

## Description

Clysar® PHOENIX™ shrink film is a new multi-layer film with unique characteristics and market-leading performance. It is an ultra-strong, clear, crosslinked, biaxially oriented polyolefin.

# Clysar® PHOENIX™ Films

DATA SHEET

## Uses

Clysar® PHOENIX™ shrink film is an exceptionally versatile, easy-to-run, high-performance film with best-in-class clarity and strength in all gauges. PHOENIX™ film has been developed to provide strong, robust packages over a large operating window on all types of shrink packaging equipment.

A highly functional and forgiving “drop in” solution, PHOENIX™ shrink film offers superior optics and unmatched seal and shrink performance. It is an ideal multi-purpose film to package virtually any type of product.

**PHOENIX™**  
by Clysar.

## Significant Features

### Equipment

- Performs on all types of shrink packaging equipment including manual, semi-automatic, automatic, side seal and static seal machines.

### Sealing

- Provides strong, durable seals on all conventional sealing systems.
- Exceptionally wide sealing range.
- Requires little or no cooling dwell.
- Excellent seal integrity.

### Shrinking

- Exceptional heat/burn-through resistance.
- Higher than typical shrink force for robust finished packages.
- Ideal for bundling, multi-packs and shipping stabilization.

### General

- Excellent tear resistance.
- High gloss and clarity.
- Optimum package cleanup and appearance.
- Ideal for printed and high-speed shrink packaging.



**Request a Sample Roll**  
Call 888-4-CLYSAR

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

Highway 67 South  
Clinton, IA 52732

[www.clysar.com](http://www.clysar.com)

**Clysar®**

## 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.

## Standard Put-Ups

- Available gauges: 45 and 60
- Flat film is available in custom widths from 3" to 100" in 1" increments.\*
- Folded film is available in custom widths from 3" to 50" in 1" increments.\*
- Folded film will have half the linear footage of flat film for same gauge and roll dimensions.
- Pre-perforated film in standard pattern is available in all gauges for folded film and flat film.
- PHOENIX™ film is wound on 3" and 6" cores to the standard roll sizes shown in Table 1.

\*Contact your Clysar representative for width-specific information.

## Summary of Properties

### Clysar® PHOENIX™ - Linear Footage Flat Film (Table 1)

Core I.D., in.	Roll O.D., in.	Gauge	
		45	60
3	9 1/2	11,660	8,750
3	13	23,320	17,500
6	11	11,660	8,750
6	14	23,320	17,500
6	18 3/4	46,640	35,000

### Typical Properties of Clysar® PHOENIX™ (Table 2)

Property	ASTM Test Method	Unit	Gauge	
			45	60
Haze	D1003	%	2.5	2.7
Gloss (at 20°)	D2457	-	143	148
COF, Kinetic	D1894	-	0.23	0.24
Shrinkage, 90°C Hot Water Bath	D2732-14	% (area)	50	50
Shrink Force 100°C (212°F)	D2838	g	65	70
Stiffness Modulus (avg)	D882	kpsi	66	65
Tensile Strength (avg)	D882	kpsi	15	15
Elongation (avg)	D882	%	126	129
Tear Strength (avg) (Elmendorf)	D1922	g	11	17
Spencer Impact	D3420	lbf	6.40	9.00
WVTR	F1249	g/100 in <sup>2</sup> /24 hr	1.7	1.5
Oxygen Transmission	D3985	cc/100 in <sup>2</sup> /24 hr	850	550

Note: These values are typical data for PHOENIX™ shrink film and are not intended for use as limiting specifications.

# Clysar®

888-4-CLYSAR  
marketing@clysar.com  
www.clysar.com

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.