

CAN Information series:

# Steel Can Manufacture



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Steel is produced at the Basic Oxygen Steelmaking Plant (BOS) using molten iron, made in the blast furnace, scrap steel and various alloy additions to yield the required steel chemistry and metallurgy.

The molten steel is continuous cast into slab form and the slabs are hot rolled in the Hot Strip Mill into coils of steel strip with a thickness of 2 mm.

In the Tin Mill, these 20 tonne feed coils are cold rolled to final thicknesses, usually in the range of 0.16 to 0.30 mm for food cans.



## The three piece steel can

The tin coating is applied by continuous electro-deposition of tin on to thin steel strip, after which the tinplate is either sold in coil form or cut into sheets for the can manufacturer.

At the can manufacturers, the tinplate is slit into rectangular "body blanks" which are then rolled into a cylindrical shape and the contacting edges welded together at very high speeds. The ends of this cylinder are flanged, ready to receive the can ends.

Corrugations known as "beads" are often rolled into the cylinder walls for added strength.

The can end is applied forming the "open top can" which is then supplied to the food canning company.



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### The draw-redraw (DRD) steel can

Two piece Draw-Redraw cans, usually with a ring pull opener, are commonly used to can food. In this method, a cup is stamped or drawn out of a disc of tinplate.

This cup is then redrawn, trimmed and flanged to form the finished can. The cup has no separate bottom end, no side seam and, after lacquering, is ready for the canner to seal with an end.



### The necked-in can

The development of the 'necked-in' can has been a recent innovation that has been strongly welcomed by both households and retailers. This can features a slightly wider top end in comparison to the necked in bottom end, making it easier to stack in the pantry at home and easier to stack on supermarket shelves.

### The peelable foil end steel can

An innovation in food can manufacture is a can with a foil end that is easy to peel open.

The peelable foil end leaves non-sharp edges after opening which makes the end particularly safe after opening and has excellent product-resistance qualities. So far this can has been used only for packing 140g fruit snacks but the specially formulated internal coating on the foil makes the end suitable for packing a wide range of food products.

The foil end can be printed externally with brand or product information.