



# TEST RESULTS FOR EVALUATION FOR FLAME AND HEAT PROPERTIES ERGODYNE #3120 & #3121 TOOL LANYARDS

TEST PROPERTY	TEST METHOD*	MEASUREMENTS	RESULTS**	CRITERIA
Heat Resistance (Webbing)	ASTM D7138-16 (NFPA 1983-2017, Para. 7.5.3)	Melting temperature	> 310°C	Pass
Heat Resistance (Thread)	ASTM D7138-16 (NFPA 1983-2017, Para. 7.10.7.3)	Melting temperature	> 260°C	Pass
Flame Resistance (Full lanyard)	ASTM D6413-15 (NFPA 1983-2017, Para. 7.10.7.1)	After flame time	0.0 sec	Pass
		Char length	3 mm	Pass
		Burning behavior	No melting or dripping	Pass
Heat Resistance (Full lanyard)	ASTM F2894-14 (NFPA 1983-2017, Para. 7.10.7.1)	Observations of response to heat	No melting, dripping, separation, or ignition	Pass

\*Test method descriptions:

- (1) Webbing and thread heat resistance: individual fibers subjected to differential scanning calorimetry for determination of melting point for individual components in fiber material; melting temperature must be 260°C or greater.
- (2) Flame resistance testing involves suspending lanyard sample material 19 mm into 38 mm high Bunsen burn flame for 12 seconds; continued time of burning after removal of sample from flame is measured as after flame time, damaged length of material is measured as char length, and

observations are made of burning behavior. Materials must not have after flame times greater than 2 second, char length greater than 100 mm, or show melting and dripping.

(3) Heat resistance is determined by placing sample lanyards in specially controlled oven at 260°C for 5 minutes and then observing heat degradation effects on samples. Samples must not show evidence of melting, dripping, and separation and must not ignite when exposed to these conditions.

\*\*Average of test results on multiple specimens

## INTERGALACTIC HEADQUARTERS:

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