

Product specification

((rfid))-DistaFerr SL2 -49548 (UHF-ETSI) (50.0 x 22.5 mm²)
Designation of specification: PS_5122_1_DistaFerrSL2_50x22_5_ETSI

1. General Description

This description is meant to give technical parameters for possible designs of this product, its range of applications and features of a general nature.

Details relating to specific customized versions or development projects were intentionally not considered. These details are subject to individual product specification for the product concerned. Please note that the appropriateness of the product described here must be thoroughly tested and confirmed by us in writing for all kinds of applications.

White, blank and unprogrammed ((rfid))-UHF Label for identification of items.

The label is suitable for TTR-post-printing processes and programming processes with UHF-readers.

It is equipped with a permanent adhesive, which in principal is suitable for the application on plastics, glass, aluminum and stainless steel. The labels are supplied on a liner.

The label is suitable for the frequency band of 865 – 868 MHz (ETSI).

The DistaFerr SL2 label provides very high read ranges on metallic objects. It is also suitable for the tagging of non-metallic items.

Depending on the surface characteristics (i.e. aluminium, steel (varnished and non-varnished), glass, plastics, carbon) and environmental conditions theoretical read ranges up to four meters can be achieved. *)

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Prepared: Nov 22 nd 2017 Dr. Conrad Clauß, Product & Process Coordinator (RFID)	Approved Nov 22 nd 2017 Dr. Jens Vor der Brueggen, Head of R&D	Supersedes PS-No. 5122_0
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2. Product layout

Label:

- Format: 50.0 x 22.5 mm² +/- 0.5 mm
- Corner radius: 1.5 mm +/- 0.5 mm
- Pitch: 25.4 mm +/- 0.5 mm
- Liner-width: 55.0 mm +/- 1.0 mm
- Thickness: 1.65 mm +/- 10 %

RFID-Inlay:

- Protocol: ISO/IEC 18000-6C – Gen 2 Class 1
- Chip type: NXP UCode 7XM
- RFID system frequency: 865 – 868 MHz (ETSI)
- Memory: 448 Bit EPC-memory
2048 Bit user memory
- Write cycles (chip): min. 100,000 per lifetime
- Data retention (chip): 50 years

(Write cycles and data retention are according to the chip specification and only valid if the product is stored < 55 °C all the time)

3. Product Properties

RFID-Read range:

- on metal: approx. 4 m *)
- on non conductive surface: approx. 1 m *)

Temperature resistance:

- Operating temperature: -30 °C ... +85 °C
- Storage conditions: -30 °C ... +85 °C

(the RFID-functionality is not granted at temperatures exceeding the operating temperature)

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Adhesion force to substrate:

(according to Finat FTM 1 on Schreiner-test plates – discharge angle = 180°; bonding time = 24h)

- Steel: > 20 N/25mm
- Aluminum: > 20 N/25mm
- Glass: > 30 N/25mm
- PE-Plastics: approx. 5 N/25mm

4. Material properties / standards / registrations

- Compliant with REACH-directive (EG) 1907/2006
- Compliant with RoHS-directive 2011/65/EU
- Compliant with CE-directive

RoHS

CE

- According to our current knowledge and based on the information of our suppliers, the materials used for the product, which has been designed for bonding to a substrate, contain no silicone as a substantial component in the applied state (without protective cover = liner). The protective cover is a siliconized liner, which is usually used in the label industry. This liner contains silicone in bound form, so that disturbances during painting are not expected to silicone carryover. However it cannot entirely be eliminated that traces of unbound silicone - due to migration – are present on the surface of the protective cover of this production, so due to this background cannot be confirmed that the product is free from silicone 100 percent.

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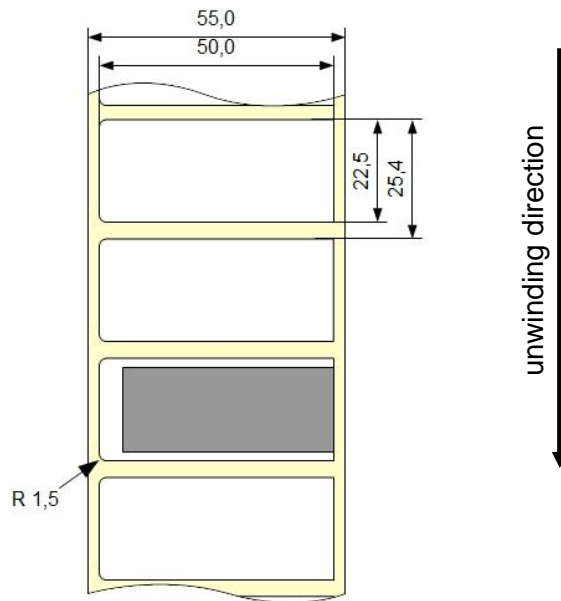


Figure 1: Top view of the label including dimensions in mm.

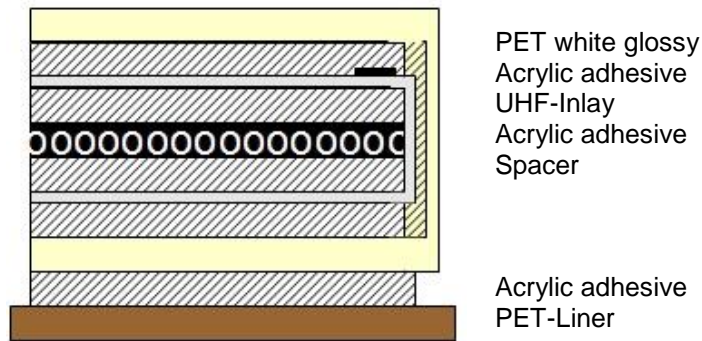


Figure 2: Side view of the label

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5. Post printing

The labels are designed for TTR-post-printing. Specially configured hardware (TTR-printer) and software is provided by Schreiner Competence Center Systems.

