Minimum conditions to be met by material and can body for the production of cans with spin-flow necking

Electrolytic tinplate in standard quality (first grade) as per EN 10202 : 2001

- no holes, i. e. perforation of the entire material thickness
- no impurities due to non-metallic inclusions
- batch-annealed material (classification TS)

- maximum Rockwell hardness HR 30 Tm 70
- minimum fracture strain A50 in % .....in rolling direction: 5
  .....transverse to rolling direction: 5

Can bodies

- rolling direction: circumference of bodies (C-grain)
- necking position at start of welded seam
- bodies welded with inert gas on inside and outside **[1]**
- The welded seam has to withstand the stress during the forming operation without cracks and micro leakages.

- minimum sheet gauge in mm (# base weight): .....0.16 ..... (57)
- maximum weld offset in mm (inch): .....0.2 .... (0.008)
- maximum welding splatters in mm (inch): .....0.2 .... (0.008)
- maximum diameter tolerance in mm (inch): .....± 0.05 . (± 0.002)
  (maximum conicality completely contained in maximum diameter tolerance)

Side striping, printing, lacquering

- minimum elongation (%).....25
- minimum compression (%).....25

- outside lacquer with wax additive
- inside lacquer at least in the area of the necked shoulder **[2]**

Compliance with the above conditions does not automatically mean that a spin-flow neck with certain specified diameter reduction and neck geometry can be formed.

A binding confirmation of the technical feasibility can only be made after samples have been processed.

Such a confirmation will be subject to compliance with all initial conditions valid at the time of sampling.

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[1] . During forming of the necked shoulder particles may be removed from the oxide film of the welded seam. These particles contaminate can and tool with the result of material damages like contractions, micro leakages or cracks. In order to prevent an oxide film we recommend welding with inert gas.

[2] .If the can body has no inside lacquering, material elongation at the necked shoulder may cause the tin coating to crack [detection with potassium ferrocyanide - Prussian blue], which may result in problems with corrosion. For this reason we recommend to lacquer at least the area of the necked shoulder on the inside.