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Standard Guide for Selection and Use of Stretch Wrap Films¹

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1. Scope

1.1 This guide covers recommended guidelines and test methods for the selection, specification, and use of stretch wrap films for unitizing, reinforcing, and palletizing for indoor environments. This can include storage or transport, or both, in warehouses, closed containers such as truck trailers or rail boxcars, and associated transfer terminals. This guide does not cover the performance issues associated with outdoor exposure.

1.2 The values stated in inch-pound units are to be regarded as the standard. The SI units given in parentheses are for information only.

1.3 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 ASTM Standards:

- D 882 Test Methods for Tensile Properties of Thin Plastic Sheeting²
- D 907 Terminology of Adhesives³
- D 996 Terminology of Packaging and Distribution Environments
- D 1003 Test Method for Haze and Luminous Transmittance of Transparent Plastics²
- D 1505 Test Method for Density of Plastics by the Density-Gradient Technique²
- D 1746 Test Method for Transparency of Plastic Sheeting²
- D 1894 Test Method for Static and Kinetic Coefficients of Friction of Plastic Film and Sheeting²
- D 1898 Practice for Sampling of Plastics²
- D 1922 Test Method for Propagation Tear Resistance of Plastic Film and Thin Sheeting by Pendulum Method²
- D 2103 Specification for Polyethylene Film and Sheeting²

D 2457 Test Method for Specular Gloss of Plastic Films and Solid Plastics⁴

D 2578 Test Method for Wetting Tension of Polyethylene and Polypropylene Films⁴

D 2863 Test Method for Measuring the Minimum Oxygen Concentration to Support Candle-Like Combustion of Plastics (Oxygen Index)⁴

D 3951 Practice for Commercial Packaging⁵

D 4321 Test Method for Package Yield of Plastic Film⁴

D 4470 Test Method for Static Electrification⁶

D 5331 Test Method for Mechanical Handling of Unitized Loads Secured With Stretch-Wrap Films⁵

D 5414 Test Method for Evaluation of Horizontal Impact Performance of Load Unitizing Stretch Wrap Materials⁵

D 5415 Test Method for Evaluating Load Containment Performance of Stretch Wrap Materials by Vibration Testing⁵

D 5416 Test Method for Evaluating Abrasion Resistance of Stretch Wrap Materials by Vibration Testing⁵

D 5458 Test Method for Peel Cling of Stretch Wrap Film⁵

D 5459 Test Method for Machine Direction Elastic Recovery and Permanent Deformation and Stress Retention of Stretch Wrap Materials⁵

E 96 Test Methods for Water Vapor Transmission of Materials⁷

E 284 Terminology of Appearance⁸

3. Terminology

3.1 *Definitions*—Terminology found in Terminology D 996 shall apply.

3.2 Definitions of Terms:

3.2.1 *blocking*—an undesirable adhesion between touching layers of a material, such as occurs under moderate pressure during storage or use. (See Terminology D 907.)

3.2.2 *clarity*—the characteristic of a transparent body whereby distinct high-contrast images or high-contrast objects (separated by some distance from the body) are observable through the body. (See Terminology E 284.)

¹ This guide is under the jurisdiction of ASTM Committee D10 on Packaging and is the direct responsibility of Subcommittee D10.25 on Palletizing and Unitizing of Loads.

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² Annual Book of ASTM Standards, Vol 08.01.

³ Annual Book of ASTM Standards, Vol 15.06.

⁴ Annual Book of ASTM Standards, Vol 08.02.

⁵ Annual Book of ASTM Standards, Vol 15.09.

⁶ Annual Book of ASTM Standards, Vol 10.02.

⁷ Annual Book of ASTM Standards, Vol 04.06.

⁸ Annual Book of ASTM Standards, Vol 06.01.