



Inspection Direction, Swap

Applicable for MD300

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1 General

This document describes the cosmetic inspection requirements each product must meet if it is to be designated as an exchange unit (swap).

2 Equipment

As an aid in estimating the size and appearance of the defects, the following are to be used:

- LZT 123 2118 Template, Plastic surfaces *
- LZT 126 2496 Viewing calibration.

* This may also be used for checking other types of defects

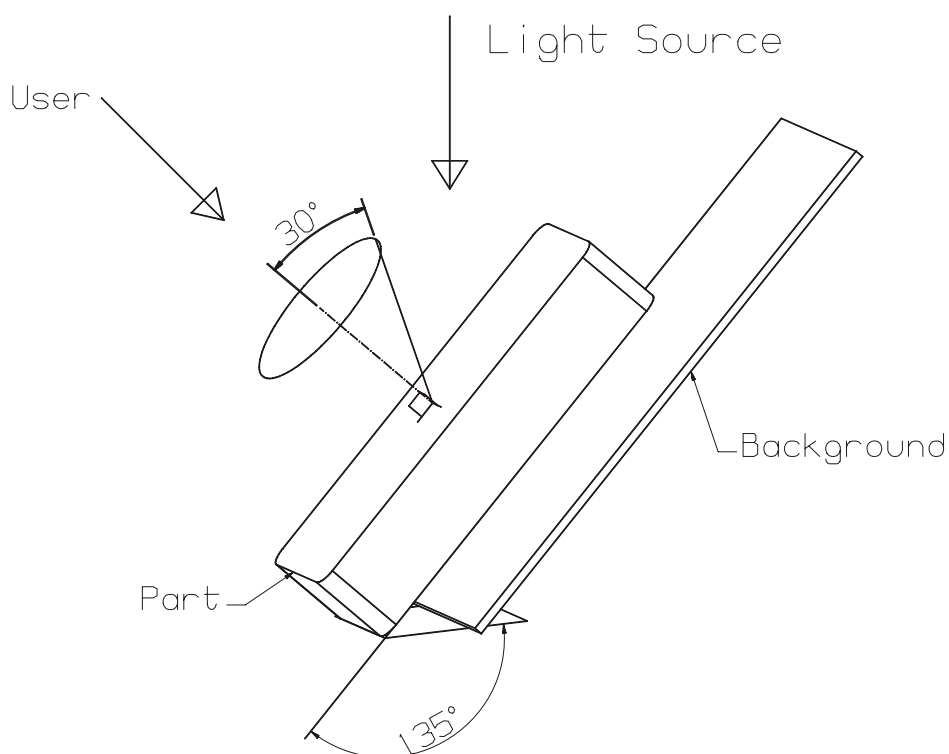
This document may not have covered all possible defects. Should you encounter a new area of concern not documented here then contact the appropriate quality authority for guidance.

3 Inspection Guidelines

The component should be placed approximately 10cm in front of a grey (NCS 5010-G90Y) background. General lighting should be 1000 lux \pm 200 lux, indoors, diffused, fluorescent warm white light. The light should be distributed from straight above.

The standard viewing distance for all surfaces {cosmetic & non cosmetic} will be 40 to 50cm. *{This is an average representation of 1 arm's length & is a standard inspection class to represent the normal operational distance by the product user.}*

The part should be inspected with the specified lighting directly above with the part at 45° to the light. The part should be viewed nominally at 90° to the front surface and rotated by 30° in all directions so that it reflects the light.



The part must be free from all internal process labels (such as inspection and barcode labels), fingerprints, spots, oil, grease and other defects that ruin the overall visual impression.

