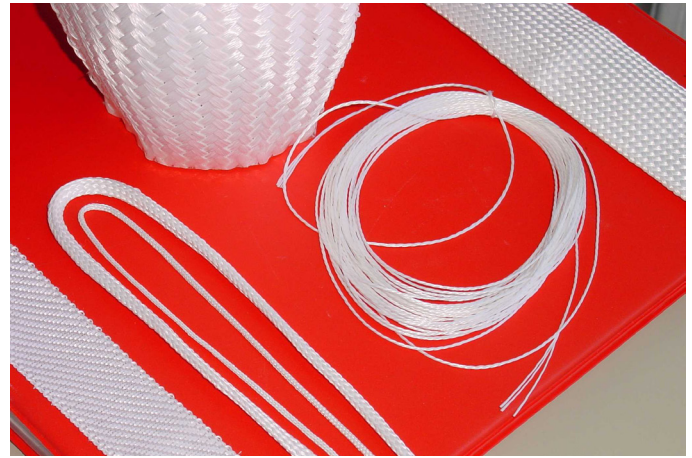




## Alumina Textiles Type AS-7M

### General Information

ZIRCAR Ceramics' Alumina Textile Type AS-7M consists of very pure polycrystalline filament yarn fabricated into a useful range of conventional textile forms. Unlike common (50/50)  $Al_2O_3$ - $SiO_2$  textiles, Type AS-7M retains 100% of its tensile strength up to continuous temperatures as high as 1200°C (2192°F). AS-7M is free of boron oxide, making insulating components made from it suitable for semiconductor processing. AS-7M is also used as reinforcement of ceramic matrix composites and for strengthening low-density ceramic fiber and microporous silica insulation structures. AS-7M cloth is useful as a separator in vacuum brazing applications.



### Characteristics & Properties

Composition, wt%	
$Al_2O_3$	70
$SiO_2$	30
Fiber diameter, micron	7
Crystal Type	Gamma $Al_2O_3$
Tensile Strength, kgf/mm <sup>2</sup>	200
Tensile Modulus, kgf/mm <sup>2</sup>	17,000
Density, g/cc	2.9

### Availability

Yarn	67 to 3700 TEX
	0.3 to 2.0 mm diameter
Cloth	145 to 940 g/m <sup>2</sup>
	Twill or Plain Weave
Tape	25 & 50mm wide
	0.6 to 1.3mm thick
Braided Sleeve	0.5mm to 95mm ID
Sewing Thread	0.3 to 1.0mm diameter

### Availability - All Forms of AS-7M

\*Denotes stocked cloth styles available from inventory.

Standard Yarn Products							
Type	Form	Yield, g/1000m	F.D., $\mu m\phi$	Twist, T/m	Quantity, kg/bobbin	Length, m/bobbin	O.D., $mm\phi$
S-640D	Two-ply	67	7	90	ab. 0.5	ab. 7500	0.3
S-1280D	Two-ply	133	7	90	ab. 1.0	ab 7500	0.5
S-1920D	Three-ply	100	7	90	ab. 1.0	ab 5000	0.6
S-3840D	Three-ply	400	7	90	ab. 1.0	ab 2500	0.7

Standard Sewing Thread Products							
Type	Note	Yield, g/1000m	F.D., $\mu m\phi$	Twist, T/m	Quantity, kg/bobbin	Length, m/bobbin	O.D., $mm\phi$
T-5760D	Hand sewing	620	7	170	400	645	1
CT-2560D	Machine sewing	330	7	180	350	1060	0.5
CT-5120D	Machine sewing	660	7	180	350	530	0.8

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# Alumina Textiles Type AS-7M

Standard Rope, Cord Products						
Type	Form	O.D., mmø	Twist, t/m	Weight, g/m	Length, m/bobbin	Quantity, g/bobbin
RP-18	Twisted rope	2	100	3.8	130	500
CD-2	Braided cord	2	-	3.7	50	185
CD-3	Braided cord	3	-	5.4	50	270

Standard Woven Tape Products			Yarn Count (per inch)		Thickness, mm		Width, mm	
Type	Weave	Yield of Yarn, tex	Warp	Fill	Weight, g/m <sup>3</sup>	JIS		ASTM
TP-25S	Twill	200	30	22	11	0.32	0.5	25
TP-25D	Twill	600	48	11	37	1.2	1.87	25
TP-30S	Plain	200	30	22	13	0.32	0.45	30
TP-50S	Plain Twill	200	30	22	22	0.32	0.45/0.53	50

Standard Woven Fabric Products			Yarn Count (per inch)		Thickness, mm		
Type	Weave	Yield of Yarn, tex	Warp	Fill	Weight, g/m <sup>3</sup>	JIS	ASTM
<b>*3025-T</b>	Twill	200	30	25	440	0.35	0.55
1111-P	Plain (mesh)	620	11	11	550	0.68	0.87
<b>*0909-P</b>	Plain (mesh)	200	9	9	145	0.21	0.41
2626-P	Plain	133	6	26	280	0.21	0.31
2525-P	Plain	67	25	25	135	0.12	0.21
2220-S	Satin	400	22	20	670	0.61	0.97
4018-D	Double twill	400	40	18	940	0.80	1.35

Standard Braided Sleeving Products						
Type	Yield of Yarn, tex	I.D., mm	Weight, g/m	Picks	Quantity, m/roll	
SV-1-XP	33	0.3	0.7	16	50	
SV-1-SP	67	0.5	1.3	16	50	
SV-1	133	1	2	16	50	
SV-2	200	2	7	16	50	
SV-6		6	12	24	50	
SV-12		12	24	48	ab. 25	
SV-18		16	38	64	ab. 25	
SV-20		20	44	96	ab. 25	
SV-40		40	91	96	ab. 25	
SV-60*		60	182	96	ab. 25	
SV-85*		400	85	333	96	ab. 25
SV-95*	95		390	96	ab. 25	

The data presented herein is intended to help the user to determine the appropriateness of this material for their application. This data is a nominal representation of this product's properties and characteristics and therefore should not be used in preparing specifications.

\* Composition of SV-60, SV-85 & SV-97 is 60% Al<sub>2</sub>O<sub>3</sub> and 40% SiO<sub>2</sub>



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