

A4700

Dureflex® Optical Aliphatic Polyether Polyurethane Grade

A4700 is a self-priming, polyether based, low modulus aliphatic thermoplastic polyurethane film/sheet product developed as part of a series of optical grade adhesive films. A4700 was specifically developed for the lamination of optically transparent glass-clad polycarbonate. A4700 is also used in acrylic composites CAB and other compatible thermoplastics. A4700 can be supplied from 15 mils to 75 mils with a specially developed film finish to allow for evacuation of trapped air during press or autoclave bonding. A4700 is always supplied with a proactive polyethylene interleaf to prevent film-to-film roll blocking, and should be incorporated where a “primerless” lamination is required.

Typical Physical Properties¹

	ASTM Test Method	Value
Specific Gravity	D-792	1.08
Durometer (Shore A)	D-2240	78
Ultimate Tensile Strength	D-882	37.9 MPa
Ultimate Elongation	D-882	500%
100% Modulus (MD/CD Ave.)	D-882	3.5 MPa
300% Modulus (MD/CD Ave.)	D-882	10.3 MPa
Tear Resistance (MD/CD Ave.)	D-1004	43.8 kN/m
Appearance		Optically Clear
Haze (Hazeguard)	D-1003-61	Below 1.0%
Approx. Yield (M²/Kg/25 μ)		36.8

¹ These data are provided as general information only. They are approximate values and are not part of the specifications.

What Makes Dureflex Brand Aliphatic Polyether Polyurethane Film Grades Attractive

- Excellent bondability to glass, polycarbonate, acrylic, CAB
- Tough/Durable
- Excellent flex fatigue
- Optically clarity
- Excellent energy dispersive characteristics - low/no spalling
- Available in a wide variety of widths and gauge
- Excellent UV resistance
- Low haze
- Elasticity allows for bridging coefficient of thermal expansion of differing materials
- Absorbs thermal and mechanical shock
- Manufactured in monitored cleanroom environment
- Solvent and plasticizer free

A4700

Dureflex Optical Aliphatic Polyether Polyurethane Grades

Custom Manufacturing Capabilities²

Self-Priming	Yes	All Grades
Film Finish Available	Yes	Matte/Emboss
Interleaf	Yes	Polyethylene
Gauges Availability	Yes	.38 – 1.905 mm
Widths Availability	Yes	254 – 1549 mm
Clean Room Production	Yes	All Grades

² Restriction may apply to certain film grades.

Potential Applications³

- Prison containment glazing
- Retail kiosks
- Hurricane/Vandals glazing
- Zoos
- Computer screens
- Ballistic/Blast/Intrusion
- Vehicle armoring
- Residential glazing
- Government/Military
- Other

³ As with any product, the use of Dureflex film/sheet in a given application must be tested (including field) in advance by the user to determine suitability.

Health and Safety


Appropriate literature has been assembled which provides information concerning the health and safety precautions that must be observed when handling Dureflex film/sheet products. Before working with Dureflex products, you must read and become familiar with hazards, proper use, and handling. This cannot be overemphasized. Information is available in several forms, e.g. material safety data sheets and product labels. Consult your Deerfield Urethane representative or contact Deerfield directly.

The conditions of use and application for Deerfield Urethane films and the use of technical assistance and information (verbal, written or by way of production evaluations) provided by Deerfield Urethane, including any suggested formulations and recommendations, beyond the control of the company. Therefore, it is imperative that users evaluate products, in addition to technical assistance and information provided, to determine suitability for intended uses and applications. Application-specific analysis by the user must include testing to determine technical as well as health, safety and environmental suitability. Such testing has not necessarily been conducted by Deerfield Urethane. All information is provided without warranty or guarantee. Users expressly understand and agree to assume, and expressly release Deerfield Urethane from, all liability in tort, contract or otherwise, incurred in connection with use of Deerfield Urethane products, technical assistance and information. Any statement or recommendation not contained in this document is unauthorized and not binding upon Deerfield Urethane. This document is not a recommendation to use any product in conflict with patents covering any material or its use. No license is implied or granted under the claims of any patent.

Dureflex® is a registered trademark of Deerfield Urethane, Inc.

Dureflex® is a registered trademark of Deerfield Urethane, Inc.

Deerfield Urethane 

A  Bayer MaterialScience Company

PO Box 186 • South Deerfield, MA 01373
Toll-free in the U.S. and Canada: 800.644.0116
Tel: 413.665.7016 • Fax: 413.665.6000
www.deerfieldurethane.com

A4700M 0606