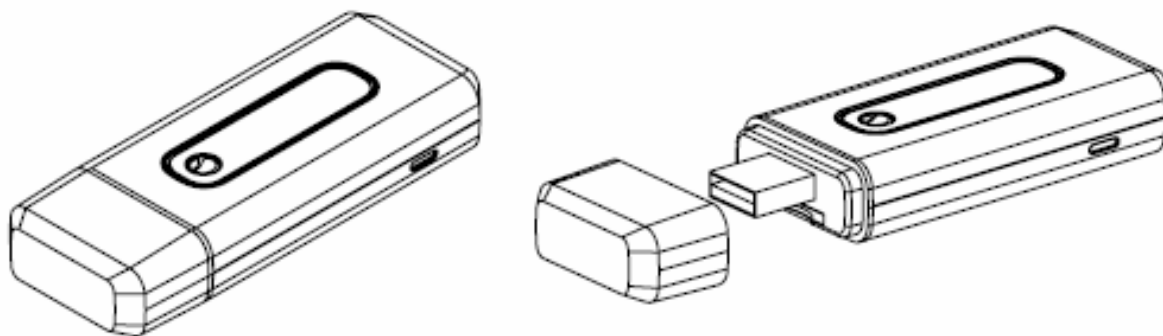
The assembly gap shall be a maximum of 0.4 mm unless otherwise specified.

4 Surface Defect Guide

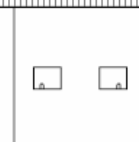
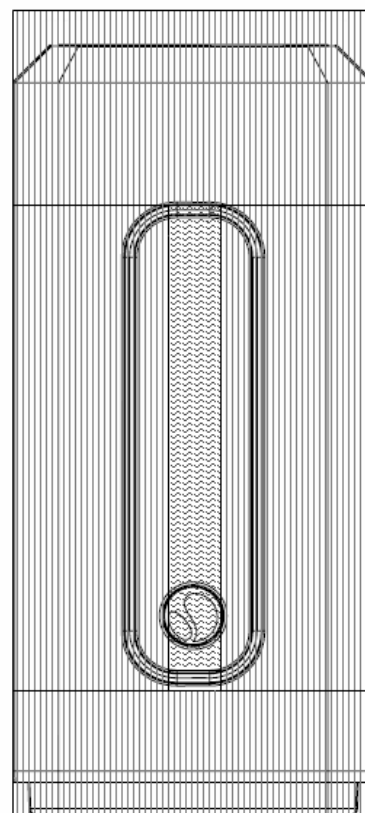
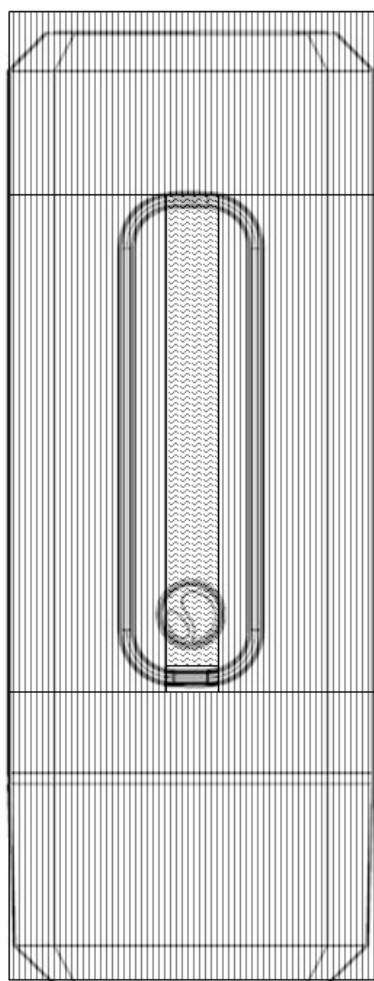
The Silverthron is divided into A, B and D surface types according to the table below:

Surface Type	Defect Size	Maximum defects per part	Order of Inspection	Time of inspection
A	0.03 mm ²	2	4	5 seconds
B	0.05 mm ²	2	3	5 seconds
C	0.15 mm ²	2	2	3 seconds
D	0.30 mm ²	2	1	3 seconds

Surface types are delimited in a graphic fashion. Such illustrations are indicated as follows:



Top/Badge View



USB Connector is not a cosmetic surface

Type A surface (Printed area and Icon)

