



Adhesive, Tape, Abrasion Resistant

1 Scope

1.1 Material Description. This specification covers Ultra-High Molecular Weight (UHMW) polyethylene films precoated with an acrylic pressure sensitive adhesive protected with a silicone release liner. This film is designed to provide surface protection against scratches, stone chips, chafing, and mechanical wear. It can also be used where anti-stick and low coefficient of friction properties are required. This film has a maximum service temperature of 105 °C. It is not used in decorative applications.

1.2 Symbols. Not applicable.

1.3 Applicability. For Ultra-High Molecular Weight (UHMW) polyethylene films precoated with an acrylic pressure sensitive adhesive protected with a silicone release liner. Not used in decorative applications.

1.4 Remarks. Not applicable.

2 References

Note: Only the latest approved standards are applicable unless otherwise specified.

2.1 External Standards/Specifications.

ASTM D882	ASTM D1894	ISO 8510-2	SAE J1847
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2.2 GM Standards/Specifications.

GMW3059	GMW14124	GMW14270	GMW14729
GMW3221			

2.3 Additional References. Not applicable.

3 Requirements

3.1 Physical Properties. See Table 1.

Table 1: Physical Properties

Color	Clear/Translucent
Film Thickness minimum (mm)	0.08 mm
Adhesive Thickness minimum (0.03)	0.03
Total Thickness minimum (mm)	0.11 mm

3.2 Requirements on Test Specimens. All tests shall be performed at conditions specified per GMW3221 Code A, unless otherwise noted.

3.3 Film Performance. See Table 2 and Table 3.

Table 2: Physical Properties

Property	Value	Test Method
Tensile Strength	3.5 kN/m ² minimum	ASTM D882, 300 mm/minute, 102 mm jaw separation
Tensile Strength after heat aging 168 h at 95 °C	≤ 100% of as received value	
Elongation	≥ 300%	
Elongation after heat aging 168 h at 95 °C	≤ 50%	

Table 3: Performance Requirements

Property	Value	Test Method
Taber Abrasion	≤ 2 mg mass loss	SAE J1847, 1000 cycles 0.5 kg load
Coefficient of Kinetic Friction	0.13 to 0.14 tape to stainless steel 0.25 to 0.29 tape to painted surface	ASTM D1894
Peel Adhesion after 72 h conditioning 23 °C at 50% Relative Humidity (RH)	≥ 350 N/m	180 Degree Peel, ISO 8510-2, 300 mm/minute
Peel Adhesion after Humidity see 3.4.1	≥ 350 N/m	
Peel Adhesion after Heat Aging 168 h at 95 °C	≥ 350 N/m	
Peel Adhesion after Cycle Testing see 3.4.2	≥ 350 N/m	

3.4 Environmental Exposures. Sample shall be allowed a dwell time of 24 h at 23 °C at 50% RH following exposure and prior to testing.

3.4.1 Humidity Resistance (GMW14729 Option A or B). Expose samples for 168 h. After removal from the chamber, blot dry with an absorbent cloth.

3.4.2 Cycle Testing (GMW14124 Cycle F).

4 Manufacturing Process

Not applicable.

5 Rules and Regulations

5.1 Legal Regulations. All materials must satisfy applicable laws, rules, regulations and recommendations valid in the country of usage.

5.2 Language. In the event of conflict between the English and domestic language, the English language shall take precedence.

5.3 Inspection and Rejection. Samples of components or materials released to a GM material specification shall be tested for conformity with the requirements of this material specification and approved by the responsible Engineering department prior to commencement of delivery of bulk supplies.

A new approval must be received for any changes, e.g., properties, manufacturing process, location of manufacture, etc. If not otherwise agreed, all testing and documentation normally required for initial release must be completed.