ALTEC
INDUSTRIAL IDENTIFICATION

Technical datasheet

B342

SLEEVE MARKER

Description

B342 Sleeve markers meet the material and physical property requirements of SAE AS23053/5 (Class 1) for Insulation Sleeving and SAE AS-81531 for Marking of Electrical Insulating Materials.

Print technology	Thermal transfer
Material	Irradiated polyolefin heat shrink tubing (3:1 shrink ratio)
Ribbons	AR-09 / AWH-10
Colors	white, yellow, black, red, orange, green, blue, violet, pink, gray, and brown
Operating temperature	-55°C (-67°F) to +135°C (+275°F).

Physical data

Physical properties

	Test methods	Average results
Surface Flammability of Materials Using a Radiant Heat Energy Source Tested at an outside laboratory White, yellow and black tubing tested	ASTM E162 Common maximum – 35	Flame Spread Index (Is) (rounded average result of 4 tests) White/yellow – 5 Black 0
Specific Optical Density of Smoke (Ds) Tested at an outside laboratory White, yellow and black tubing tested	ASTM E662 Common Maximum Flaming and Nonflaming Mode at 1.5 minutes – 100 Flaming and Nonflaming Mode at 4.0 minutes – 200	Specific Optical Density (Ds) (average of 3 tests) White/Yellow: Flaming Mode at 1.5 minutes – 76 Flaming Mode at 4.0 minutes – 155 Nonflaming Mode at 1.5 minutes – 2 Nonflaming Mode at 4.0 minutes – 13 Black: Flaming Mode at 1.5 minutes – 92 Flaming Mode at 4.0 minutes – 155 Nonflaming Mode at 1.5 minutes – 4 Nonflaming Mode at 4.0 minutes – 41

Performance properties

	Test methods	Average results
High service temperature	5 minutes at 500°F (260°C)	White: Slight tube darkening and yellowing Yellow: Moderate tube darkening. Black: No visible effect to tubing, slight print yellowing.
	24 hours at 350°F (180°C)	White and yellow: Slight tube darkening.
	1000 hours at 267°F (130°C)	White and yellow: Moderate tube darkening.
Low service temperature	1000 hours at -94°F (-70°C)	No visible effect

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Weatherability	ASTM G155 Cycle 1 1000 hours in Xenon Arc Weatherometer	White: Slight tube yellowing Yellow: No visible effect No visible change to printing
UV Light Resistance	ASTM G155 Cycle 1 dry 1000 hours	White: Moderate tube yellowing; Yellow: No visible effect No visible change to printing
Humidity Resistance	1000 hours at 100°F/95% R.H.	No visible effect
Salt fog	1000 hours in 5% Salt Fog Chamber per ASTM B117	Moderate print fade (on black marker). No visible effect to all other color/ribbon combinations and laser marking.
Dielectric Strength	ASTM D2671 (after unrestricted shrink)	500 volts/mil minimum
Flammability	ASTM D2671, Procedure B	Self-extinguishing within 60 seconds
Print Adherence per SAE-AS81531 (Sec 3.4.2)	Samples tested after unrestricted shrink at 200°C for 3 minutes 20 eraser rubs with hard hand pressure	Print is still easily legible on sleeves printed with all ribbons and laser marking.
Solvent Resistance per SAE-AS81531 (Sec 3.4.3) Solution A Solution C Solution D	Samples tested after unrestricted shrink at 200°C for 3 minutes MIL-STD-202, Method 215K 3 cycles of 3 minute immersions in specified fluids followed by toothbrush rub after each immersion	 Print still easily legible on sleeves printed with all ribbons and laser marking in all three test fluids

Solution A: 1 part isopropyl alcohol, 3 parts mineral spirits
Solution B: deleted from MIL-STD-202, Method 215J
Solution C: BIOACT® EC-7R™ terpene defluxer
Solution D: 42 parts water, 1 part propylene glycol monomethyl ether, 1 part monoethanolamine at 70°C

B342 white, yellow and other colors were thermal transfer printed using AWH-10 ribbon and shrunk on appropriate size wires. Test conducted at room temperature after 24 hour dwell. Testing consisted of 5 cycles of 10 minute immersions in the specified chemical reagent followed by 30 minute recovery periods. Samples rubbed with cotton swab after final immersion.

Chemical reagent	Tubing and printing without swab rub	Printing with swab rub
Methyl ethyl ketone	No visible effect	Severe print fade, print legible
Isopropyl alcohol	No visible effect	Severe print fade, print legible
JP-8 jet fuel	No visible effect	Severe print fade, print legible
Kerosene	No visible effect	Severe print fade, print legible
Mil 5606 oil	Tubing stained red, no visible effect on printing	Severe print fade, print legible
Mil 7808 oil	No visible effect	Severe print fade, print legible
Speedi kut cutting oil 332	No visible effect	Moderate print fade, print legible
Gasoline	No visible effect	Severe print fade, print legible
Rust Veto® 377	Tubing stained orange, no visible effect on printing	Severe print fade, print legible
Skydrol® 500B-4	No visible effect	Severe print fade, print legible

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Propylene glycol	No visible effect	Slight print fade, print legible
Super agitene®	No visible effect	Severe print fade, print legible
BIOACT® EC-7R™ Terpene cleaner	No visible effect	Severe print fade, print legible
Deionized water	No visible effect	No visible effect
3% Alconox® detergent	No visible effect	Severe print fade, print legible
5% Salt water solution	No visible effect	Severe print fade, print legible

Applications

Wire identification and insulation purposes

Shelf life

Shelf life is five years from the date of receipt for this product as long as this product is stored in its original packaging in an environment at 32-95 degrees F (0-35 degrees C) per SAE AS23053/5. It remains the responsibility of the user to assess the risk of using this product. We encourage customers to develop testing protocols that will qualify a product's fitness for use in their actual applications.

Compliances

B342 is a UL Recognized Component to UL224 Extruded Insulated Tubing. See UL file E333786 for specific details.
UL information can be accessed on line at UL.com. Search in Certifications area.

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