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### RETALL NBR / NBR plus / FPM plus

#### Technical Data Sheet 129

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Please see the latest issue at [www.reinz-industrial.com](http://www.reinz-industrial.com)

#### Material

**RETALL** materials consist of a steel core with a thin coating of a high-quality elastomer applied on both sides. Core materials are carbon steel (0.25 mm thick) with a 65 µm thick coating of nitrile rubber (NBR) as well as stainless spring steel (0.20 mm thick) with a 25 µm coating of fluorine rubber (FPM) or 40 µm NBR.

#### Properties

Gaskets made of **RETALL** materials are always beaded. This gives these special rubber/metal gaskets a unique combination of sealing properties:

- very good conformability to irregular sealing faces
- reliable sealing off of liquids and gases
- high elasticity of installed gasket (recovery)
- mechanical strength

Moreover, gaskets made of **RETALL** materials also have very good thermal resistance and are resistant to oils, fuels, anti-freeze, refrigerants (Freons), biodegradable lubricants and non-polar solvents.

#### Application

- For cylinder head gaskets or other sealed joints subjected to higher mechanical and/or thermal stresses, e.g. intake manifolds, oil pans, valve covers, transmission flanges, axles, engine ancillaries and valves, as well as for housings, compressors, and pumps.
- Used especially for narrow sealing faces with low surface pressure.

#### Surfaces

The gasket material is coated on both sides with a non-stick layer. Therefore, additional surface treatment is unnecessary in most cases.



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## RETALL

### Technical Data

#### RETALL NBR

Carbon steel / NBR  
(nominal thickness  
0.38 mm)

### Weight per surface unit

kg/ m<sup>2</sup>

≈ 2.15

### Residual stress acc. to DIN 52 913 16 h, 300 °C

N/ mm<sup>2</sup>

> 45

### Swelling acc. to ASTM F 146:

#### in IRM 903 Oil (replaces ASTM Oil No. 3)

5 h, 150 °C

increase in thickness

%

< 7

#### in ASTM Fuel B

5 h, room temp.

increase in thickness

%

< 8

#### in water / antifreeze (50:50)

5 h, 100 °C

increase in thickness

%

< 5

### Short- term peak temperature

°C

240

### Operating temperature

°C

-40 up to +200



The data quoted above are valid for the material "as delivered" without any additional treatment. In view of the countless possible installation and operating conditions, definitive conclusions cannot be drawn for all applications regarding the behaviour in a sealed joint. Therefore, we do not give any warranty for technical data, as they do not represent assured characteristics. If you have any doubt, please contact us and specify the exact operating conditions.



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## RETALL

**Technical Data**  
**RETALL NBR plus**  
 stainless steel / NBR  
 (nominal thickness  
 0.28 mm)

**Weight per surface unit**

kg/ m<sup>2</sup>

≈ 1.67

**Residual stress** acc. to DIN 52 913  
 16 h, 300 °C

N/ mm<sup>2</sup>

> 45

**Swelling** acc. to ASTM F 146:

**in IRM 903 Oil** (replaces ASTM Oil No. 3)

5 h, 150 °C

increase in thickness

%

< 5

**in ASTM Fuel B**

5 h, room temp.

increase in thickness

%

< 5

**in water / antifreeze** (50:50)

5 h, 100 °C

increase in thickness

%

< 5

Short- term **peak temperature**

°C

240

**Operating temperature**

°C

-40 up to +200



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## RETALL

**Technical Data**  
**RETALL FPM plus**  
 Stainless steel / FPM  
 (nominal thickness  
 0.25 mm)

|  |                    |                |
|--|--------------------|----------------|
| <b>Weight per surface unit</b>                                 | kg/ m <sup>2</sup> | ≈ 1.65         |
| <b>Residual stress</b> acc. to DIN 52 913<br>16 h, 300 °C      | N/ mm <sup>2</sup> | > 45           |
| <b>Swelling</b> acc. to ASTM F 146:                            |                    |                |
| <b>in IRM 903 Oil</b> (replaces ASTM Oil No. 3)<br>5 h, 150 °C |                    |                |
| increase in thickness  | %                  | < 5            |
| <b>in ASTM Fuel B</b><br>5 h, room temp.                       |                    |                |
| increase in thickness  | %                  | < 5            |
| <b>in water / antifreeze</b> (50:50)<br>5 h, 100 °C            |                    |                |
| increase in thickness  | %                  | < 5            |
| Short- term <b>peak temperature</b>                            | °C                 | 300            |
| <b>Operating temperature</b>                                   | °C                 | -40 up to +280 |



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## Form of delivery

**Gaskets** according to a drawing, dimensions supplied, or other arrangement,  
 max. width 500 mm..

## Nominal thicknesses and tolerances (mm)

|             |                          |
|-------------|--------------------------|
| <b>0.38</b> | ± 0.04 (RETALL NBR)      |
| <b>0.28</b> | ± 0.04 (RETALL NBR plus) |
| <b>0.25</b> | ± 0.04 (RETALL FPM plus) |

**Other options on request.**