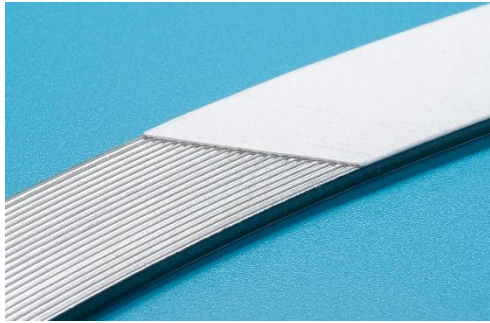


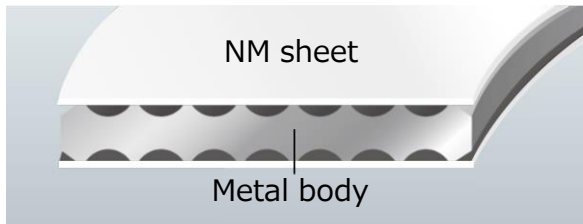
TOMBO No. 1891-NM

Kammprofile gasket (with NM sheet)

High temperature Kammprofile gasket that can be used up to 1000°C



Semi-metallic gasket with concentric special grooves on both sides of the metal ring with surface material attached.



Features

- Can be used under high temperature and oxidation conditions
 NM sheet, originally developed by NICHIAS, is used as a surface material for high temperature resistance up to 1000°C. Even when the temperature exceeds 400°C, there is almost no oxidation loss of the sheet and stable sealing performance is maintained for a long time period.
- Excellent handling
 Excellent handling and structural stability are provided even at larger diameter exceeding ϕ 1000 without gasket falling apart.

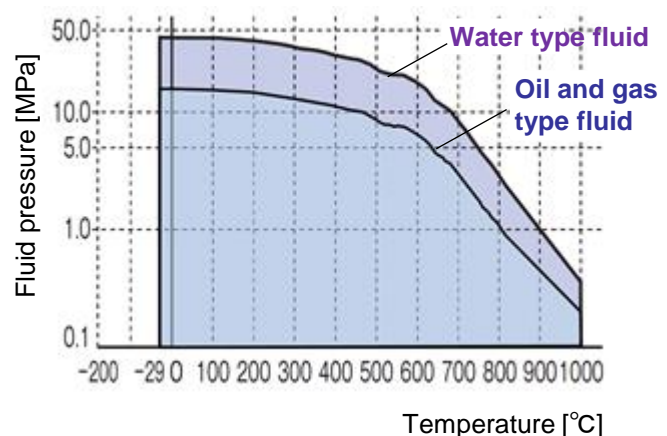
Design criteria

Gasket coefficient m	3.00	
Minimum design seating stress γ [N/mm ²]	44.8*	
Minimum seating stress σ_3 [N/mm ²]	Water · Oil type fluid	Gas type fluid
	34.3	78.4
Allowable seating stress [N/mm ²]	450	

* Apply $\gamma = 68.9$ [N / mm²] to the new flange design.

Service range

Maximum service temperature	1000°C	
Maximum service pressure	Water type fluid	Oil and gas type fluid
	Class 2500	Class 900



Standard dimension

Standard thickness [mm]	Standard width [mm]	Standard O.D [mm]
4.0	10, 13, 15, 20	ϕ 4000

* Please contact us for other thicknesses and diameters.

Main body material

Material	304 SS	316 SS	316L SS	321SS	Alloy600
Indication symbol	E	G	H	J	Y

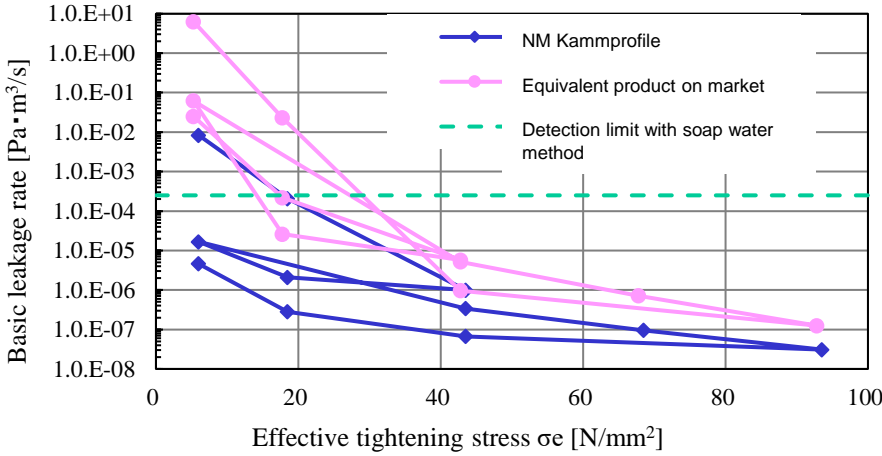
*Select the metal material of the main body according to the flange material. If you would like a material other than the above, please contact us.

