MALAYSIAN STANDARD

MS 1477:2008,
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PLASTICS - POLYETHYLENE FILM AND SHEETING - SPECIFICATION (FIRST REVISION) AMENDMENT 1

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DEPARTMENT OF STANDARDS MALAYSIA

AMENDMENT OF MALAYSIAN STANDARD

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(1) Clause 2, Page 1

To include Annex A under Clause 2 as follows:

2 Normative references

The following normative references are indispensable for the application of this standard. For dated references, only the edition cited applies. For undated references, the latest edition of the normative references (including any amendments) apply.

MS 567: Part 1, *Code of practice for sampling procedures and tables for inspection by attributes - Part 1. Establishers sampling plans and procedure for inspection by attributes.*

MS 1105, *Test methods for impact resistance of polyethylene film by the free falling dart method.*

MS 1150, *Test method for static and kinetic coefficients of friction of plastics film and sheeting.*

MS 1151, *Method of test for tear resistance of plastic film and sheeting (Trouser tear method).*

MS 1151: Part 2, *Method of test for tear resistance of plastic film and sheeting - Part 2. Elmendorf method*

MS 1152, *Test methods for tensile properties of thin plastics sheeting.*

MS 1339*, Method of test for plastics - Film and Sheeting - Determination of thickness by mechanical scanning.*

MS 1421, *Method of test for haze of plastics film and sheeting*

MS 1424, *Method of test for package yield of plastics film*

MS ISO 291, *Plastics - Standard atmosphere for conditioning and testing*

ASTM D 1434, *Standard test method for determining gas permeability characteristics of plastics films and sheeting to gases*

ASTM D 1505, *Standard test method for density of plastics by the Density-Gradient Technique*

ASTM D 4976, *Standard specification for polyethylene plastics molding and extrusion material*

(2) Clause 2, Page 1

Add Reference documents under Clause 2 as follows:

ASTMD1238, *Standard Test Method for Melt Flow Rates of Thermoplastics by Extrusion Plastometer*

ASTM D792, *Standard Test Methods for Density and Specific Gravity (Relative Density) of Plastics by Displacement*

ASTM D1505, *Standard Test Method for Density of Plastics by the Density-Gradient Technique*

ASTM D3417, *Standard Test Method for Enthalpies of Fusion and Crystallization of Polymers by Differential Scanning Calorimetry (DSC)*

ASTM D1525, *Standard Test Method for Vicat Softening Temperature of Plastics*

ASTM D 882, Standard Test Method for Tensile Properties of Thin Plastic Sheeting

ASTM D 1922, *Standard Test Method for Propagation Tear Resistance of Plastic Film and Thin Sheeting by Pendulum Method*

ASTM D 1709-15a, *Standard Test Methods for Impact Resistance of Plastic Film by the Free-Falling Dart Method*

(3) Annex A, Page 6

Replace Annex B to Annex A as follows:

Annex A
(normative)

Other properties (optional)

Other properties that may be used to characterise polyethylene film and sheeting are as follows:

A1.1 Tensile strength and elongation

When tensile strength and elongation are to be measured, test in accordance with MS 1152. It is important that these properties be measured in both the transverse and longitudinal directions.

A1.2 Tear strength

When required, determine the tear strength in accordance with MS 1151 or MS 1152:Part 2 as agreed upon between the purchaser and the seller.

A1.3 Water vapour transmission

Determine the water vapour transmission of polyethylene film and sheeting, when necessary, in accordance with ASTM F 1249.

A1.4 Gas transmission

Determine the gas transmission of polyethylene film and sheeting, when necessary, in accordance with ASTM D 3985.

A1.5 Odour

When required, rate the film and sheeting odour satisfactory or unsatisfactory when compared to an odour standard. The odour standard and method of test shall be mutually agreed upon.

A1.6 Gloss

Determine the gloss of polyethylene film and sheeting, when necessary, in accordance with ASTM D 2457. Sample preparation and test method shall be mutually agreed upon.

A1.7 Transparency

Determine the transparency, when required, in accordance with ASTM D 1746. This specular transmittance data correlate with “see through” clarity.

A1.8 Flatness

When required, rate the film or sheeting for degree of flatness. The method of test and the degree of flatness shall be mutually agreed upon.

(4) Annex B, Page 7

Replace Annex B as follows:

Annex B
(informative)

Typical properties of LDPE and HDPE

			Type of resin	
			LDPE	HDPE
Resin properties	**Test Method**	**Units**	**Typical value**	**Typical value**
Melt flow rate range	ASTMD1238;B @190degC, 2.16kg	g/10min	2.5-3.5	0.1-0.4
Density range	ASTM D792/ D1505	kg/m3	921	945-0.95
Melting temperature range	ASTM D3417	°C	100-110	120-130
Vicat Softening Temperature	ASTM D1525	°C	80-100	120-130
Mechanical properties				
Tensile Strength at Yield, (MD/TD)	ASTM D 882	MPa	25/70	35/30
Tensile Strength at Break, (MD/TD)	ASTM D 882	MPa	15/29	60/50
Elongation at Break, (MD/TD)	ASTM D 882	%	580/130	460/950
Elmendorf Tear Strength, (MD/TD)	ASTM D 1922	g/25µm	216/194	11/180
Dart Impact Strength	ASTM D 1709-15a	g	76.8	140