



## Metal Can Defects

Identification and Classification

New

30/04/89

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### DEFECT: BURRS ON CURL

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#### CLASSIFICATION:

Burrs on curl are considered serious can end manufacturing defects if the burr protrudes greater than or equal to 0.5 mm (.020"). Burrs on curl are considered minor can end manufacturing defects if the burr protrudes between 0.5 mm and 0.25 mm (0.020" and 0.010").

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#### DESCRIPTION:

A rough protrusion of metal plate (a burr) on the cut edge of the curl.

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#### COMMON SOURCES:

1. The end press does not cleanly shear the curl to the desired size.
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### DEFECT: DOUBLE END

#### CLASSIFICATION:

A double end is considered a serious container defect.

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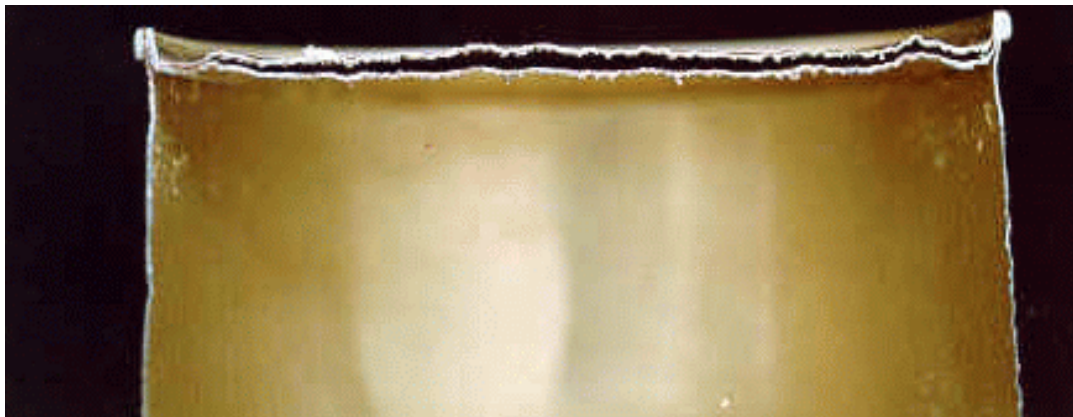
#### DESCRIPTION:

Two ends are seamed onto one end of a can body. The double seam has the appearance of additional thickness and length, and may have numerous droops or vees along the double seam.

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#### COMMON SOURCES:

1. Two strips of end plate are stuck together as they enter the end press. The resulting ends have two thicknesses of plate that are curled together and only the inner end is compound lined.
2. Two independently formed ends are stuck together and double seamed onto a body.



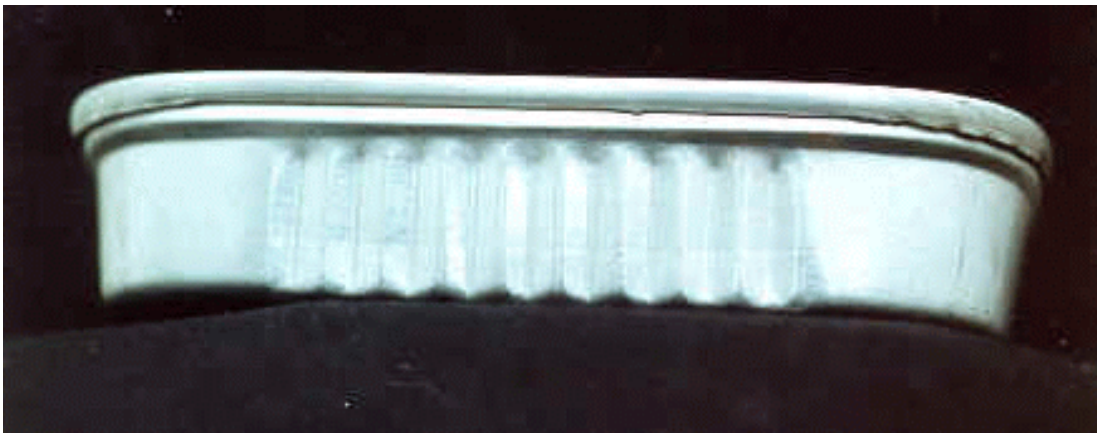
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**DEFECT: DOUBLE END**

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## Metal Can Defects

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### DEFECT: EXCESSIVELY DEEP OR WEAK SCORELINE

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#### CLASSIFICATION:

Excessively deep scoreline is considered a serious can end manufacturing defect if any of the following conditions are present:

1. the scoreline is fractured; or
2. scorelines are not within can maker's guidelines (see description below).

Other serious scoreline defects are:

- MISEMBOSSING (7.6.1)
- CORROSION (7.7.3)
- DAMAGE TO SCORELINE (7.7.6)

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#### DESCRIPTION:

The scoreline is a thin single or double line around the end panel where the plate gauge is mechanically reduced by the scoring punch. If the panel is scored too deeply it may fracture or be weakened to the extent that it will break during processing or handling.