* Please contact us regarding the materials that can be manufactured for the outer ring.

* Alloy 600 is recommended when using at 600 °C or higher.

TOMBO No.1891-NM (NM Kammprofile) Sealing performance

* Seal Test (Room temperature)



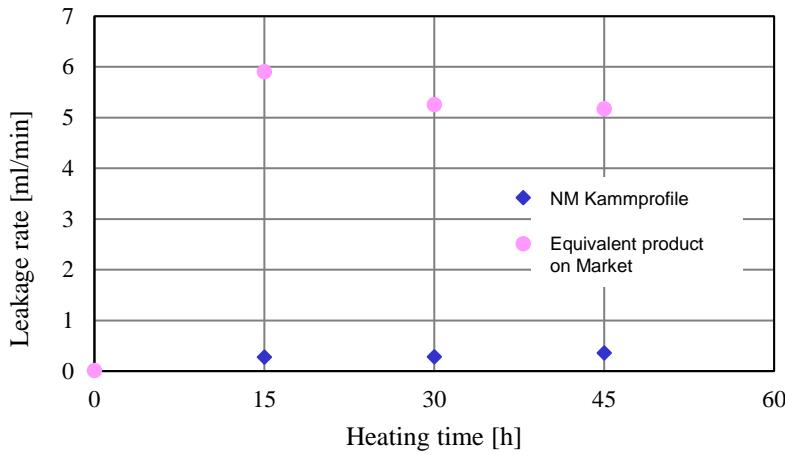
Test condition

Dimension	ASME Class 300 2B
Pressure	4 MPa
Fluid	Helium gas
Evaluation method	Detection by helium leak detector

*This is an actual measurement value, not a standard value. Measurement facility: Nichias

NM Kammprofile is excellent for room temperature sealing performance.

* High temperature seal test (550°C)



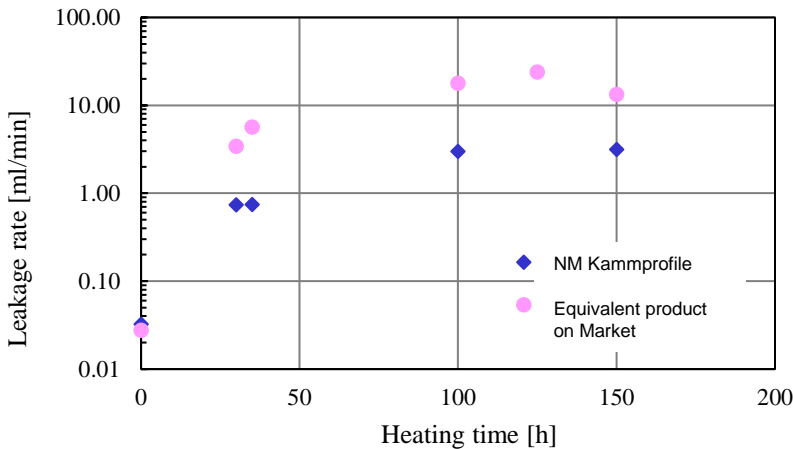
Test condition

Temperature	550 °C
Dimension	ASME Class 300 2B
Tightening stress	78.4 N/mm ²
Pressure	2.1 MPa
Fluid	Nitrogen gas
Evaluation method	Pressure drop

*This is an actual measurement value, not a standard value. Measurement facility: Nichias

NM Kammprofile is stable and exhibits excellent sealing performance at high temperatures of 550 °C.

* High temperature seal test (1010°C)



Test condition

Temperature	1010 °C
Dimension	ASME Class 300 2B
Tightening stress	78.4 N/mm ²
Pressure	Before Heat : 2.1 MPa After Heat : 0.2 MPa
Fluid	Nitrogen gas
Evaluation method	Pressure drop

*This is an actual measurement value, not a standard value. Measurement facility: Nichias

NM Kammprofile has a sealing property equal to or better than that of market distribution products at a high temperature of 1010 °C.

⚠ Product handling precautions

- Store in an environment out of direct sunlight.
- When disposing of it, please dispose it in accordance with the "Waste Disposal and Public Cleansing Law".
- For other precautions, refer to the catalog "TOMBO Brand Gasket".

⚠ Precautions regarding the catalog

1. Do not use for any purpose other than those listed in this catalog.
2. Even for the applications listed in this catalog, the conditions may differ when actually using it. It is recommended to carry out an actual condition confirmation test.
3. The contents are subject to change without notice.

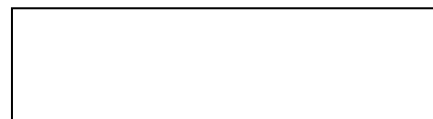


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