FUNDAMENTALS OF PACKAGING TECHNOLOGY

Second Edition

Walter Soroka

Institute of Packaging Professionals

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METAL CANS AND CONTAINERS

BACKGROUND

Steel is one of the older packaging materials and was originally used for round, square, and rectangular boxes and canisters. Tea and tobacco were two of the first products packaged in tin-plated, mechanically seamed or soldered steel containers with friction or hinged lids. Today such labor-intensive metal boxes are limited to custom and upscale applications. The old-fashioned appearance of a fabricated metal box is effectively used by package designers to create nostalgia for specialty and gift-type containers.

Of all the metal packaging forms, none has had as much impact on society as the sanitary food can. Thermal processing of food packed into hand-soldered cylindrical metal cans started in the early 1800s, and soon developed into a major industry. Metal cans have the advantage of being relatively inexpensive, thermally stable, rigid, easy to process on high-speed lines, and readily recyclable. Metal offers a total barrier to gas and light. Despite market changes brought on by freezing and plastic-based packaging, metal cans remain an important means of delivering a shelf-stable product.

Originally, all steel containers were fabricated from flat sheets that were cut to size, bent to shape, and mechanically clinched or soldered to hold the final shape. Food cans were three-piece construction, a formed sidewall and a top and bottom end. (See Figure 7.1.)

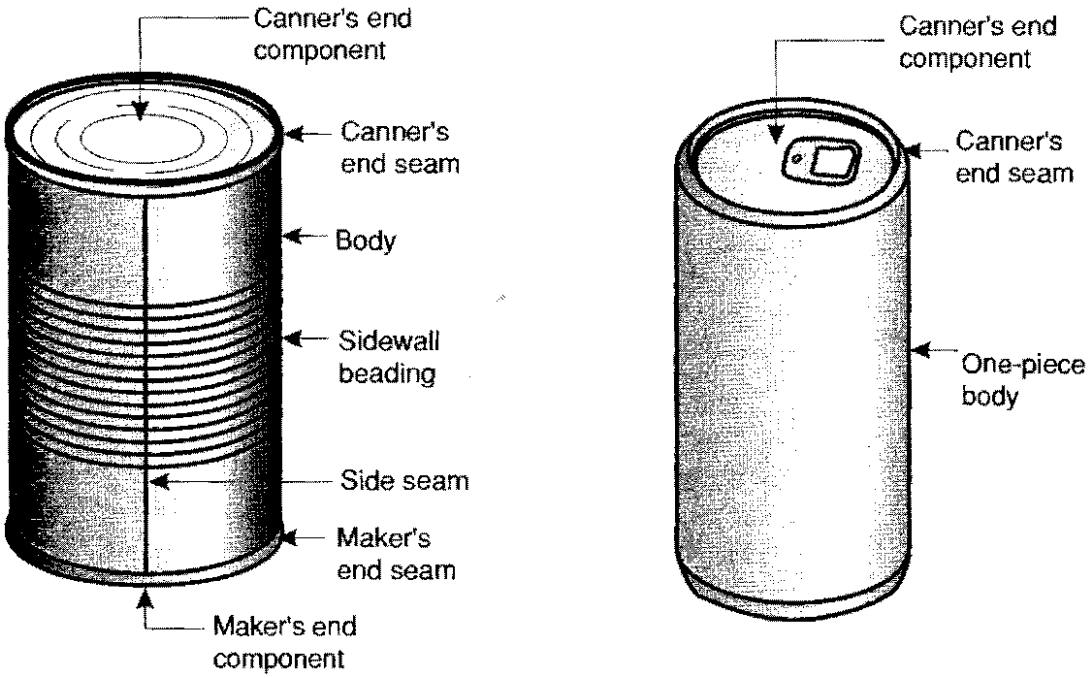

Figure 7.1
Three-piece and two-piece can construction.

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