

Onsite Printable Universal Mini RFID Asset Tags

The only thing "mini" about this tag is size

The **Onsite Printable Universal Mini RFID Asset Tag** has a smaller footprint and lower profile, easily fitting where other tags may be too large and impeding but is still able to give incredibly clear reading ranges compared to other tags in its tier. This tag is developed the same as the Universal Mini RFID Asset Tag, but now you can gain the benefits of onsite printing. The **Onsite Printable Universal Mini RFID Asset Tag** is a surface autonomous tag that uses a patented inlay design and passive RFID technology to obtain excellent read ranges regardless of the surface, such as metal, plastic and even wood.



Along with the Universal RFID Asset Tag, Universal Mini RFID Asset Tag and Universal RFID Hard Tag, these products make up a revolutionary product line that allows you to use just one RFID tag for your asset tracking application. This unique inlay adheres to a thermal transfer printing receptive substrate constructed from a variety of durable materials.

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. Tests were conducted for inlay and adhesion, not for print readability.

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 Onsite Printable 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 to -26°F) with no signs of failure.

Inlay and Adhesive Chemical Soak Test - The Onsite Printable 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 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.

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.

Onsite Printable Universal Mini Anechoic Chamber Results					
Sample Average	METAL 4 meters 13.47 feet	PLASTIC 2 meters 6.8 feet	CARDBOARD 1.8 meters 6 feet	WOOD 2.9 meters 9.67 feet	GLASS 4 meters 13.33 feet

SPECIFICATIONS

Construction	Thermal transfer printable substrate options of polyester or paper.
Frequency	Custom designed UHF inlay uses Alien Higgs 3 chip optimised for use between 902 - 928 MHz.
Ribbon Recommendations	Use a hybrid wax/resin ribbon for the paper face and for the polyester face we recommend a full resin ribbon or other ribbon that is compatible with synthetic film.
Standard Size	(2 3/4" x 3/4")
Standard Adhesive	Pressure-sensitive acrylic (MC778), 0.05mm (0.002") thick supported by a liner. Very high peel strength that provides excellent resistance to heat and chemicals. Withstands intermittent temperatures from: -40°C to 148°C (40°F to 300°F). Shelf life of 24 months when stored at 22°C (72°F) and 50% relative humidity.

- **Smaller footprint and lower profile while still achieving incredibly clear reading range sets this product apart from others**
- **Patented inlay design obtains excellent read ranges regardless of the surface including metal, plastic and even wood**
- **Thermal transfer printer receptive; for best results we recommend using a Zebra R110Xi4 printer**

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
121°C (250°F)	Test failed	Tag destroyed



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