TASHIKA CONTINUOUS CERAMIC FIBER

FEATURES

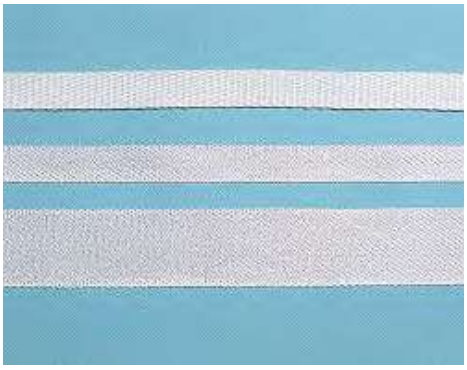
- Superior flexibility
- Corrosion resistant
- Does not absorb moisture
- Excellent thermal resistance
- Good thermal insulation properties
- Good electrical insulation properties

DESCRIPTION

TASHIKA continuous ceramic fiber is a Boron-free, Alumina-Silica polycrystal made up of several thousand fine filaments that gives it excellent flexibility and allow it to be readily transformed into various textile forms such as thread, rope, woven cloth, tape and braided sleeve without the aid of any other organic fiber.

Continuous ceramic fiber has properties such as high tensile strength and modulus, excellent thermal resistance and outstanding electrical insulation.
It has a wide range of applications in high temperature operating environment.

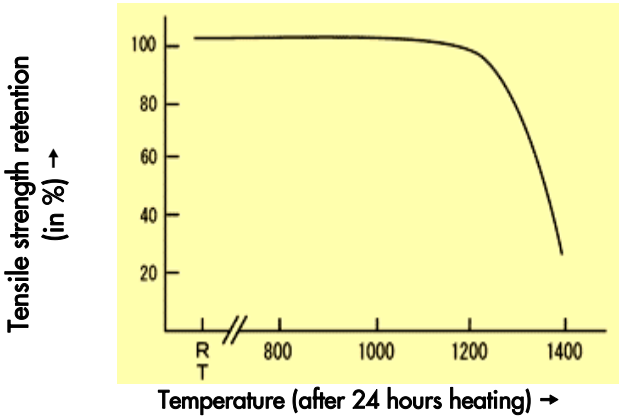
CERAMIC FIBER CLOTH



CERAMIC FIBER TAPE

TYPICAL PHYSICAL PROPERTIES (Type F)

1.	Colour	White
2.	Fiber form	Continuous
3.	Filament diameter	7 microns
4.	Chemical composition	Al_2O_3 (72%) + SiO_2 (28%)
5.	Crystal type	Gamma $A_{l2}O_3$
6.	Density	2.9 g/cm_3
7.	Tensile strength	200 Kgs/mm_2
8.	Tensile modulus	17,000 Kgs/mm_2
9.	Thermal resistance	Up to 1,250°C as per the tensile strength retention percentage Vs increasing temperature curve shown below:



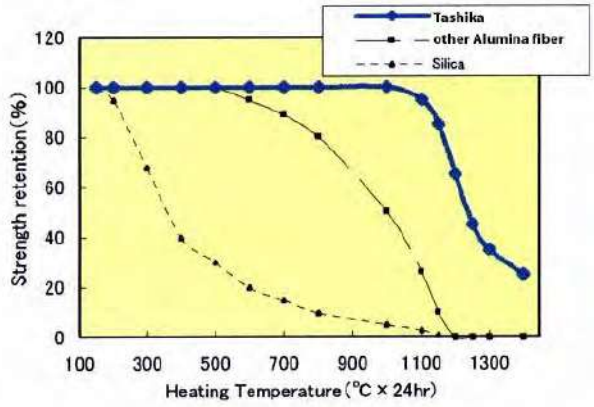
CERAMIC FIBER SLEEVE

- Type E: Alumina (60%) and Silica (40%) for max. application temperature 1,200°C
- Type G: Alumina (80%) and Silica (20%) for max. application temperature: 1,300°C

