

3M Advanced Materials Division

3M™ Nextel™ Ceramic Sleeveings 312 and 440

Introduction

3M™ Nextel™ Ceramic Sleeveings 312 are made from continuous Nextel 312 Alumina-Boria-Silica fibers, and retain strength and flexibility at continuous temperatures of up to 2192°F (1200°C).

3M™ Nextel™ Ceramic Sleeveings 440 are made from continuous Nextel 440 Alumina-Boria-Silica fibers, and retain strength and flexibility at continuous temperatures of up to 2372°F (1300°C).

Features and Benefits

- Non-oxidizing
- Non-hygroscopic
- Good chemical resistance
- Low thermal conductivity
- Good abrasion resistance
- Fire and flame resistant

Important Processing Information

Heat Cleaning: Nextel ceramic sleeveings 312 and 440 are coated during manufacture with sizings or finishes to serve as aids in textile processing. The sizings or finishes consist of organic polymers which, when first heated, may ignite and/or decompose to potentially hazardous byproducts or process contaminants. See Safety Data Sheet or contact 3M for more information.

Heat Treating: If Nextel ceramic sleeveings 312 are to be subjected to hot humid environments for extended

Typical Applications

Application	3M™ Nextel™ Ceramic Sleeveings	
	312	440
Continuous Use Temperature*	2192°F (1200°C)	2372°F (1300°C)
Aerospace Cable and insulation wrap, fire zone cable protection, flame barrier, thermal shields		
Industrial Cable and insulation ties, hose protection, heater wire insulation, fire zone cable protection, door seals		
Electrical Heater wire insulation, thermocouple insulation		

*40% fiber strength retention tested at room temperature after 100 hours soak.

periods of time (e.g., 95°C @ 100% relative humidity for ten days), heat treating is necessary. Heat treatment changes the crystal structure of the fiber preventing physical degradation in these conditions.

Heat cleaning or heat treating of Nextel ceramic sleeveings are services offered by 3M.

Additional Information

For additional information about 3M Nextel ceramic sleeveings, please call **1-800-367-8905**, or contact your local 3M representative.



Typical Properties (Not for specification purposes.)

3M™ Nextel™ Ceramic Sleeveings 312 and 440

Sleeving Inside Diameter		Wall Thickness (sized)		Length per Unit Weight on Mandrel (sized)		Target Yield As Packaged, Roll Form (sized)		Picks per Unit Length	
inch	mm	inch	mm	yards/lb	m/kg	yards/lb	m/kg	picks/inch	picks/cm
3M™ Nextel™ Ceramic Sleeveing 312, Style AS-40									
1/16	1.6	0.028	0.71	85	171	87	175	13	5
1/8	3.2	0.037	0.94	39	79	42	85	11	4
1/4	6.4	0.038	0.97	25	50	28	56	11	4
1/2	12.7	0.038	0.97	13	26	16	32	10	4
3/4	19.1	0.038	0.97	8.7	18	12	24	10	4
1	25.4	0.033	0.84	7.7	16	9.6	19	12	5
1 1/2**	38.1	0.033	0.84	5.4	11	7.2	15	12	5
2**	50.8	0.038	0.97	3.6	7.3	5.4	11	11	4
2 1/2**	63.5	0.037	0.94	3.1	6.2	4.4	8.9	8	3
3M™ Nextel™ Ceramic Sleeveing 440, Style BS-40									
1/16**	1.6	0.027	0.69	76	153	76	153	13	5
1/8	3.2	0.038	0.97	35	71	38	77	12	5
1/4	6.4	0.035	0.89	23	46	25	50	11	4
1/2	12.7	0.039	0.99	12	24	15	30	10	4
3/4**	19.1	0.038	0.97	7.9	16	10	20	10	4
1**	25.4	0.033	0.84	7.0	14	8.6	17	12	5

AS-40 Input yarn is 900 denier 3M Nextel Plied Yarn 312, 1/2, 2.7z.

BS-40 Input yarn is 1000 denier 3M Nextel Plied Yarn 440, 1/2, 2.7z.

**Available only by special order.

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