

# Universal Mini RFID Asset Tags



The only thing “mini” about this tag is it’s size! With smaller footprint and lower profile, the Universal Mini RFID Asset Tag easily fits where other tags may be too large and obtrusive and still gives incredible read ranges compared to other tags in its class.

Developed using the same premise as our original Universal RFID Asset Tag, the Universal Mini RFID Asset Tag is a surface-independent tag that uses a patented inlay design and passive RFID technology to obtain excellent read ranges regardless of the surface – metal, plastic, even wood. Along with the Universal RFID Asset Tag and Universal RFID Hard Tag, these products make up a revolutionary product line that allows you to use only one RFID tag for your asset tracking application.

This unique inlay adheres to a subsurface printed label constructed of durable, yet flexible polyester. This process protects the copy, logo and/or bar code against moderate solvents and caustics/acids while our four-color processing capabilities allow you to promote your company with a label that shows off our company logo. Metalcraft’s digital printing process ensures even the most detailed logos will look crisp and clean.

Licensed Products are licensed under the following patents: United States Patent Nos. 7,768,400; 7,880,619; 8,299,927; 8,264,358; 8,502,678

## Key Product Features

- Smaller footprint and lower profile while still achieving excellent read range sets this product apart from others
- Patented inlay design obtains excellent read ranges regardless of surface—metal, plastic, even wood
- Subsurface printing on durable polyester protects printed copy against moderate solvents and caustics/acids
- Digital printing process provides for greater print capability with detailed logos or special designs
- Choice of up to four standard or custom colors.

Not sure what product you need?

Call our trained Experts

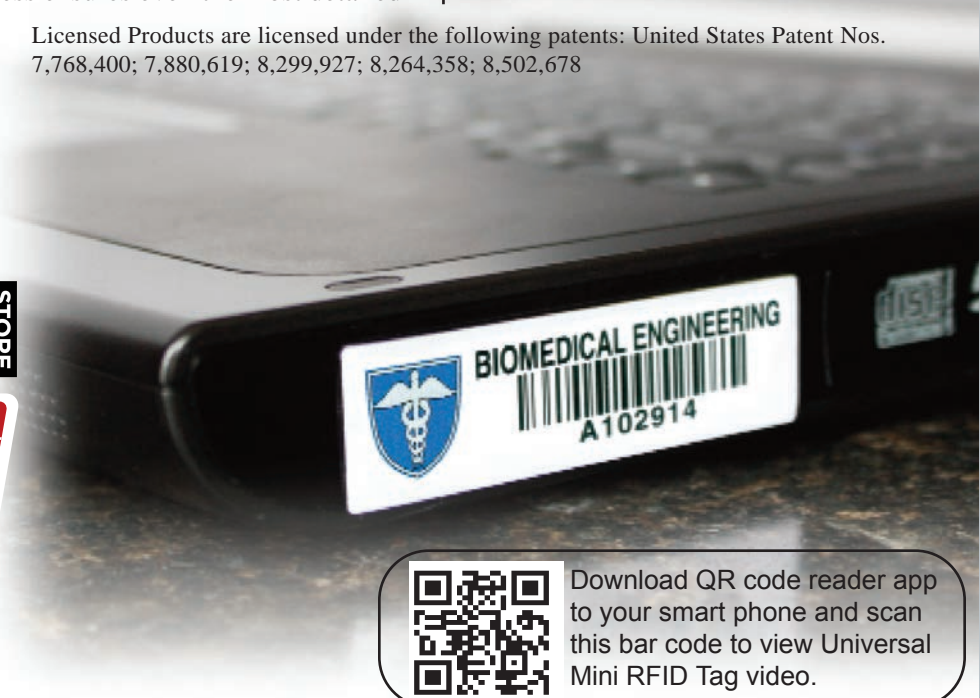
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Download QR code reader app to your smart phone and scan this bar code to view Universal Mini RFID Tag video.



# Universal Mini RFID Asset Tag Specifications

**Construction:** Inlay wrapped around 1/32" closed cell foam. Total thickness .047".

**Label Copy:** The label copy may include block type, stylized type, logos or other designs. All copy, block type, stylized type, logos, designs, and bar code are subsurface printed.