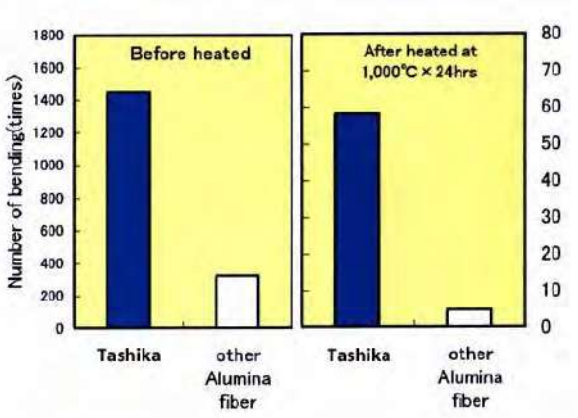
APPLICATIONS

1. Thermal insultion rings (disks and collars) for diffusion furnaces used in the semi-conductor manufacturing process.
2. Furnace linings.
3. Heat-Shielding curtain.
4. Thermal insulation seals or packing materials.
5. Thermal insulation coverings for thermocouple cables and wires.
6. Roller covers for tempered glass plate manufacturing.
7. Filters for molten aluminium or other metals.
8. Spacers for the heat treatment of metal or other materials.
9. Insulators around generator and aircraft/rocket engines.
10. Catalyst carries.
11. Electrical and thermal insulators for diesel particulate filter systems (DPF).
12. Others.

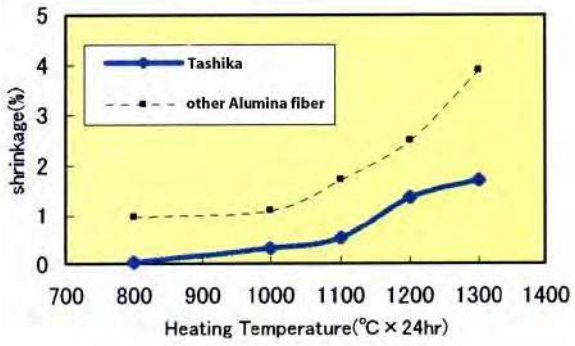
CHARTS



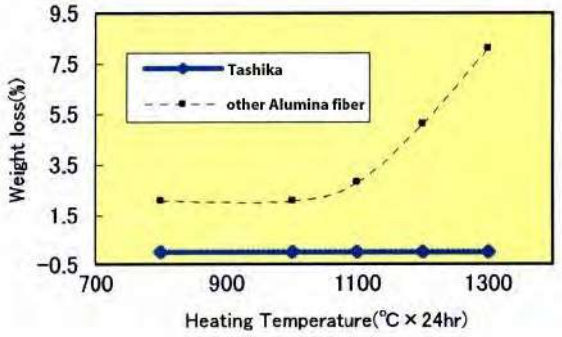
Strength retention after exposure to high temperatures



Bending resistance
(Evaluated in accordance with JIS8115)



Liner shrinkage after exposure to high temperatures



Weight loss after exposure to high temperatutres

STANDARD "SEWING THREAD" PRODUCTS

Type	Yield (tex)	F.D (micron)	Twist (T/m)	Quantity (g/bobbin)	Length (m/bobbin)	O.D (mm)	NOTE
T-5760D	600	7	170	400	666	1.0	Hand sewing
CT-2560D	330	7	180	350	1,000	0.5	Machine sewing
CT-5120D	660	7	180	350	500	0.8	Machine sewing

STANDARD "ROPE, CODE" PRODUCTS

Type	Form	O.D (mm)	Twist (T/m)	Length (m/bobbin)	Weight (g/bobbin)
RP-18	Twisted rope	2	100	130	500
CD-2	Braided rope	2	—	50	—
CD-3	Braided rope	3	—	50	—

Note : F.D= Filament diameter O.D= Outside diameter

: Outside diameter "O.D" mentioned in tables are just for preliminary knowledge.

: Contact us in cases in which you need special requests or customized products.