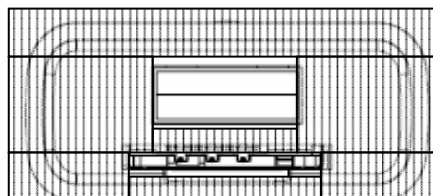
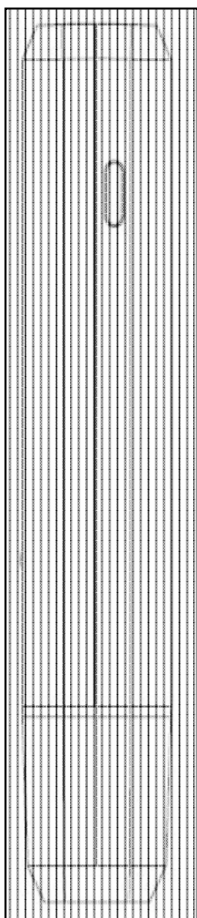


Type B surface (Including: Non-Printed Badge Area)





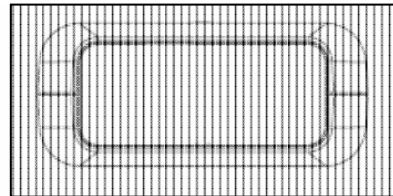
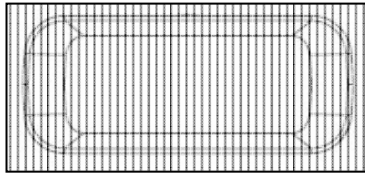
Sides/Connector View



Type B surface



Front/Cap Views

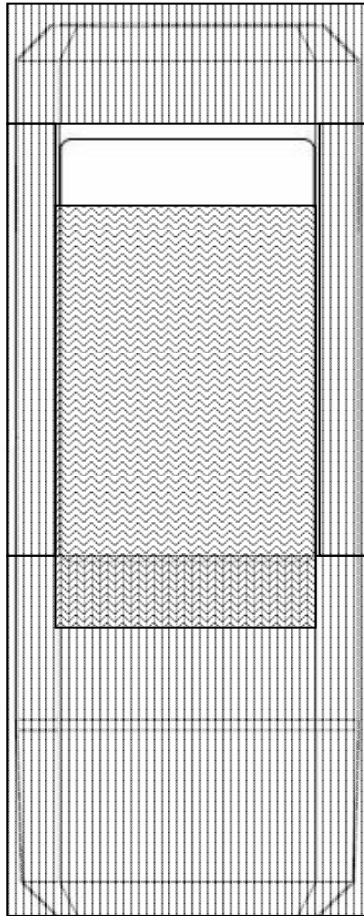


Type B surface





Bottom View



Type B surface



Type D surface



5 Unacceptable Defects

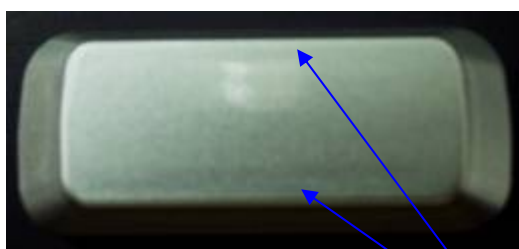
Unless specifically mentioned in the text, defects are not accepted anywhere on cosmetic (visible to the end user) surfaces. Examples include (but not limited to) the following:

- Sink Marks
- Gating Point marks
- Blank Marks
- Burrs
- Flash
- Flow lines
- Stress marks
- Colour variation
- Drag marks from tool release
- Gas entrapment marks
- Scratch marks
- Dents

6 Cosmetic Exceptions

6.1 Paint Build-Up

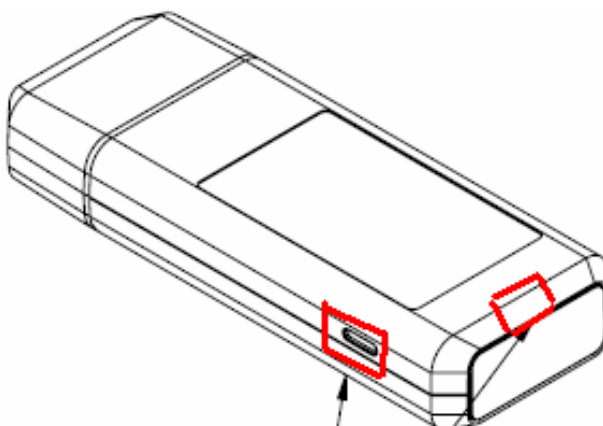
Paint Build-up is allowed on top of cap as shown in figure below.



