GM ENGINEERING STANDARDS	Material Specification	9984167

Blank Wash - Oil Based

1 Scope

1.1 Material Description. This specification details the requirements for oil based blank wash cleaners that are used in the washer section of flex roll and straightener equipment or blank washing equipment to clean off contaminants from sheet metal as it is uncoiled and blanked or just prior to metal forming operations. Blank wash materials also provide 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. Blank wash 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 Metal 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.

9981833	9981881	GMW3059	GMW14019

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 blank wash evaluation. The concentration range for production will be set when material is approved

3.4 Storage, Dilution, and Agitation. The blank wash must meet the requirements of this specification after normal storage for a period up to 90 days starting upon receipt of the material. The blank wash 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 Cleaning/Continuous Oil Film. A clean coil/blank with a continuous oil film must emerge from the blank washer prior to the first stamping operation. The blank wash must be compatible with any incoming lubricants on the incoming sheet metal. The oil film must not dissipate during successive stamping and trimming operations.

3.7 Coating Mass. Refer to GMW14019 for blank wash coating mass measurement methods and coating mass requirements.

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

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3.9 Corrosion Resistance. Sheet metal cleaned and coated with the blank wash over a General Motors approved mill oil (9981833) or pre-lube (9981881) must not exhibit corrosion or staining under normal shipping, handling or storage conditions which would impair processing of the sheet metal per GMW14019. Additionally, the blank wash must protect the sheet metal from staining or corrosion for 24 h when stored in a stacked condition.

3.10 Process Compatibility Requirements. Blank wash materials must be tested for compatibility with structural adhesives/sealers, welding, paint cleaning/pretreatment, and Electro-deposition Primer (ELPO) 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.

5.5 All materials supplied to this standard must comply with the requirements of the International Material Data System (IMDS) and GMW3059, **Restricted and Reportable Substances.**

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	Electro-deposition Primer
GHS	Globally Harmonized System of Classification and Labeling of Chemicals
IMDS	International Material Data System
MPS	Metal Parts Specification

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