

# PRODUCT DATASHEET

## Confidex Heatwave Tough™



RFID tag with high temperature resistance and good performance for metallic surfaces

### ELECTRICAL SPECIFICATION

#### Device type

UHF RFID / EPCglobal Gen2v2

#### Operational frequency

ETSI: 865-869 MHz

FCC: 902-928 MHz

#### IC type

NXP UCODE 7xm™

#### Memory configuration

EPC 448 bit, user 2048 bit, TID 96 bit

#### EPC memory content

Unique number encoded

#### Read range (2W ERP)\*

On metal up to 7 m / 23 ft

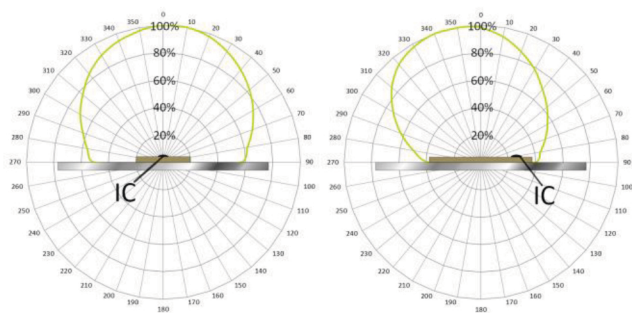
On plastic up to 2 m / 7 ft

#### Applicable surface materials\*

Optimized for metallic surfaces

\* Read ranges are theoretical values that are calculated for non-reflective environment, in where antennas with optimum directivity are used with maximum allowed operating power according to ETSI EN 302 208 (2W ERP). Different surface materials may have an effect on performance.

### RADIATION PATTERN



### MECHANICAL SPECIFICATION

#### Tag materials

Special epoxy-based engineering composite designed for extreme temperatures.

#### Weight

9,5

#### Delivery format

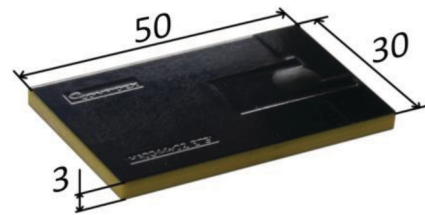
Single

#### Amount in box

100pcs

#### Dimensions

50 (±0,3) x 30 (±0,3) x 3 (±0,2) mm / 1.97 x 1.18 x 0.12 in  
IC bump maximum height 1,6mm / 0.06 in



### ENVIRONMENTAL RESISTANCE

#### Operating temperature

-40°C to +85°C / -40°F to +185°F

#### Peak temperature

Peak temperature 50min at 250°C / 482°F

#### IP classification

IP68

#### Chemical resistance

No physical or performance changes in:

- 168h Salt water (salinity 10%)
- 168h Motor oil
- 168h Acetone
- 24h NaOH (10%, pH 13)
- 1h Sulfuric Acid (10%, pH 2)

#### Expected lifetime

Lifetime is years in normal operating conditions. Not designed to be used in specified peak temperatures several times but can withstand for example drying cycles of vehicle chassis during the paint shop process.

Values in the table are the best recommendations; resistance against environmental conditions depends on the combination of all influencing factors, exposure duration and chemical concentrations. Thus, product's final suitability for certain environmental conditions is recommended to be tested. Contact Confidex for more specific information.

PERSONALIZATION OPTIONS

Pre-encoding

- Customer-specific encoding of EPC with or without locking

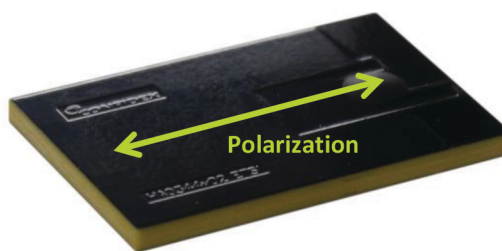
Visual marking

- Laser engraving of customer-specific content

Backside adhesive

- Optional backside adhesive for high temperatures

Polarization of Confidex Heatwave Tough is as shown below. This should be considered when using linear reader antennas.



INSTALLATION INSTRUCTIONS

Confidex Heatwave Tough™ can be attached with below fixing methods:

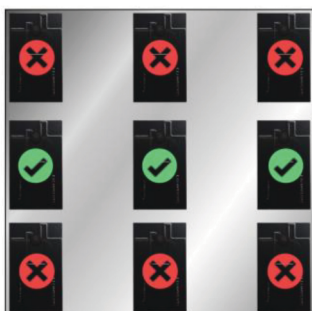
1. High performance acrylic foam adhesive (not included by default)

When background foam adhesive is ordered the tag is delivered with adhesive attached. When mounting the tag with its adhesive background, clean and dry the surface for obtaining the maximum bond strength. Ideal application temperature is from +21°C to +38°C (+70°F to +100°F). Installation at temperatures below 10°C (50°F) is not recommended. Backside adhesive is not the optimal attachment method in most extreme temperatures.

2. Other adhesive fixings
  - Polyurethane adhesives
  - Epoxies
  - Silicone sealants

There are several high temperature resistant structural adhesives available. We recommend contacting adhesive suppliers for recommendations and exact fixing instructions. When tag is attached with structural adhesive, insert a layer of adhesive under the tag and press the tag on the surface. Adhesive type and thickness may influence tag performance. In general, more than 1mm layer of adhesive under the tag should be avoided.

When attaching the tag on the metallic asset please ensure there is always metal left on top and below the tag for optimal performance.



ORDER INFORMATION

- Product number:** 3004164  
**Product name:** Confidex Heatwave Tough™ 7xm ETSI
- Product number:** 3004163  
**Product name:** Confidex Heatwave Tough™ 7xm FCC

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