An excessively deep scoreline defect should be assessed with reference to the can maker's guidelines, which must include the minimum residual thickness of the scoreline. Its resistance to leakage testing, dye testing or scoreline testing may also be used.

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#### COMMON SOURCES:

1. Defective manufacture (such as excessive score depth).
  2. Corrosion on scoreline (internal or external).
  3. Embossing on or near scoreline.
  4. Damaged pull tab. (Scoreline has been stressed due to movement of pull tab.)
  5. Physical abuse or stressing of scoreline.
  6. Defective metal plate.
  7. Canning defects due to processing deficiencies (such as overfilling of cans).
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## Metal Can Defects

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### DEFECT: FAULTY SEALING COMPOUND

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#### CLASSIFICATION:

Serious if the faulty compound or faulty application precludes the formation of an hermetic seal (compound skips, missing compound, dried out or runny compound) or if the compound interferes with the formation of the double seam (excess compound).

Minor if the compound is smeared on the inner surface of the end panel as it is non-toxic and does not impart off-odours or off-flavours.

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#### DESCRIPTION:

The improper application of the sealing compound to the can end. The result can be excessive sealing compound, uneven distribution of compound, voids or gaps in the compound on the inside of the end curl. Other faults may be smearing of the sealing compound elsewhere on the end or spraying the sealing compound on the outside of the end curl (called "dirty ends").

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#### COMMON SOURCES:

1. Plugged or partially plugged compound lining nozzle.
  2. Improper feed of ends to sealing compound applicator.
  3. Faulty compound formula.
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EXCESS COMPOUND



COMPOUND SKIP

### Metal Can Defects

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**DEFECT: FAULTY SEALING COMPOUND**

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COMPOUND SMEAR



DIRTY ENDS



PEELING COMPOUND

## Metal Can Defects

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### DEFECT: INCOMPLETE CURL

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#### CLASSIFICATION:

An incomplete curl is considered as a serious can end manufacturing defect if the curl is reduced by more than 0.4 mm (0.016").

An incomplete curl is considered as a minor can end manufacturing defect if the curl is reduced by less than 0.4 mm (0.016").

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#### DESCRIPTION:

Clips or cuts in the end curl resulting in loss of overlap.

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#### COMMON SOURCES:

1. Plate misfeed under die.
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## Metal Can Defects

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### DEFECT: PULL TAB RIVET FRACTURE

#### CLASSIFICATION:

A fractured pull tab rivet is considered a serious defect.

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#### DESCRIPTION:

A break in that portion of the end panel from which the rivet is formed.

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#### COMMON SOURCES:

1. Pull tab not properly aligned with rivet maker.
  2. Rivet flattened too tightly.
  3. Lack of lubricant on the rivet area during drawing.
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## Metal Can Defects

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### DEFECT: SCRAP-IN-DIE MARKS

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#### CLASSIFICATION:

Scrap-in-die marks are considered serious can end manufacturing defects if:

- 1) the metal plate is fractured; or
- 2) the marks are sharp, angular, deep impressions and indicative of potential fracture with handling; or
- 3) the marks have broken the inner coating exposing metal which may react with the product; or
- 4) formation of the flange is affected.

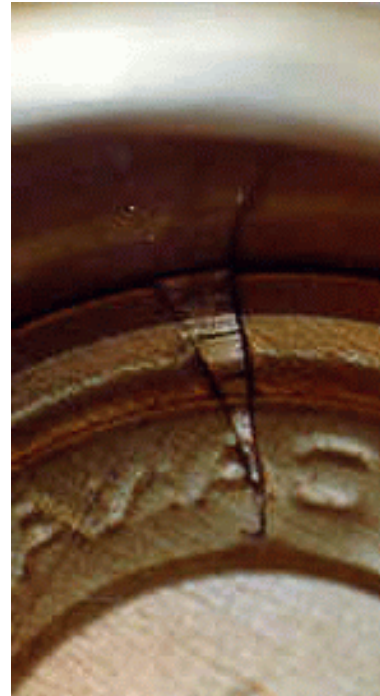
Scrap-in-die marks are considered minor can end manufacturing defects if the marks are smooth, round, and the impressions are shallow.

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#### DESCRIPTION:

An abnormal mark or impression in the metal plate which may vary in shape, size, and depth. If the scrap mark affects the formation of the curl, double seam defects may result.

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## Metal Can Defects

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### DEFECT: WRINKLED CURL

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#### CLASSIFICATION:

A wrinkled curl is considered as a serious can end manufacturing defect when the degree of wrinkling is sufficiently pronounced so as to interfere with the formation of the double seam, compromising its integrity.

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#### DESCRIPTION:

Wrinkles formed in the curl of can ends. The resulting curl thickness may be outside of guidelines, or wrinkles may form open channels through the double seam.

There are certain cases in which a certain degree of wrinkling in the curl of the can end is introduced by the design of the can end. If such is the case, the wrinkles will be considered as a defect when they are outside of the guidelines of the can end maker.

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#### COMMON SOURCES:

1. Faulty curler setting.
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