# Description

Clysar® ShrinkBox® film is the toughest polyolefinbased shrink film on the market. It provides the highest puncture, tear and abrasion resistance of any heat-shrinkable shrink film available today. As a Clysar® film, ShrinkBox® film also offers superior clarity, gloss and the ability to conform to irregular shapes. This revolutionary combination of properties makes ShrinkBox® film an excellent choice for both very demanding display and industrial packaging applications.

# Clysar® ShrinkBox® Films DATA SHEET

## Uses

Products traditionally packed in cardboard boxes or heavy polyethylene present excellent opportunities to use ShrinkBox® film. Goods wrapped in Clysar® ShrinkBox® film will have enhanced appeal and will remain intact during handling, storage and exhibition.



ShrinkBox® film is functional on conventional shrinkwrapping equipment.

# **Significant Features**

- Strong and durable seals.
- Excellent seal integrity.
- Superior burn-through resistance.
- High shrink force for superior bundling capability.
- Superior tear, impact and abrasion resistance.
- High gloss, clarity and sparkle.
- Good cleanup.

#### **Available Grades**

- ShrinkBox® 1525 for advanced product protection with maximum optical properties.
- ShrinkBox® 2035 for maximum physical properties with excellent optical characteristics.



Clysar, LLC 888-4-CLYSAR marketing@clysar.com

Highway 67 South Clinton, IA 52732



#### FDA/USDA Status

Clysar® films sold by Clysar, LLC, for food packaging use comply with U.S. Food and Drug Administration (FDA) requirements under the Federal Food, Drug and Cosmetic Act as amended. Clysar complies with FDA regulation 21 CFR 177.1520— Olefin polymers, allowing use for articles that contact food, except for articles used for packing or holding food during cooking.

#### Use

Clysar, LLC, does not recommend using traditional heating or cooking methods for foods wrapped in Clysar® shrink films. For conditions specific to microwave cooking, please request documentation that is specific for your application through your Clysar representative.

### Disposal

Preferred options for disposal are: (1) recycling, SPI Code 4; (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 can be obtained from your Clysar representative.

## **Summary of Properties**

Clysar® ShrinkBox® - Linear Footage Flat Film (Table 1)

Core I.D., in.	Roll O.D., in.	1525	2035
3	10 1/2	3300	2200
3	14 1/2	6600	4400
6	12 1/2	3300	2200
6	15	6600	4400

## Typical Properties of Clysar® ShrinkBox® (Table 2)

Property	ASTM Test Method	Unit	1525	2035
Haze	D1003	%	2.5	3.5
Gloss (at 20°)	D2457	GU	110	110
COF, Kinetic	D1894	gf	0.15	0.20
Shrinkage, 102°C (216°F) 10 min	D1204	% (area)	35	35
Tensile Modulus (avg)	D882	kpsi	35	35
Tensile Strength (avg)	D882	kpsi	12	12
Elongation (avg)	D882	%	200	200
Tear Strength (Elmendorf)	D1922	gf	65	75
Spencer Impact	D3420	lbf	12	12

Note: These values are typical data for Clysar® ShrinkBox® 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 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. 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 Clysar Medical Caution Statement, MCS\_02.