Universal Mini RFID Asses Tag

The only thing "mini" about this tag is size

The **Universal Mini RFID Asset Tag** has a smaller footprint and lower profile, easily fitting where other tags may be too large and impending but still give incredibly clear reading ranges compared to other tags in its tier. This tag is 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 including metal, plastic and 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 barcode against moderate solvents and caustics/acids while our four-color processing capabilities allow you to promote your company with a label that shows off your company logo. Our digital printing process ensures even the most detailed logos will look crisp and clean.

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 -29°C to -32°C (-21°F to -26°F) with no signs of failure.

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 was used to test the samples.

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

Length of Immersion	Water	Glass Cleaner	Bathroom Cleaner	Isopropyl Alcohol 99%	Acetone	NaOH pH 12.0	HNO3 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.

Temperature	RFID read test (Immediately out of oven)	Appearance of tags
52°C (125°F)	Reads well	No change
57°C (135°F)	Reads well	No change
63°C (145°F)	Reads well	No change
74°C (165°F)	Reads well	Slight curling at edge
85°C (185°F)	Reads well	Slight curling at edge
96°C (205°F)	Reads well	Slight curling at edge
107°C (225°F)	Reads well	Severe curling at edge Tag discoloured

Universal Mini Anechoic Chamber Results				
Sample Average	METAL 4.10 metres (13.47 ft)	PLASTIC 2.07 metres (6.8 ft)	CARDBOARD 1.83 metres (6 ft)	WOOD 2.94 metres (9.7 ft)	GLASS 4.06 metres (13.33 ft)

SPECIFICATIONS

Construction	Inlay wrapped around 0.031 mm (^{1}/32") closed cell foam.
Label Copy	The label copy may include block type, stylised type, logos or other designs. All copy, block type, stylised type, logos, designs, and barcode are subsurface printed.
Colours	Standard colours include black, red, yellow, green and blue. All barcodes are imaged in black only, due to contrast needed for the barcode scanner.
Serialisation	Barcode 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 9.4 CPI (characters per inch). *Optional* linear and 2D symbology available.
Programming	The barcode and human readable can be programmed into the RFID inlay as long as the information is in decimal or hexadecimal (A-F, 0-9) format. We can custom en- code your information to EPC and user memory banks. If desired, we can encode information that differs from the barcode and human readable.
Locking	All Universal RFID tags are password locked. The password can be designated by us, or if desired, the customer can designate their own specific password.
Frequency	Custom designed UHF inlay uses Alien Higgs 3 chip optimised for use at 915 MHZ.
Standard Size	70 mm x 19 mm (2 ^{3}/4" x ^{3}/4")
Standard Adhesive	Pressure sensitive acrylic (MC778), 0.002" thick supported by a liner. Very high peel strength that provides excellent resistance to heat and chemicals. Withstands temperatures from -40°C to 149°C / 40°F to 300°F (intermittent). Shelf life of 24 months when stored at 22°C (72°F) and 50% relative humidity.

- **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 and 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 colours.**

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.