



KYOCERA STANDARD
SPECIFICATION
FOR
GLASS LIDS
(WITHOUT CHAMFER)
WITH
LOW TEMPERATURE SEALANT
(LTS)

KSD-248-0091-1

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1 Scope and Applicable Documents

This document is applicable to the glass lids (without chamfer) with Low Temperature Sealant (LTS) produced by Kyocera Corporation.

The following order of precedence shall govern in the event of conflict between the specifications in this document and others :

- (1) Purchase Order
- (2) Approved customer drawings
- (3) Approved customer specification
- (4) Kyocera drawings
- (5) Kyocera specification

2 Material

2.1 Glass :

Glass shall be in accordance with the applicable drawings.

2.2 LTS :

LTS shall be in accordance with the applicable drawings.

3 Dimensions

3.1 Glass :

Dimensions and tolerances shall be in accordance with the applicable drawings.

3.2 LTS :

Dimensions and tolerances shall be in accordance with the applicable drawings.

4 Appearance

4.1 Glass :

(1) Dust and contamination

Dust and contamination shall be in accordance with the applicable drawings.

Dust and contamination shall be acceptable if removable with air or nitrogen blow at 294 kPa.

(2) Scratch and bubble

Scratch shall be less than or equal to 0.02 mm.

Bubble shall be less than or equal to 0.02 mm.

(3) Chips

Chips shall be less than or equal to 1.50 mm x 0.50 mm x 1/2 the thickness of the glass.

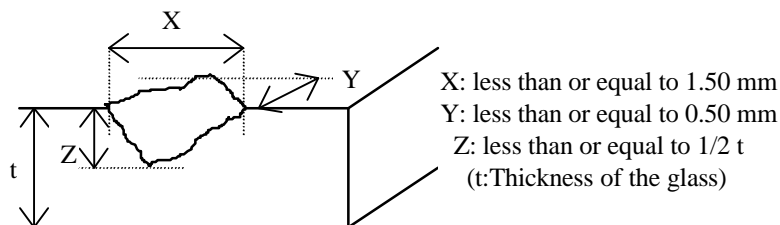


Fig.1

Shape mode which Y:less than to 0.3 mm, Z:less than or equal to 1/2t, shall be acceptable regardless of X dimension.

4.2 LTS :

(1) Chips

Chips shall be less than or equal to 1/3 of the LTS width.

(2) Dust and contamination

Dust and contamination shall be less than or equal to 0.10 mm.

Dust and contamination shall be acceptable if removable with air or nitrogen blow at 294 kPa.

(3) Bubble

Bubble shall be less than or equal to 1/5 of the LTS width.

5 Properties

5.1 GLASS :

Properties shall be in accordance with the Maker's data.

5.2 LTS :

(1) Melting

LTS shall start melting within 30 seconds after LTS Lid is put on a hot plate at 200 degree C.

(2) Curing

LTS shall be cured in 60 minutes on a hot plate at 200 degree C.

6 Inspection Methods

6.1 Dimensions :

(1) Outer dimensions of glass lids

Micrometer with 1.5 mm in diameter flat tip or calipers shall be used for outer dimensions of glass lids.

(2) Inner dimensions

Profile projector shall be used for inner dimensions.

(3) Dimensions of LTS thickness

Micrometer with 1.5 mm in diameter flat tip shall be used for the dimensions of LTS thickness. When a LTS lid is placed on a flat table, dimension A (the thickness from a table plane to LTS surface) shall be first determined at a point as shown in Fig.2

And then LTS shall be stripped from the glass and dimension B (the thickness from a table plane to top surface of the glass) shall be measured at the same points as shown in Fig.2.

$$\text{LTS thickness} = A - B$$

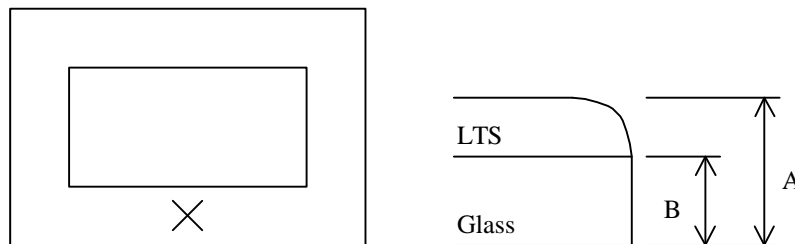


Fig. 2

6.2 Appearance :

Appearance shall be inspected by naked eyes or 10x Microscope.

6.3 Functional Test :

(1) Melting

Melting shall be in accordance with 5.2 (1).

(2) Curing

Curing shall be in accordance with 5.2 (2).

7 Sampling Plan

Sampling Plan shall be in accordance with ANSI/ASQC Z1.4-1993, single normal. Levels and AQL are as follows.

| Group | Level | AQL | Remarks |
|------------|------------------------------------|-----|----------------|
| Dimension | S-2 | 1.0 | Non-Cumulative |
| Appearance | Normal-2 | 2.5 | Cumulative |
| Function | n = 5 pcs / Lot, Acc / Rej : 0 / 1 | | |

8 Storage Conditions

Shelf life of LTS Lid is guaranteed as follows.

(1) NCO-150H, 150HB, 150SH, 150SHB, 120ST, 120STB

| | | | | |
|---------------------|---------------|-------------|-------------|-------------|
| Storage Temperature | 0-10 deg.C | 11-20 deg.C | 21-25 deg.C | 26-30 deg.C |
| Humidity | Less than 60% | | | |
| Duration | 12 months | 6 months | 4 months | 2 months |

(2) NCO-150S, 150SZ, 150SW, 150SB, 120R, 120RB

| | | | | |
|---------------------|---------------|------------|-------------|-------------|
| Storage Temperature | 0-5 deg.C | 6-20 deg.C | 21-27 deg.C | 28-35 deg.C |
| Humidity | Less than 60% | | | |
| Duration | 18 months | 12 months | 6 months | 3 months |

Shelf life shall be counted from shipping date.