**Colors:** Standard colors include black, red, yellow, green and blue. Due to contrast needed for the bar code scanner, all bar codes are black.

**Serialization:** Bar code and human-readable equivalent are produced using the latest high-resolution digital technology available, which provides excellent clarity and easy scanning. Code 39 is the standard symbology with a range of 2.7 to 5.4 CPI (characters per inch). Optional symbology is Code 128.

**Programming:** The bar code and human readable can be programmed into the RFID inlay as long as the information is in decimal or hexadecimal format. Metalcraft can encode up to 24 characters into the RFID inlay. If desired, Metalcraft can encode information that differs from the

bar code and human readable.

**Locking:** All Universal RFID tags are password locked. The password can be designated by Metalcraft, or, if desired, the customer can designate their own specific password.

**Frequency:** Custom designed UHF inlay uses Alien Higgs 3 chip optimized for use at 915 MHZ.

**Standard Size:** 2 3/4" x 3/4"

**Standard Adhesive:** Pressure-sensitive acrylic (MC778), .002" thick supported by a liner. Very high peel strength that provides excellent resistance to heat and chemicals. Withstands temperatures from -40°F to 300°F (intermittent). Shelf life of 24 months when stored at 72°F (22°C) and 50% relative humidity.

**Shipment:** 20-25 work days depending on order quantity and inlay availability.

**To Order:** Call **866-792-0031** and ask for an ID Specialist

## Test Description

These tests were conducted for a limited period of time in strict laboratory conditions. In order to achieve maximum satisfaction we highly recommend that any customer considering use of this product test the labels in the environment in which they will be used.

**High-temperature resistance test** - These tags were attached to a sheet of glass at raised temperatures for 10 minutes. Tags were then removed from the oven and tested for readability immediately.

**Low-temperature resistance test** - The Universal Mini tags were attached to a sheet of glass at low temperatures outdoors. Tags were then checked for readability with a Motorola handheld RFID reader. Tags survived and were readable for 19 hours in Iowa winter conditions with temperatures between -21 to -26°F with no signs of failure.

Temperature	RFID read test (Immediately out of oven)	Appearance of tags
125°F	Reads well	No change
135°F	Reads well	No change
145°F	Reads well	No change
165°F	Reads well	Slight curling at edge
185°F	Reads well	Slight curling at edge
205°F	Reads well	Slight curling at edge
225°F	Reads well	Severe curling at edge - Tag discolored
250°F	Test failed	Tag destroyed

**Chemical soak test** - The Universal Mini tags were attached to a sheet of glass submerged in various chemicals for a 3 week period. Observations were made at the following intervals: 2 hours, 24 hours, 1 week, 2 weeks, and 3 weeks. A Motorola handheld RFID reader as well as a handheld barcode reader were used to test the samples.

Length of Immersion	Water	Glass Cleaner	Bathroom Cleaner	Isopropyl Alcohol 99%	Acetone	NaOH pH 12.0	HNO <sub>3</sub> pH 1.0	HCl pH 1.0	Brake Fluid
2 Hours	N.E.	N.E.	N.E.	N.E.	N.E.	N.E.	N.E.	N.E.	N.E.
24 Hours	N.E.	N.E.	N.E.	N.E.	N.E.	N.E.	N.E.	N.E.	N.E.
1 Week	N.E.	N.E.	**	No read	Tag structure weakened	Tag detached	N.E.	N.E.	N.E.
2 Weeks	N.E.	**	**	No read	No read	Tag detached	No read	No read	N.E.
3 Weeks	Tag peeled easily	Tag peeled easily	No read; Tag peeled easily	No read; Tag peeled easily	No read	Tag detached	No read; Tag peeled easily	No read; Tag peeled easily	N.E.

\*\* = RFID tag read with difficulty (significantly lower hits/second)

**Read Range Test** - In many cases the tags read intermittently for longer distances than those indicated, however, the results reported below were for continuously responding reads.

Universal JR Anechoic Chamber Results					
Sample Average	METAL	PLASTIC	CARDBOARD	WOOD	GLASS
	13.47 feet	6.8 feet	6 feet	9.67 feet	13.33 feet