

## 討31

## Fundamentals of Modern Can Making Technology

依頼講演

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During recent years, a change in can making technology has taken place in Europe: the elimination of food contamination caused by lead from soldered side seams, the reduction of can costs by using thinner body wall thicknesses and lower coating weights of expensive coating materials as well as the higher requirements for appearance and stability of the cans have been the driving forces.

Modern methods of manufacturing three-piece cans include:

- Cans with cemented side seams,
- Cans with cemented overlap side seams,
- Welded cans.

The manufacturing methods will be discussed, and the characteristic features in fabricating new materials with very low tin coating weights and special coatings of ECCS material will be pointed out. In particular, the specific requirements for welding such materials to produce can side seams are dealt with.

The development of the two-piece seamless can will be represented, where the can body and the bottom end have been integrated into one piece. Deep-drawn cans which can only be produced in rather small heights and their limits will be described, and the process of drawing and redrawing to achieve larger heights will be discussed. Special methods for improving the economics of the can, such as partial ironing or partial stretching will be explained. The manufacture of cans with large heights as compared to their diameters by drawing and wall-ironing will be described. These cans are meanwhile produced from tinplate in great numbers for beverage can applications. Very recently, such DWI cans have been increasingly used as food cans. For this application, the process parameters and the can design had to be adjusted to the special requirements of sterilized packings.

Finally, the development of easy-open and systems manufactured from tin mill products for food and beverage cans will be discussed.