Thermalmark Labels

Metalcraft's Thermalmark Polyester Labels offer the durability of a pre-printed label with the flexibility to custom print information on-site as needed. The thermal transfer receptive topcoat of the Thermalmark allows labels to be easily customized with different text, barcodes, or serial numbers printed through a thermal transfer printer.

Features	Thin, durable construction materials make it easy to use in most desktop thermal transfer printers. Thermal transfer receptive topcoat allows for easy on-site label customization and printing. Durable .002” polyester material easily conforms to uneven or radius surfaces .001" thick adhesive provides excellent adhesion to low and high surface energy materials.
Product Print Options	Barcode . Data Matrix . QR Code . Serial Number . Text
Product Functionality	Abrasion Resistance . Chemical Resistance . Heat Resistance
Popular Applications	Audio / Visual . Government . Churches . Hospitals . IT Assets . Schools
Category	Manufacturing . Asset Tracking . Work-in-Process . Onsite Printable Labels

METAL CRAFT
ID MADE BETTER

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UNIVERSAL RFID BY METAL CRAFT

Specifications Data

Material	**.002" mil clear polyester with thermal transfer topcoat with .002" thick white polyester and 3.1 mil liner**
Bar Code & Serialization	Barcode and human-readable equivalent is digitally printed – providing excellent clarity and easy scanning. Code 39 is the standard symbology with a range of 2.7 to 9.4 CPI (characters per inch). Optional linear and 2D symbologies available. Although this product is primarily marketed as a bar code product, we can produce it with human-readable numbers only or unserialized.
Label Copy	The label copy may include block type, stylized type, logos or other designs
Colors	Standard colors include black, red, yellow, green, dark blue, orange, purple or blue. Custom spot colors are also available at no additional charge. Due to contrast needed for the bar code scanner, all bar codes are black.
Standard Adhesive	High performance adhesive
Sizes	2" x 1"; 1.75" x .5"; 2" x .75"; 3" x 2"; 2.75" x 1.25"; 3" x 2.25"
Packaging	Shipped on convenient rolls with scrap matrix removed for ease of removal. Cartons are clearly marked to indicate serial numbers of labels.
Shipment	11 business days

Chemical Testing

Chemical Immersion Test: Labels were applied to a clean glass substrate and submerged in the following chemicals for 2, 24 and 48 hours. Focus was on the thermal transfer printed image as well as the condition of the label construction. Results were identical for both 170Xilll+ and Gx430t printers using full resin ribbons.

Chemical Test Data

	Water	Glass cleaner	Bathroom cleaner	Isopropyl alcohol	Acetone	NaOH pH 12	HN03 pH 12	HCl pH 12	Brake fluid	Diesel Fuel
Thermal transfer rub test	no effect	BC wiped off after 48 hrs	no effect	BC wiped off after 2 hrs	BC wiped off after 2 hrs	no effect	no effect	no effect	BC wiped off after 2 hrs	ho effect
Label construction	no effect	adhesion loss after 48 hrs	no effect	Adhesion loss after 24 hrs., Tag Delamination after 48 hrs.	Adhesion loss after 24 hrs., Tag Delamination after 48 hrs.	no effect	no effect	no effect	no effect	Adhesive ooze after 2 hrs

Destructive Testing

Results below show before and after abrasion on the thermal transferred printed image using full resin ribbons. Samples with TT printed black bars subject to 20 revolutions with CS-10 wheels 500g per wheel on Taber 5130.
Destructive Test Data

K Density before	KDensity before	% change
1.79	1.54	13.97

Temperature Testing

Labels were applied to .020” aluminum panels and heated to the temperatures listed below for 15 minutes.
Temperature Test Data

Printer	200°F	300°F	400°f	500°F
ThermalMark - 170Xilll+	no effect	no effect	no effect	label cracked/blistered, label face discolored
ThermalMark - Gx430t	no effect	no effect	no effect	label cracked/blistered

Read Range Testing

Read Range Test Data

Barcode Readibility Testing

Barcode Readability Test Data

Abrasion Testing

Abrasion Test Data

Label Adhesion Testing

Label Adhesion Test Data

Pull Testing

Pull Test Data

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