



Protective Tapes

1 Scope

This specification describes flat-backed paper tapes, films, and single coated foam tapes used to provide shipping protection for materials to prevent damage to their finish. The tapes must not have effect on the surface to which they are applied. They must not cause any surface etching, softening of the finish, finish discontinuities, latent staining or other objectionable effects when they are removed. They must be easily removed without themselves tearing or removing the finish from the item being protected.

1.1 Material Description. Coated tapes with a removable pressure sensitive adhesive. The adhesive system must be pressure sensitive over the range of -20 °C to 95 °C. The tape must not show any mass transfer upon removal.

Note: This specification does not cover paint protection transit films applied to a vehicle's horizontal surfaces. Refer to 9984168 for paint protection transit films.

1.2 Symbols. Not applicable.

1.3 Applicability. Protective tapes for application to interior and/or exterior parts and applied either at the tier one (1) supplier or within general assembly.

1.4 Remarks. Adhesive backed protective tapes have five (5) basic types.

1.4.1 Type I. This is a flat-backed paper tape used for surface protection where transparency is not required.

- **Type I Grade A:** This grade uses a latex based adhesive, and it should not be used to protect surfaces to be cut or drilled. In addition to metal surfaces, this grade should be used on plastic and paint finishes where greater surface compatibility may be required. Nevertheless, each application should be proven on an individual basis.
- **Type I Grade B:** This grade uses a solvent based adhesive and is used on polished metal finishes where cutting, drilling, and processing is involved since it will not string out or ball up on the cutting tools.

1.4.2 Type II. This is a transparent plastic tape used where it is necessary to inspect the item being protected and where a non-aggressive adhesive, compatible with plastic or paint finishes is required. The film must protect the part during shipping and handling.

- **Type II Grade A and Type II Grade A1:** This grade is used for the protection of molded or extruded interior plastic parts from the supplier to the assembly plant. Grade A is to be removed by the dealer at the time of delivery and grade A1 is removed at the assembly plant prior to shipment to the dealership. Approval of tapes for this grade require testing on each specific substrate/material intended to be used.
- **Type II Grade B and Type II Grade B1:** This grade is used on the exterior to protect paint and plastic parts. Grade B is for protection during shipping from the part supplier and/or assembly plant to the dealer, then to be removed at time of delivery. Grade B1 is removed at the assembly plant prior to shipment to the dealership.

1.4.3 Type III. Type III and type II grade B are similar materials except with the addition of abrasion test requirements. Protective tapes approved to this type provide additional abrasion resistance versus Type II.

- **Type III Grade A:** Material is for in-plant use only and is removed before the vehicle leaves the plant.
- **Type III Grade B:** Material remains with the vehicle during shipping and is removed by the dealer.

1.4.4 Type IV. This is a single coated foam tape used to protect door edges from scratches and dents.

- **Type IV Grade A:** Material remains with the vehicle during shipping and is removed by the dealer.
- **Type IV Grade B:** Material is for in-plant use only and is removed before the vehicle leaves the plant.

1.4.5 Type V. Type V and type II grade A are similar materials except exclusively utilized on carpet materials.

2 References

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

2.1 External Standards/Specifications.

ASTM D2103 SAE J2527

2.2 GM Standards/Specifications.

GMW3059	GMW14124	GMW14270	GMW14729
GMW3208	GMW14162	GMW14444	

2.3 Additional References.

 None.

3 Requirements

3.1 Requirements on Test Specimens. The proposed protective tape for each application must be tested on the production intent substrate. The material must conform to the performance requirements shown in Appendix A, Table A1 and Table A2 when evaluated at $23\text{ }^{\circ}\text{C} \pm 3\text{ }^{\circ}\text{C}$ and 50% relative humidity (RH) $\pm 5\%$ RH unless otherwise specified. All testing is required to be in triplicate on separate parts or plaques.

3.2 Protective Tape Construction Specification Sheet. Completion of the construction specification sheet located in Appendix A as Data Sheet A1 is required for each material approval submission.

3.3 Shrinkage Requirement is 1 mm Maximum for Type II, Type III and Type IV. The shrinkage shall be determined by placing 600 mm lengths of the tape on the production intent substrate (stainless steel if substrate is not determined) rolling it down with one pass of a 2 kg roller. The panel is then exposed for 24 h at $85\text{ }^{\circ}\text{C}$ in an air-circulating oven. After exposure, the length of the tape is remeasured when the panel has cooled to room temperature.

3.3.1 Shrinkage Requirement for Type V Only. Maximum dimensional change shall be 6% after 24 h at $70\text{ }^{\circ}\text{C}$. Samples of material size: 250 mm x 250 mm, are coated with talc (both sides) and placed in the oven between two (2) sheets of blotter paper. Samples are to be cooled to room temperature prior to measuring.

3.4 Shipping and Storage Stability. Apply tape to production substrate and allow to condition at $23\text{ }^{\circ}\text{C} \pm 3\text{ }^{\circ}\text{C}$ and 50% RH $\pm 5\%$ RH prior to running one (1) cycle per the exposures in 3.4.1. After testing, allow sample to condition at room temperature for 24 h prior to visual evaluation and removal evaluation.

3.4.1 Shipping and storage stability test exposures.

- 17 h at $-30\text{ }^{\circ}\text{C}$
- 7 h at $+23\text{ }^{\circ}\text{C}$
- 72 h at $54\text{ }^{\circ}\text{C}$

3.5 All materials supplied to this standard must comply with GMW3059, Restricted and Reportable Substances, including the requirement to submit a full material composition disclosure to GM via the International Material Data System (IMDS) or via a completed GMW3059 report form.

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.