Paint build-up on silver color

6.2 Parting Line Burrs

Parting or Witness Line burrs of a maximum 0.1 mm is accepted around clip recess insert (2X) and Lanyard hole shown in figure below.



Parting Line Burr

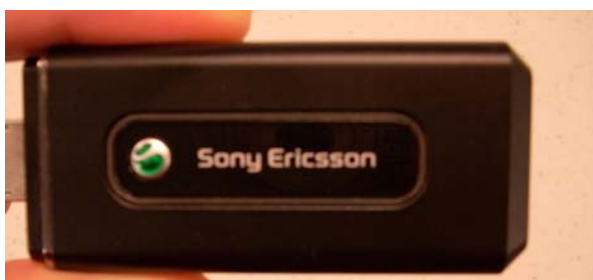
6.3 Allowable Assembly Gaps

Allowable assembly gaps are defined below:

- Gap between top and bottom cover: 0.4 mm.
- Gap between top cover and light guide: 0.4 mm.
- Gap between light guide and badge: 0.4 mm.
- Gap between trim ring and top/bottom cover: 0.05 mm.

6.4 Badge Gate Area

Badge gate will have light reflection at a 75-90° viewing angle, as shown below.

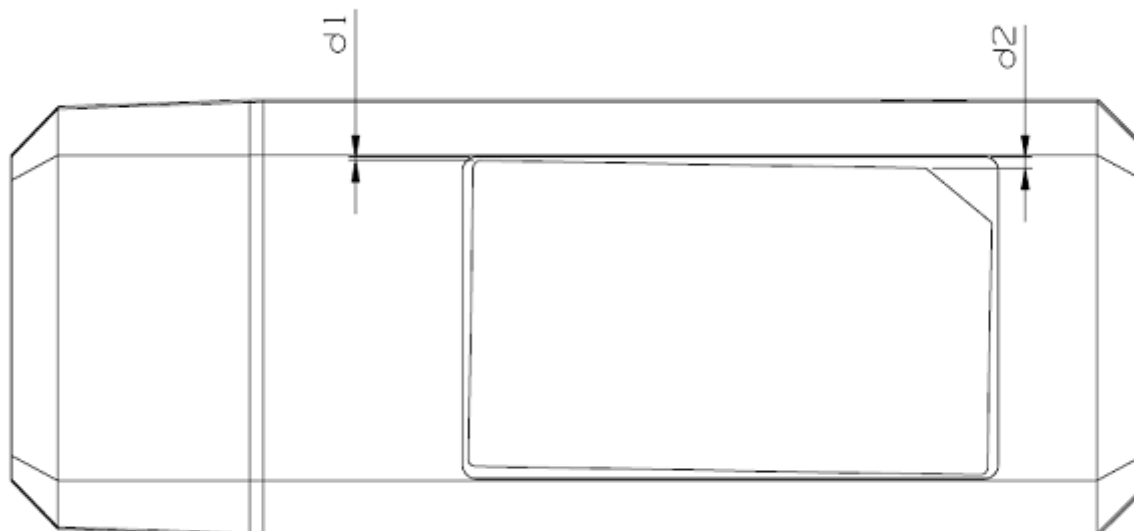


Normal inspection angle at 45°



Inspection angle at 75°~90°

6.5 Label Placement Accuracy



Label must be fully within the boundary defined by the label recess.

Maximum label "skew" shall be as follows:

$$d1 - d2 < 1.2 \text{ mm}$$

d1 = maximum space between label corner and edge of label recess

d2 = minimum space between label corner and edge of label recess

7 Revision History

Rev.	Date	Changes / Comments
1	March 11, 2008	Initial Release