

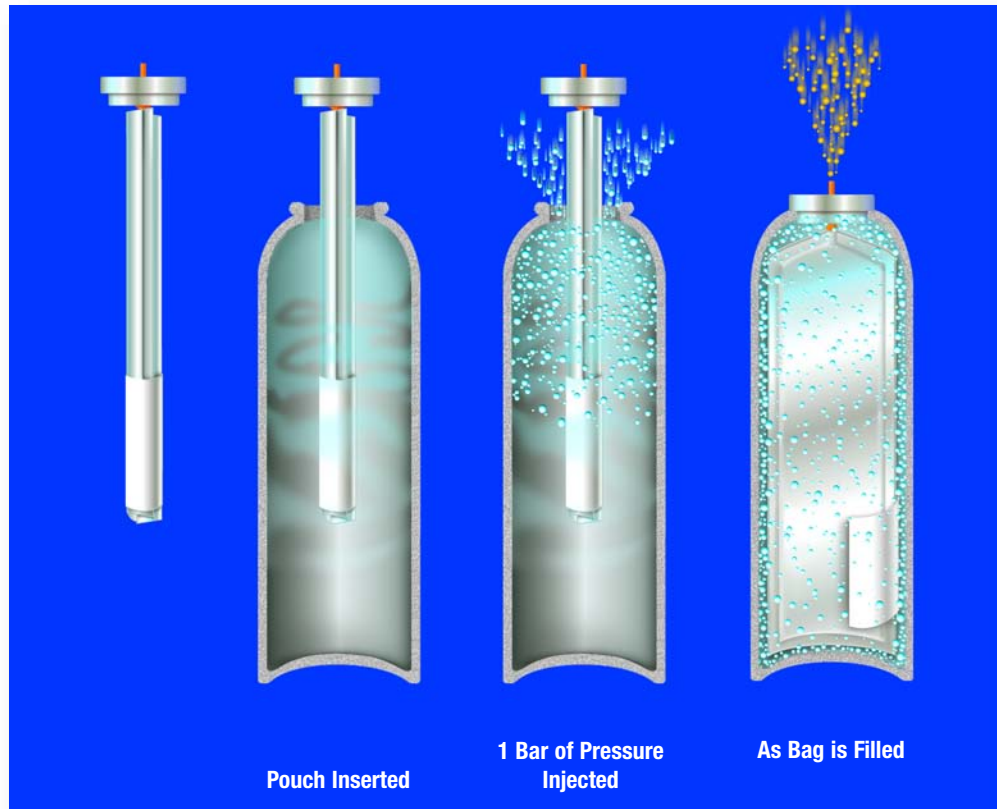
The Advanced Barrier System™ (ABS) from CCL Container

Expanding the Market Opportunities for Aerosols

A wide variety of new and innovative products has been developed and successfully launched in CCL Container's Advanced Barrier System™ (ABS). In this bag-in-can system, the product is contained in a hermetically sealed, laminated pouch totally separated from the pressurizing agent. The multilayered pouch maintains complete formulation integrity; only pure product is dispensed. This advanced system expands the market opportunities for personal care, pharmaceutical, industrial, household, pet care, and other products requiring complete separation from the propellant and the atmosphere.



The ABS™ Barrier System



The Bag-in-Can Design

The product formulation is isolated in a hermetically sealed, FDA-compliant pouch that keeps it separated from the propellant. The patented pouch consists of a laminated structure of polypropylene on the product contact side, a center layer of aluminum foil, and a PET (polyethylene terephthalate) or nylon outer layer. The resulting film is compatible with aqueous and solvent-based formulations and stable to many active chemicals. The pouch's patented gusseted bottom configuration provides greater capacity (60-70 percent of can capacity), the best can-to-fill ratio available, and improved product support in the can.

How it Works

The pressurization agent – either compressed air or nitrogen – surrounds the product-filled pouch. When the actuator button is depressed, the air exerts pressure on the pouch, providing the force required to discharge the product. All of the air remains in the container and is not released into the atmosphere.

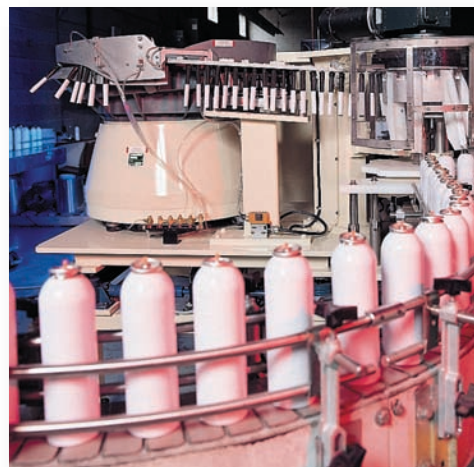
ABS Advantages:

- Maintains total product integrity and freshness and extends shelf life.
- Excellent for concentrated products.
- Conforms to FDA requirements for most food products.
- Has a quiet and non-chilling discharge, which is particularly important for pet sprays.
- Allows all-attitude (360-degree) dispensing.
- Overall performance characteristics are excellent for many hospital, medical, and pharmaceutical applications.
- High evacuation rates.
- Uses existing through-the-valve aerosol filling technology and equipment, and is designed to work with standard actuators and aluminum aerosol cans.
- Exempt from D.O.T. water bath regulations in the U.S.
- 100-percent inspection minimizes any bag defects.
- The only barrier system with a patented gusseted pouch for extra strength.
- Pre-gassing with post-gassing pressure check minimizes micro-leaks.
- ABS facility located in Canada allows for efficient scheduling for both cans and bags.
- Immediate availability of filled product from CCL's ABS pilot plant for laboratory evaluation.

Available Sizes

ABS is available in a wide range of sizes from 1/2 (trial size) to 14 ounces, satisfying most product requirements. Pouches can also be tailor-made for other can sizes.

| Can Size mm | Pouch Capacity | |
|----------------|----------------|-----|
| | ozs. | ml |
| 35 x 76 | 1/2 | 15 |
| 45 x 130 | 3-1/2 | 100 |
| 53 x 175 | 7 | 200 |
| 66 x 210 | 14 | 425 |





Call For More Details

CCL can provide you with short production runs for market evaluation purposes and can also supply pre-gassed containers ready for filling. Contact CCL's ABS facility at Penetang, Ontario, for a test of your product or to learn more about the ABS dispensing system and how it can be applied to your specific objectives.

CCL Container
Aerosol Division



163 Robert Street East
Penetang, Ontario L9M 2G2
Tel: 705-549-7471 • Fax: 705-549-7961
E-mail: sales@cclcontainer.com • Web: www.cclcontainer.com

North America's leading supplier of barrier systems

