Belvac Production Machinery
Technical Bulletin
Information for Customers Operating & Maintaining Belvac Machines

ISSUE 7, VOLUME 16, SEPTEMBER 2013

TRIMMER AND NECKER INCOMING CAN CHECKS

It is important that Belvac's machinery produces the highest quality output within industry accepted efficiency rates. In order to decrease processed can defects, loss of production and unnecessary scrap, incoming can quality to Belvac machinery must be defined and maintained. Thru precision engineering and robust process design, we make every effort to ensure the machines are worthy of long term production demands. Although we design our machinery to accept a reasonably wide window of incoming can quality, it is important to recognize minimal standards to aid in trouble-shooting events. Belvac has defined incoming can parameters for both Trimmers and Necking systems to ensure proper functioning of Belvac Machinery for production satisfaction.

INCOMING CAN QUALITY: TRIMMERS (CC93/CC95/CT500):

Features to inspect on incoming containers to the trimmer machine:

- Unless special accommodations have been purchased for the trimmer, the untrimmed container height for standard 1.75" (44.45mm) cam stroke trimmers must be maintained as follows:
  - Minimum = trim can height + .187" (4.75mm)
  - Maximum = trim can height + .750" (19.05mm)
- Bottom stand diameter flatness 0.0010" (0.025mm)
- Perpendicularity of side to stand diameter plane 0.0006" per inch (0.0006mm/mm) of trim can height
- Control of inside chime geometry in order to ensure a population of cans will fit a can chuck: bidirectional profile of 0.002" (0.051mm)
- Control of inside chime geometry in order to ensure a population of cans will fit mandrel: bidirectional profile of 0.002" (0.051mm)
- Punch diameter maximum range 0.005" (.127mm): Nominal +/- 0.0025" (Nominal +/- 0.063mm)
- The customer specified nominal thickwall with allowable "AVERAGE": NOMINAL +/- 0.0002" (Nominal +/- 0.005mm).
- The thickwall "RANGE" measured within any single can should be no greater than 0.0004" (0.010mm).
- Thinwall per customer specifications
- The roll back thickness is to be no larger than .125" radially

Belvac Production Machinery, Inc.
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INCOMING CAN QUALITY: NECKER SYSTEMS (590/595/810/THE BELVAC/BMCSX/SHAPER)

Features to inspect on incoming containers for Necking Systems:

- The variation/range in average trimmed can height over the population of cans is not to exceed 0.006" (.152mm).
- Parallelism of trim to stand diameter plane (.003 max)
- Trim quality should be free of steps, burrs, pin chain damage, or other damage.
- Bottom stand diameter flatness 0.0010" (0.025mm)
- Perpendicularity of side to stand diameter plane 0.0006" per inch (0.0006mm/mm) of trim can height
- Control of inside chime geometry in order to ensure a population of cans will fit a piloted push plate: bidirectional profile of 0.002" (0.051mm)
- Punch diameter maximum range 0.005" (.127mm)
- Thickwall (TW):
    - The customer specified nominal thickwall (over base metal) with allowable “AVERAGE”: NOMINAL +/- 0.0002" (Nominal +/- 0.005mm).
    - The thickwall “RANGE” measured within any single can (over base metal) should be no greater than 0.0004" (0.010mm).
    - Within a single can, TW measurements are to be taken 4-places @ 90 degrees apart, approximately 0.10" (2.54mm) from trim edge
    - At least four cans per bodymaker are to be measured.
    - Thickwall length must minimally extend from the open end of the can through the shoulder intersection with the can OD.
- Presence of inside/outside coating (using copper sulfate).
- Over varnish is to be to the cut edge of the can.
- For customer supplied neck lubricator systems, lubrication must be at the cut edge of the can, typically extending 0.06" (1.52mm) towards the dome all the way around the can.
- Visual inspection
    - Inside spray as well as over varnish must be free of embedded dirt or other contaminates that could lead to neck defects.
    - Over varnish bubbles are not acceptable: they cause the removal of varnish from outside diameter of can creating neck defects.

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