



Retail & Jewelry RFID Tag

RFID Product • RFID Labels • Short Range RFID

Technical Data Sheet

Part: #WF- SM-16

General Description

Retail & Jewelry RFID Tag

- Compact size
- Exceptional performance
- Suitable for item- level applications



This cost- effective RFID tag is designed to track high- value retail items and fine jewelry. Made of sturdy polyester, the tag encircles an item and stays in place until removed with scissors. Once secured in place, it is extremely difficult to remove this tag by ripping it off. Typical applications for this tag include, but are not limited to, jewelry, apparel hang tags, pharmaceuticals, cable markers and other items with limited space for identification.

The William Frick Retail & Jewelry RFID Tag works well with metals like gold and silver, as well as other materials. The design of the tag enables versatile read angles. In addition, this tag can be combined with AuthentiCal® technology, making it tamper- evident.

The size and shape of the tag can be adjusted to allow a choice of inlays, frequencies and applications.

Applications

Food & Drugs, Retail Product Tracking, Product Verification, Tools Tracking, Firearms Tracking

Material Description

Tear- resistant Polyester

The tag can be printed with a serialized barcode and/ or logo

Overall Thickness	2.0 mil plus 1.0 mil laminate
Expected Durability	3 - 5 years
Water Resistance	Excellent
UV Resistance	Fair
Chemical Resistance	Good



Test*	Temperatures and Duration	Results
Maximum Temperature	Long- term at 10 hr: 200°F (93.3°C)	No effect on tag. Tag remained the same in appearance and RFID performance/ function. There was no sign of peeling, tearing or destruction. The tag read normal after the tests. *Test is not limiting.
	Standard at 5 min: 230°F (110°C)	
	Short- term at 90 sec: 240°F (115.6°C)	
Minimum Temperature	-40°F (-40°C)	
Temperature Cycling	The tag was cycled to 240°F at equilibrium for five times. Between each cycle, it was air cooled to room temperature and read with an RFID reader.	

RFID Performance

Inlay Type	EPC Gen 2 (v1.2.0) compliant
Inlay Manufacturer	Alien Higgs-3 IC with 800 bits of Nonvolatile Memory
Frequency Range	840-960 MHz (Global)

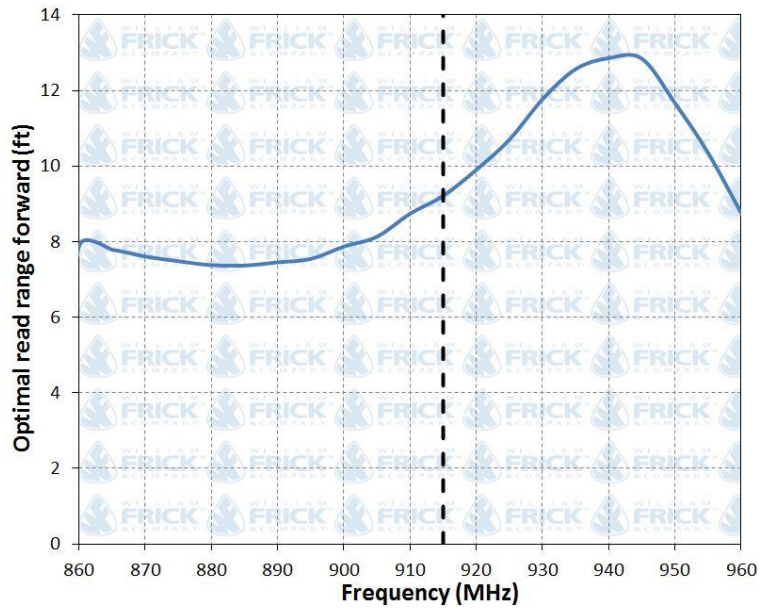
Preprogrammed with a unique, unalterable 64- bit serial number (ideal for authentication)

Tested Polarization:

Tag performance was experimentally measured in an anechoic chamber and a known set of experimental variables. The antenna used for measurements was linearly polarized and of monostatic configuration. The direction of tested polarization is as follows.



Optimal Read Range* on Different Material Surfaces:



*Tag performance was measured free of material influence. Actual read ranges may differ depending on conditions such as environment, tag placements, hardware, etc.

Adhesive

More aggressive adhesives or removable adhesives can be used to better suit the application.

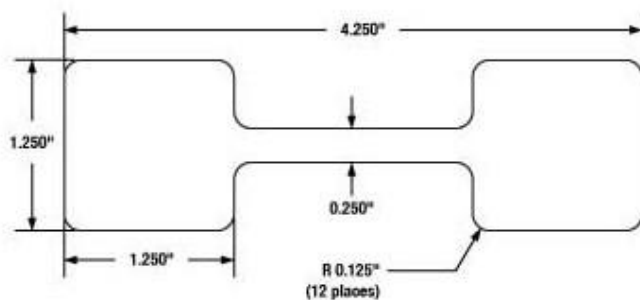
Permanent or Removable

Thickness	2.0 mil ± 10%
Min App Temp	50° F
Tag Application	Adheres to itself

Shelf life

Stored at 70° F and 50% RH

3-5 years



ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED
 TOLERANCES
 3 PLACE DECIMAL + OR-.005"
 2 PLACE DECIMAL + OR-.02"
 1 PLACE DECIMAL + OR-.1"
 MAX SURFACE ROUGHNESS
 ALL MACHINED SURFACES EXCEPT AS NOTIFIED
 BREAK SHARP EDGES AND CORNERS .010" MAX

Contact No.	William Frick & Co.			www.fricknet.com
DWG.	Retail & Jewelry RFID Tag			
Engr.				
Chk.				
Aprvd.	Size.	DWG No. WF- SM-16	Rev.	

Test product for system compatibility as individual application conditions can impact results. William Frick Co. does not assume any responsibility or liability for any advice furnished by it, or for the performance or results of any installation or use of the product(s) or any final product into which the product(s) may be incorporated by the purchaser and/ or user. The purchaser and/ or user should perform its own tests to determine the suitability and fitness of the product(s) for the particular purpose desired in any given situation.



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