

# Clysar EZ

## Description

Bemis Clysar® EZ is a strong, clear, biaxially oriented, heat-shrinkable polypropylene based, multilayer film. Bemis Clysar EZS is a high slip version of EZ.

## Uses

Bemis Clysar® EZ is used where a premium product appearance is required. Excellent optics, clean shrink appearance, and strong, durable seals are obtained on shadow boxes, irregular shapes, and general purpose overwrapping under a wide range of operating conditions. Clysar EZ is an excellent choice for high-speed applications and static sealing.

## Significant Features

### Sealing

- Provides very consistent, strong, durable impulse wire seals.
- Makes good electrostatic seals that will hold up through distribution.
- Has a wide heat-sealing range.
- Will heat seal at lower temperatures than other multilayer films.
- Does not give off harmful gases or corrode sealing wires or equipment.
- Does not leave a carbon deposit on sealing wires, thus eliminating the need for an additional expensive Teflon® tape over top of the sealing wire to get clean seals. (Teflon is a registered trademark of the DuPont Company)
- Pinhole-free seals.

### Shrinking

- Consistently delivers a clean shrink appearance with minimum dog ears, chatter marks, and crow's feet.
- Shrinks at lower temperatures than other multi-layer films.
- Has a wide shrink temperature range and high available shrinkage.
- Good burn-through resistance.
- Has lower shrink force than most other polyolefin-based films.
- Shrinkage is balanced.

### General

- Excellent film durability, even at freezer temperatures.
- Good sheet stiffness.
- Will not embrittle with age.
- High gloss, clarity, sparkle.
- Outstanding performance on high-speed automatic shrink equipment.
- Uniform package appearance due to more consistent air evacuation.

## Standard Put-Ups

- Clysar EZ is available in two gauges: 60, and 75, as either flat or folded film.
- Flat film is available untreated as EZ or sprayed for improved hot slip as EZS.
- Flat film is available in widths from 5-65 inches in ¼ inch increments
- Folded film is available as EZF or sprayed for improved hot slip as
- EZFS. Folded film is available in widths from 5-31 ½ inches in ½ inch increments
- Folded film will have approximately half the linear footage of flat film for same gauge and roll dimensions.
- Film is wound on 3" and 6" cores to the standard roll sizes as shown in Table 1.

**Table 1  
Clysar® EZ  
Linear Footage, Flat Film**

| Core I.D. in | Roll O.D in. | Gauge  |        |
|--------------|--------------|--------|--------|
|              |              | 60     | 75     |
| 3            | 9½           | 8,750  | 7,000  |
| 3            | 13           | 17,500 | 14,000 |
| 6            | 11           | 8,750  | 7,000  |
| 6            | 14           | 17,500 | 14,000 |
| 6            | 18 3/4       | 35,000 | 28,000 |

### **FDA/USDA Status**

Clysar films sold for food packaging use comply with U.S. Food and Drug Administration requirements under the Federal Food, Drug, and Cosmetic Act as amended. Clysar complies with FDA regulation 21 CFR 177.1520–Olefin polymers, allowing use in contact with all types of foods. This FDA compliance and a continuing guarantee from Bemis Clysar will meet USDA requirements for packaging meat and poultry products.

### **Use**

Bemis Clysar does not recommend heating or cooking foods in Clysar. High temperature and high-speed sealing of Clysar will release small amounts of "smoke," which should be removed by adequate ventilation in normal commercial practice.

### **Disposal**

Preferred options for disposal are (1) recycling SPI code-class 7, (2) incineration with energy recovery, and (3) landfill. The high fuel value of this product makes option (2) very desirable for material that cannot be recycled.

### **Storage**

Storage below 32°C (90°F) is recommended. Prolonged exposure to temperatures moderately above 32°C (90°F) or brief exposure to temperatures well above 32°C (90°F) may cause difficulty in unwinding film.

For more detailed information on the safe handling of Clysar films a "Safety in Handling and Use" guide and OSHA Material Safety Data Sheets can be obtained from your Clysar representative.

**Table 2**  
**Typical Properties of Clysar® EZ**

| Property  | ASTM Test Method | Units                        | Gauge |     |
|---|------------------|------------------------------|-------|-----|
|   |                  |                              | 60    | 75  |
| Haze (avg)  | D1003            | %                            | 2.1   | 2.3 |
| Gloss at 20° (min)  | D2457            | –                            | 145   | 140 |
| COF, Kinetic  | D1894            | –                            | .23   | .23 |
| Shrinkage, 136°C (277°F)<br>10 min                                  | D1204            | % (area)                     | 65    | 65  |
| Shrink Force, 110°C<br>(230°F)<br>based on shrink stress<br>330 psi | D2838            | g                            | 90    | 110 |
| Stiffness Modulus (avg)   | D882             | kpsi                         | 77    | 77  |
| Tensile Strength (avg)  | D882             | kpsi                         | 10    | 10  |
| Elongation (avg)  | D882             | %                            | 90    | 90  |
| Tear Strength (avg.)<br>(Elmendorf)                                 | D1922            | g                            | 11    | 11  |
| Spencer Impact  | D3420            | in-lbs                       | 5     | 6   |
| WVTR  | F1249            | g/100 in <sup>2</sup> /24 h  | 1.8   | 1.6 |
| Oxygen Transmission   | D3985            | cc/100 in <sup>2</sup> /24 h | 680   | 640 |
| CO <sub>2</sub> Transmission  | D1434            | cc/100 in <sup>2</sup> /24 h | 1,050 | 990 |

Note: These values are typical data for Clysar® EZ shrink film and are not intended for use as limiting specifications.

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The technical data contained herein are guides to the use of Bemis Clysar films. The advice contained herein is based upon tests and information believed to be reliable, but users should not rely upon it absolutely for specific applications because performance properties will vary with processing conditions. It is given and accepted at user's risk and confirmation of its validity and suitability in particular cases should be obtained independently. Bemis Clysar makes no guarantees of results and assumes no obligations or liability in connection with its advice. This publication is not to be taken as a license to operate under, or recommendation to infringe, any patents.

**CAUTION:** Do not use in medical applications involving permanent implantation in the human body. For other medical applications, see Bemis Medical Caution Statement, MCS\_01.