



For asset tracking applications that require heavy impact or water resistance we offer our RFID Hard Tag. Constructed of durable impact resistant polycarbonate, this product features a hermetically welded housing that protects the subsurface printed label and the RFID inlay from rigorous environments. Inside the housing the air gap between the inlay and the metal surface provides for a longer read range than similar products. Affixing methods include mechanical fasteners and/or adhesive.

The polycarbonate housing protects the RFID Hard Tag from environmental conditions that could affect the performance of the inlay. The label component of the product features subsurface printing that may include variable data such as bar code and/or human readable numbers – allowing users to utilize both bar code and RFID technologies.

Four-color processing allows you to promote your company with a label that shows off your company name or logo. Metalcraft's digital printing process ensures even the most detailed logo will look crisp and clean.

## Key Product Features

- Affixing methods include both mechanical fasteners and adhesive
- Constructed of impact-resistant polycarbonate to survive abusive environments
- Air gap between inlay and metal surface provides longer read range than similar products
- Hermetically welded housing tested to withstand water depths of 132'
- Meets ANSI spec for seal and dust environment
- Digital printing process provides for greater print capability with detailed logos or special designs

Not sure what product you need?

Call our trained Experts!

**800-437-5283**



149 4th Street SW • P.O. Box 1468  
Mason City, IA 50401-1468  
www.idplate.com  
E-mail: metalcraft@idplate.com



# RFID Hard Tag Specifications

**Construction:** Label: KSW Windshield RFID inlay encapsulated between .002" thick white polypropylene. Housing: UV stabilized polycarbonate; clear window for internal label accommodates bar code and human readable.

**Read Range:** 10-11' using AR400 reader at 30dbm mounted on an aluminum surface.

**Serialization:** Bar code and human-readable equivalent is 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 symbology is Code 128. The bar code and human readable can be programmed into the RFID inlay as long as the information is in decimal or hexadecimal format. The programmed information can be locked, which prevents the RFID inlay from being rewritten. Metalcraft can encode up to 24 hexadecimal characters into the RFID inlay. If desired,

Metalcraft can encode information that differs from the bar code and human readable.

**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.

**Size:** Label: 3.85" x .67". Housing: 5.058" x 1.005" x 0.525"

**Affixing Methods:** Permanent, pressure sensitive adhesive and/or mechanical fasteners.

**Shipment:** 15 work days upon receipt of order and proof approval.

**To Order:** Call **1-800-437-5283** and ask for customer service.

## Test Results

### Chemical Soak Test Results

Length of Immersion	Water	□lass Cleaner	Bathroom Cleaner	Alcohol	Acetone	Sodium Hydroxide	Nitric Acid	Hydrochloric Acid	Brake Fluid
2 hours	NE	NE	NE	NE	Some effect on surface of housing	NE	NE	NE	NE
24 hours	NE	NE	NE	NE	Plastic housing softened, but RFID tag still readable*	NE	NE	NE	NE

### Heat Test Results (1 hour at temperature)

□lay Type	150°F	200°F	250°F	300°F	350°F	Boiling Water (1 hour)
KSW Windshield	NE	NE	RF reads/bar code reads but is deformed	RF reads/bar code reads but is deformed	RF reads after cooling/bar code unreadable	RF reads/bar code slightly wavy
Rafsec Short Dipole	NE	NE	RF reads/bar code reads but is deformed	RF reads/bar code reads but is deformed	RF reads after cooling/bar code unreadable	RF reads/bar code slightly wavy

**Impact Test Results** (A 10.2 lb weight was dropped from a distance of 8, 6, 4, and 2 feet and the condition of the housing was observed.)

Height	Velocity	Kinetic Energy	Impact Force Metric	Impact Force English	Observations
2.238 m	6.912 m/s	110.55 J	184250 N	20.7 Tons	RF reads/weld damaged
1.828 m	5.94 m/s	81.62 J	136033 N	15.3 Tons	RF fails/visible damage
1.219 m	4.85 m/s	54.41 J	90689 N	10.2 Tons	RF reads/visible damage
0.609 m	3.45 m/s	27.61 J	46024 N	5.2 Tons	RF reads/slight visual damage

NE = No Effect \*human readable and bar code images were totally obscured by the "frosting" of the plastic surface.

## RFID HARD TAG PRICING

	PRICES PER 100				
	300	500	1,000	2,500	5,000
<b>SIZE: 5" x 1" - no adhesive</b>					
One-Color Style	865.88	786.71	754.47	710.20	549.97
Two-Color Style	871.13	789.99	756.87	711.33	550.67
Three-Color Style	876.38	793.27	759.27	712.46	551.31
<b>SIZE: 5" x 1" - with adhesive</b>					
One-Color Style	984.14	872.05	815.11	756.09	590.91
Two-Color Style	989.39	875.33	817.51	757.22	591.61
Three-Color Style	994.64	878.61	819.91	758.35	592.25