



Drawing Compounds – Water Based for Sheet Metal

1 Scope

1.1 Material Description. This specification details the requirements for water based drawing compounds that provide additional lubricity to aid in metal forming operations and must be compatible with current production processes and paint systems. Additionally, these compounds must provide corrosion and stain protection during subsequent handling and storage. These requirements apply for all substrates and surface treatments listed in GMW14019.

1.2 Symbols. Not applicable.

1.3 Applicability. Drawing compound is normally applied as needed at the stamping press by automated spray or roll coat process.

1.4 Remarks. Any deviations from this requirement must be specified on the Material Parts Specification (MPS) sheet or the purchase order.

2 References

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

2.1 External Standards/Specifications.

None

2.2 GM Standards/Specifications.

GMW3059 GMW14019

2.3 Additional References.

TMC003 Material Safety Data Sheet guidance documents (available at www.gmsupplypower.com).

3 Requirements

3.1 Chemical Requirements. No silicone or lanolin compound of any kind is allowed in the material.

3.2 Coefficient of Friction. Determine per GMW14019. State the method and describe the equipment used to determine the rating.

3.3 Concentration. The concentration for test will be set prior to drawing compound evaluation. The concentration range for production will be set when material is approved.

3.4 Storage, Dilution and Agitation. The drawing compound must meet the requirements of this specification after normal storage for a period up to 90 days starting upon receipt of the material. The drawing compound must not require special mixing equipment and no more than moderate agitation must be required to achieve a uniform mixture.

3.5 Die or Roll Coater Build-Up. The material must not require excessive effort to remove from dies or roll coaters after a weekend.

3.6 Formability. The drawing compound material must perform satisfactorily as a drawing aid in the metal forming process in light to deep drawing of sheet metal.

3.7 Coating Mass. Refer to GMW14019 for drawing compound coating mass measurement methods and coating mass requirements.

3.8 Corrosion Resistance. Sheet metal coated with the pre-lube must not exhibit corrosion or staining under normal shipping, handling or storage conditions which would impair processing of the sheet metal. Corrosion test methods are listed in GMW14019.

3.9 Process Compatibility Requirements. Drawing compound materials must be tested for compatibility with structural adhesives/sealers, welding, paint cleaning/pretreatment and Electrodeposition (ELPO) primer per GMW14019.

4 Manufacturing Process

4.1 Waste Treatment. The drawing compound must be compatible with existing waste treatment processes so that total removal can be achieved. The supplier shall be responsible to make known the processing procedures for any component of the material for which the waste treatability is in question.

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.

It is the responsibility of the supplier to inform the customer in a timely manner, without solicitation, and to include documentation of all modifications of materials and/or processes and to apply for a new release.

5.4 Material Safety Data Sheets/Safety Data Sheets (MSDS/SDS). For new product submissions, or when a change in chemical composition of an existing product has occurred, a complete copy of the Material Safety Data Sheet/Safety Data Sheet must be submitted in compliance with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS) requirements or other country-specific MSDS/SDS requirements. In addition, product MSDS/SDS submissions must be in compliance with specific country General Motors TMC003 Material Safety Data Sheet/Safety Data Sheet guidance documents where available.

5.5 All materials supplied to this standard must comply with the requirements of GMW3059, Restricted and Reportable Substances for Parts.

6 Approved Sources

Materials supplied to this specification must be approved by General Motors.

The appropriate GM Materials Engineering Department (Product Engineering or Manufacturing Engineering) must confirm materials as meeting the requirements of this specification. Only materials/sources listed in the GM Materials File (MATSPC) under this standard number have been qualified by Engineering as meeting the requirements of this standard.

7 Notes

7.1 Glossary.

MATSPC: Global repository of GM approved materials for corresponding GM Engineering Standards.

7.2 Acronyms, Abbreviations, and Symbols.

ELPO Electrodeposition

GHS Globally Harmonized System of Classification and Labeling of Chemicals

MSDS Material Safety Data Sheet

MPS Metal Parts Specification

SDS Safety Data Sheet

8 Coding System

This standard shall be referenced in other documents, drawings, etc., as follows:

Material per 9981870

9 Release and Revisions

This standard was originated in March 1977. It was first approved by Fisher Body in March 1977. It was first published in March 1977.

Issue	Publication Date	Description (Organization)
1	MAR 1977	Initial publication.
2	AUG 1977	Title Change, Revised. (Fisher Body)
3	DEC 1985	Complete revision. (Fisher Body)
4	MAR 1988	Complete revision. (Automotive Paint Committee)
5	FEB 1989	Complete revision. (Paint Steering Committee)
6	DEC 2014	Revised to current template. (Welding-Manufacturing Engineering)