For TTR-post-printing the printable area is shown on figure 3. The edge around this area is supposed to remain blank due to potential graphical errors in the printing.

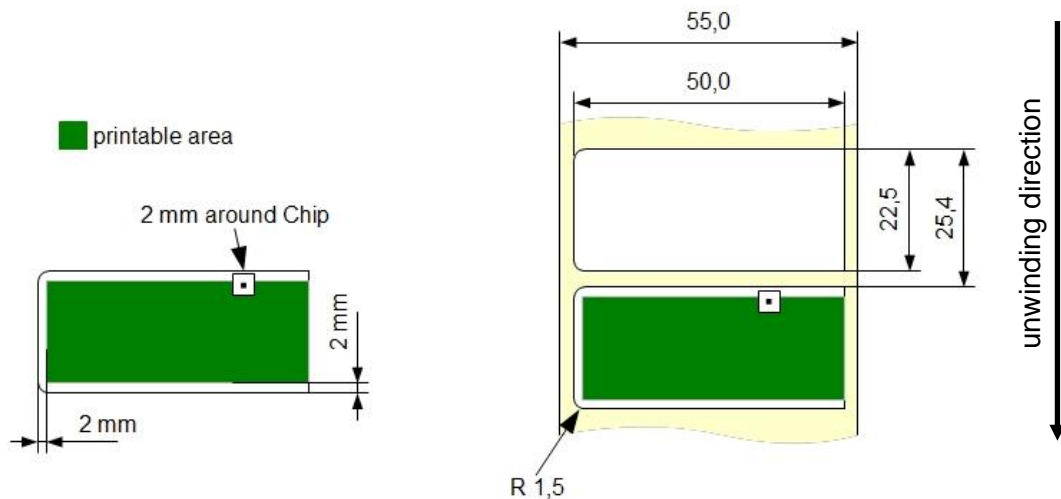


Figure 3: Printable area for TTR-post-printing on label

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6. Delivery Information

Shipping of the labels on reels.

Roll core diameter: 76 mm

Reel outer diameter: 200 mm

Upwinding / Unwinding direction

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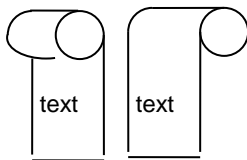


Figure 4: Unwinding directions

Amount Labels / Reel:	500 pieces
Missing labels in succession max.:	none
Splices max.:	no restrictions
Execution of splices:	see description (figure 5)
Leader:	0,5 m
Trailer:	0,5 m

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Splices:

- Silicone-Liner is cut in right angles (see figure 5)
- Straight edge combination of both liner parts
- Single-sided siliconized liner: Back side (not siliconized) attached, with 50 mm wide splice tape
- Max. pitch tolerance ± 2 mm
- Splice not wider than liner, tolerance $+ 0 / - 5$ mm
- The splice is done on the back side of the liner between two labels.
- The used adhesive tape is transparent and has a thickness of about 90 μm .

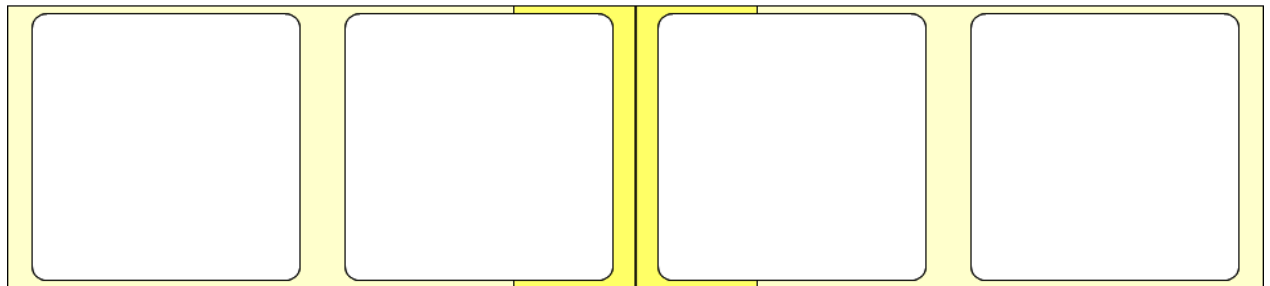


Figure 5: Splice in label pitch

7. Processing Instructions

The surface to which the adhesive is applied must be dry and free of dirt, grease (oil residues) and release agents. Loose surface particles or oxidation layers reduce glue adhesion.

Recommended cleaning agents: grease-free solvents, like heptan, isopropyl-alcohol or alcohol.

However, the most suitable cleaning agent in practice must be established in the course of laboratory testing.

The minimum apply temperature is $+10^{\circ}\text{C}$.

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8. Instructions for Transporting, Storing and Processing

Please follow the general instructions for transporting, storing and processing of RFID transponder labels of the Schreiner Group GmbH & Co KG.

www.schreiner-group.com.

9. Revision History:

S/N:	Date:	Description of change:
PS_5122_0	May 30 th 2017	Initial version
PS_5122_1	Nov 22 nd 2017	Changes in printable area; User Memory 2 kbit

*) Measured under laboratory conditions in an anechoic chamber with calibrated measurement equipment

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