

3M Advanced Materials Division

3M™ Nextel™ Ceramic Fabric AF-10-900

Introduction

3M™ Nextel™ Ceramic Fabric AF-10-900 is a lightweight woven ceramic fabric intended as a component in fireproof materials/structures. This fabric is produced using 3M™ Nextel™ Ceramic Rovings 312, 900 denier.

Typical properties (not for specification purposes)

	AF-10-900	AF-10
Input yarn	Nextel™ 312, 900 Denier ¹	Nextel™ 312, 600 Denier ²
Weave	4HS	5 HS
Thread count target warp/fill	31/31	46/46
Weight (oz/yd ²) sized/HC	7.3/7.2	8.6/7.2
Thickness (inch) sized/HC	0.013/0.011	0.016/0.011
Breaking strength (lb/inch)–HC warp/fill	150/150	140/140
Air permeability (ft ³ /min/ft ² @0.1" H ₂ O)–HC	50	55

¹Unserviced roving, ²Rayon serviced roving, HS-Harness Satin,

Lab results from flame barrier testing 3M™ Nextel™ Ceramic Fabrics 312

(not for specification purposes)

		FAR25.856-a		FAR25.856-b		ISO 2685
Test configuration*		1-layer fabric	1 layer fabric bagged in Lam 12	1-layer fabric	(1 layer fabric + 0.5" 0.6pcf FG) bagged in film	1-layer fabric
Flame propagation	AF-10	ZERO after flame ZERO flame propagation				ZERO after flame
	AF-10-900					
Burn through	NO BURN-THROUGH					
	AF-10			2.7**	1.8**	
	AF-10-900			2.7**	1.3**	

* AF-10 : 3 different lots, AF-10-900 : 1 single lot; all fabric tested heat cleaned ** Heat Flux @ 4 min (BTU/ft² sec)

Flame barrier comparisons of 3M™ Nextel™ Ceramic Fabrics 312 (AF-10 and AF-10-900)

- Both fabrics compliant to FAR 25.856-a
- Both fabrics compliant to FAR 25.856-b when tested with min 0.5" FG (HF< 2 BTUs)
- Both fabrics (1 layer) tested per FAR 25.856-b: 4min exposure at 2000F, no flame penetration (no burn-through)
- Both fabrics (1 layer) tested per ISO2685: 15 min exposure at 2000F, no flame penetration, no after flame

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