STANDARD "WOVEN FABRIC" PRODUCTS

Type	Weave	Yield of yarn (tex)	Yarn Count (per inch)		Weight (g/m^2)	Thickness (mm)		Width (mm)	Quantity (m/roll)
			Warp	Fill		JIS	ASTM		
3025-T	Twill	200	30	25	440	0.35	0.55	1,000	30
1111-P	Plain	600	11	11	500	0.68	0.87	1,000	30
0909-P	Plain	200	9	9	145	0.21	0.41	1,000	30
2626-P	Plain	133	26	26	280	0.21	0.31	1,000	30
2525-P	Plain	67	25	25	128	0.12	0.21	1,000	30
2220-S	Satin	400	22	20	670	0.61	0.97	1,000	30
4018-D	Double twill	400	40	18	940	0.80	1.35	1,000	30

<note> Applied standard to measure thickness (JIS: JIS R3420, ASTM: ASTM D1777)

STANDARD "WOVEN TAPE" PRODUCTS

Type	Weave	Yield of yarn (tex)	Yarn Count (per inch)		Weight (g/m^2)	Thickness (mm)		Width (mm)	Quantity (m/roll)
			Warp	Fill		JIS	ASTM		
TP-25S	Twill	200	30	22	11	0.32	0.53	25	30
TP-25D	Twill	600	48	11	37	1.30	1.87	25	30
TP-30S	Plain	200	30	22	13	0.32	0.45	30	30
TP-50S	Plain	200	30	22	22	0.32	0.45	50	30
TP-50S	Twill	200	30	22	22	0.32	0.53	50	30

<note> Applied standard to measure thickness (JIS: JIS R3420, ASTM: ASTM D1777)

STANDARD "BRAIDED SLEEVING" PRODUCTS

Type	Used yarn (tex)	I.D (mm)	Weight (g/m)	Picks (mm)	Chemical composition	Quanitity (m/roll)
SV-1-SP	67	0.5	1.3	16	A/S=72/28	50
SV-1	133	1	2.3	16		50
SV-6	200	6	12	24		25
SV-12	200	12	24	48		20-30
SV-20	200	20	46	84		20-30
SV-40	200	40	90	96		20-30
SV-60	400	60	194	96	A/S=60/40	30-30
SV-95	400	95	380	96		30-30

<note> : Please contact us if you need any item which is not listed in the above products list.
<Customized products>
Chopped yarn (1-50mm).
Colored yarn (Red, Blue, Black).
Fabricated products by hand sewing or machine sewing are available.
Others.

TYPICAL PROPERTIES

Property		Units	Tashika (70/30)
Color		—	Colorless
Appearance		—	Continuous
Filament diameter		Micron	7
Chemical Composition	Al_2O_3	%	72
	SiO_2		28
Density		—	2.9
Crystal phase		—	γ - Al_2O_3+ amorphous SiO_2
Tensile strength		MPa (Kgf/mm^2)	1,967 (200)
Tensile modulus		MPa (Kgf/mm^2)	167 (17,000)
Shrinkage after 30min at 1,200°C		%	<2.0
Suggested service temperature		F (°C)	2,250 (1,250)

Note: Contact us in cases in which you have special requests regarding chemical composition.
Suggested service temperature for use is just for preliminary knowledge and is not guaranteed.
It is necessary to do trials in the actual atmosphere of your facility before developing specifications.

TASHIKA —JAPAN

OTHER PRODUCTS

CERAMIC FIBER FELT

Ceramic fiber felt is produced from chopped long fibers containing alumina (72%) and silica (28%) providing overwhelmingly higher heat resistance as compared to felt containing heat-resistant organic fibers. It also has advantage of being more compact for air flow resistance. Ceramic felt less resistance to air flow can also be provided by parallel orientation of the fibers.

CHOPPED CERAMIC FIBER YARN

LOW IMPURITY GRADE LONG ALUMINA FIBER

CERAMIC FIBER FABRICATED PRODUCTS

Ceramic fiber fabricated products like disk and collars for use in diffusion furnances at temperature of up to 1,300 °C.

DUE TO CONTINUOUS PRODUCT IMPROVEMENT, THE DESIGN AND TECHNICAL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE

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