

NICHIAS CORPORATION

TOMBO Brand Joint Sheets



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TOMBO Brand Joint Sheet Product Range



AVAILABLE SIZES (mm)

Thickness	0.5	0.8	1.0	1.5	2.0	3.0
Width x Length	1270 x 1270 (1S)	1270 x 3810 (3S)	2540 x 3810 (6S)	3810 x 3810 (9S)		

FEATURES:

APPLICATION:

USES:

APPLICABLE STANDARD:

APPROVALS:

PHYSICAL PROPERTIES (Applicable for 1.5mm thick material)

PHYSICAL PROPERTIES (Applicable for 1.5mm thick material)		INSPECTION METHOD
Applicable Thickness	(mm)	
Density	[g/cm ³]	JIS R 3453:2001
Tensile Strength	[MPa]	300mm/min JIS R 3453:2001
Compressibility	[%]	34.3N/mm ² JIS R 3453:2001
Recovery	[%]	
Flexibility	[F Value]	JIS R 3453:2001
Stress Relaxation	[%]	100°C X 22hr 20.6.MPa JIS R 3453:2001
Gas Sealability	[cc/10min]	Sealing Stress : 29.4N / mm ² N ₂ Pressure : 0.7MPa With paste W/O paste JIS R 3453:2001
Oil Resistance (TS reduction rate)	[%]	IRM903, 150°C X .5hr JIS R 3453:2001
Oil Resistance (Thickness increase rate)	[%]	
Fuel Oil Resistance (Thickness increase rate)	[%]	Fuel B Ambient x 5hr JIS R 3453:1995
Fuel Oil Resistance (Weight increase rate)	[%]	

TEMPERATURE AND PRESSURE

Max. Peak Temperature :	°C
see "special note"	
Operating Temperature :	°C
- with Steam :	°C
Maximum Pressure :	MPa
Test Standard :	

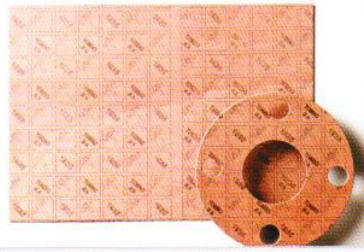
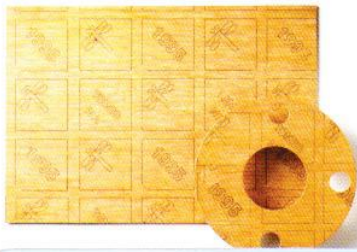
Special Note:

The figures shown as Max. Peak Temperature are just for reference only.
The above data shown in Max. Peak Temperature is based on the actual test conducted by Internationally acclaimed inspection institutions or by NICHIAS's laboratory.
Max. Peak Temperature is only for a certain period of time.
The Operating Temperature shows just the recommended range only. In the actual application, the tech advice is needed from the view points of various conditions, like flange type, fluids, pressure etc.

technical



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T/ #1995

The Flagship in Tombo Brand non asbestos gaskets materials. An optimised combination of Aramid fibers and inorganic fibers with an NBR binder. Excellent sealing performance with high temperature resistance.

- General Industry in various type of piping flanges and valves etc
- Good resistance to oil, fuels, hydrocarbons and steam applications.
- Suitable for a wide range of industries including oil and gas, petrochemicals and cryogenic (LNG) applications.

JIS R3453-2001
JIS B2404-1999
JPI-7S-4-1998
JPI-7S-16-1998
ASME B16.21-1992

- Germanischer Lloyd GL Type Certificate No.44 059-06HH
- API-6FA Approved Fire Safety: UK/DOT, Rule 54 Appendix D
- BAM Approved (130bar/90°C)
- TA Luft Approval

T/ #1935

An economic grade based on organic fibers with an NBR binder. Suitable for general industrial service including oils, hydrocarbons and water.

- General Industry in low critical fields, shipyards
- Good resistance to oils, fuels, hydrocarbons etc.
- Suitable for low operating pressure applications including general industries and automotive aftermarket

JIS R3453-2001
JIS B2404-1999
JPI-7S-4-1998
JPI-7S-16-1998
ASME B16.21-1992

- Germanischer Lloyd GL Type Certificate No.44 059-06HH

T/ #1120

Innovative non-asbestos joint sheet for high-temperature and pressure applications. Unique combination of Expanded Graphite and Aramid allows for excellent sealing performance. The true CAF Joint Sheet replacement

- Sealability is equivalent to that of CAF Joint Sheet
- Excellent resistance to high-pressure Saturated Steam and other mediums.
- Highly recommended for usage in high-temperature and pressure application or when semi-metallic/metallic gasket is not practice.

JIS R3453-2001
JIS B2404-1999
JPI-7S-4-1998
JPI-7S-16-1998
ASME B16.21-1992

- TA Luft (clean air) approval, tested in accordance to VDI 2440 at 250°C

TECHNICAL SPECIFICATIONS

1.5	1.5	1.5
1.70 - 1.90	1.70 - 1.95	1.40 - 1.60
Min 17	Min 8.0	Min. 20.0
5.0 - 15.0	5.0 - 17.0	5.0 - 15.0
Min 40.0	Min 40.0	Min 40.0
Max 15.0	Max 15.0	Max 15.0
Max 40.0	Max 45.0	Max 40.0
≤ 0.5	≤ 2.0	≤ 1.0
≤ 0.5	≤ 2.0	-
Max 45.0	Max 45.0	Max 45.0
Max 15.0	Max 15.0	Max 15.0
Max 15.0	Max 15.0	Max 15.0
Max 15.0	Max 15.0	Max 15.0

INFORMATIONS : (FOR GUIDELINE ONLY)

460°C	250°C	300°C
-170°C to 183°C	-29°C to 120°C	-200°C to 260°C
150°C	-	214°C
4MPa	2MPa	4MPa
Germanischer Lloyd Type Approvals Part 2, Edition 2003 JIS R 3453:2001 API Standard 6FA, Third Edition April 1999 DIN EN 1797:2002-02 (BAM) VDI Guide Line 2440 (Edition Nov. 2000)	Germanischer Lloyd Type Approvals Part 2, Edition 2003 JIS R 3453:2001	JIS R 3453:2001 ASME B16.21-1992 VDI Guide Line 2440 TA Luft (Edition Nov. 2000) API Standard 6FA, Third Edition April, 1999 "Tested"

Max. peak temp test data obtained from: Based on API Standard 6FA, Third Edition, April 1999, test reported by Yarmouth Research and Technology, USA dated 12/28/2006 shown as < Temperature vs Time Chart > (Cal.Block1 & Cal.Block 2 test time-min:sec) The gasket maintained within API 6FA criteria.

Max. peak temp test data obtained from: NICHIAS Lab, test report dated 14 Nov.06 Heat-cycle testing under ambient temperature leakage test 250°C x 5hours x 8 cycles 0.6ml/10min. Well maintained sealing function.

Max. peak temp test data obtained from: Based on German standard DIN 52913, resp. BS7531, tested by MPA Stuttgart Otto-Graf-Institut dated 23/01/2007 test temp. of 300°C 16 hours.

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