



Impact-resistant housing combined with an ultrasonically welded seal protects the subsurface printed label and RFID inlay from harsh environments including harmful UV rays. Affixing methods include mechanical fasteners (standard) and/or adhesive (optional).

This revolutionary product line features surface-independent tags with a patented inlay designed to obtain excellent read ranges regardless of the surface - metal, plastic or even wood. Custom programming matches the printed bar code information on the label allowing you the option of using both tracking technologies. No other RFID tags available offer these features!

## Features

Patented inlay design obtains excellent read range regardless of surface – metal, plastic, even wood

Impact-resistant housing protects RFID inlay from harmful UV rays

Ultrasonically welded seal protects RFID inlay from caustics/acids

Affixing methods include mechanical fasteners (standard) and/or adhesive (optional)

## Product Print Options

Barcode . Data Matrix . QR Code . RFID . Serial Number . Text

## Product Functionality

Abrasion Resistance . Chemical Resistance . Heat Resistance . UV/Outdoor Durability

## Popular Applications

Government . Inventory . Marine . Oil & Gas . Supply Chain . Transportation / Logistics . Utilities . Warehouse / Distribution Centers . Manufacturing

## Category

On Metal RFID . RFID Tags . Universal RFID

## Specifications Data

Universal hard tag product information

<b>Material</b>	<b>.002" thick polyester; .20" total product thickness</b>
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
Frequency Range	Custom designed UHF inlay uses Alien Higgs 3 chip optimized for use at 915 MHz.
Sizes	4.125" x 1.75"
Packaging	Shipped in "work-out-of" cartons for convenient application.
Shipment	20 business days

## Chemical Testing

In all cases, after 3 weeks soaking in these chemicals, all the tags and labels responded properly when interrogated with a handheld RFID reader, and all the bar codes except those soaked in acetone were readable with a standard bar code reader. NOTE: Samples tested with adhesive.

### Chemical Test Data

Length of immersion	Water	Glass Cleaner	Bathroom Cleaner pH 10.0	Isop. alcohol 99%	Acetone 1005	NaOH Ph 12.0	HCl pH 1.0	Brake fluid
2 hours	no effect	no effect	no effect	no effect	Surface of housing slightly cloudy	no effect	no effect	no effect
24 hours	no effect	no effect	no effect	no effect	Plastic housing softened, but RFID tag still readable	no effect	no effect	no effect
1 week	no effect	no effect	no effect	P.S. adhesive softened	Plastic housing brittle, opaque, but RFID tags still readable	no effect	no effect	no effect
3 weeks	no effect	no effect	no effect	P.S. adhesive softened	Plastic housing softened, but RFID tag still readable	no effect	no effect	no effect

## Temperature Testing

Heat Testing - Product withstood temperatures up to 240°F (115°C) for short term (10 minute) periods. They will withstand temperatures up to 160°F (71°C) for extended periods (tested for six hours with no degradation). The tests demonstrated that when the transponder was not readable at temperatures above 185°F (85°C), but resumed function when temperatures were once again reduced below 185°F (85°C). Cold Testing - Tags were tested outdoors at 0°F and were readable, but read distance was reduced to half of the read distance observed at 60°F (15°C).

## Read Range Testing

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

### Read Range Test Data

Device used	Test results (all at 30 dBm)			
Handheld convergence CS-101	Metal	Plastic	Cardboard	Wood
Universal RFID Hard Tag	10 feet	5 feet	5 feet	5 feet