GM	WORLDWIDE ENGINEERING STANDARDS	General Specification	GMW15358

Fastener Rating Scale

1 Introduction

Note: Nothing in this standard supercedes applicable laws and regulations.

Note: In the event of conflict between the English and domestic language, the English language shall take precedence.

1.1 Purpose. The purpose of the fastener rating scale is to allow comparison between vehicles and consistency between personnel. It is important to recognize that rating fastener corrosion involves perception of an objectionable surface and much of the judgment is subjective. The Fastener Corrosion Scales provide some objective measure that will guide subjective judgment.

1.2 Applicability. The Corrosion Rating Scale Guidelines contain corrosion rating scales, rating guidelines, and photographs for the determination of corrosion severity on all vehicular parts, including body and sheet metal, underbody and underhood components, and fasteners. It is intended that the scales are used for both corporate corrosion inspections and field surveys.

1.3 Remarks. This fastener rating scale guideline contains four (4) sets of fasteners.

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	GMW15356	GMW15357	GMW15359

2.3 Additional References.

- Corrosion Rating Scale Guidelines

3 Requirements

3.1 Using the Rating Scales. When rating parts on a vehicle one needs to consider the type of part being rated. To a customer, what is objectionable corrosion on a panel differs from that on a component or fastener as far as the total corroded area of concern. A panel is more likely to perforate, or suffer significant metal loss, long before 100% of the area becomes corroded. Consequently, when rating a panel, one should locate and rate the worst area on the panel. For components and fasteners, rating by estimating the percentage of visible corroded area is meaningful. If the proper rating actually falls between two rating values, the **lower** of the two rating values shall be used.

3.1.1 Guideline Arrangement. The guidelines are arranged in four stand-alone documents. The first three guidelines consist of the cosmetic corrosion rating scale and photographs pertaining to red rust. The fourth guideline provides the same type of rating scale and photographs for white corrosion. The red rust guidelines consist of Sheet Metal (GMW15356), Components (GMW15357), and Fasteners (GMW15358). The White Corrosion Guideline (GMW15359) contains plated components. Use of the white corrosion rating scale is not limited to this material, and can be used on any plating or material that exhibits white corrosion. When rating a part, decide what type of part is being rated and use the appropriate section of the guideline. In all cases, use of a pictorial reference ensures consistent ratings and is easier to use than a strict written definition. The rating guidelines may be helpful in determining the range of photographs to use for comparison.

Note: For further information, contact GM Corrosion Engineering.

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3.2 Generic Rating Scale. The corrosion rating scale reflects the various degrees of corrosion and ranks them as shown in the rating guidelines (see Table A1 in Appendix A). On a scale of one (1) to 10, one (1) represents perforation, two (2) obvious metal loss, and 10 no visible corrosion. Ratings from nine (9) to three (3) reflect varying degrees of corrosion from very little to extensive. The photograph guidelines associated with this scale will focus on showing examples of ratings 10 through three (3). These ratings are associated with levels of corrosion cosmetic in nature. Ratings of two (2) and one (1) relate to significant metal loss or actual substrate perforation, respectively, and are not included.

3.2.1 Fastener Rating Scale. Use this section for fasteners. Fasteners should be rated using the rating guidelines. Compare the fastener to the series of photographs in Appendix B, Figure B1, Figure B2, Figure B3 and Figure B4, and select the comparable level for the rating.

4 Validation

4.1 General. This rating scale along with the three additional rating scales defined in section 3.1.1 “Guideline Arrangement” support the corrosion evaluation of all GM laboratory and road corrosion related test procedures in addition to material specifications.

4.2 Validation Cross Reference Index. Not applicable.

4.3 Supporting Paragraphs. Not applicable.

5 Provisions for Shipping

Not applicable.

6 Notes

6.1 Glossary. Not applicable**.**

6.2 Acronyms, Abbreviations, and Symbols.

GSSLT	Global Subsystem Leadership Team
IMDS	International Material Data System

7 Additional Paragraphs

7.1 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).

7.2 Safety. User of this GMW to follow all local safety instructions, including the use of proper personal protective equipment (e.g., safety glasses) and garage/lab equipment.

8 Coding System

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

Rate per GMW15358

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9 Release and Revisions

This standard was originated in May 2006. It was first approved by Global Laboratory Corrosion Testing Harmonization Team in June 2006. It was first published in November 2006.

Issue	Publication Date	Description (Organization)
1	NOV 2006	Initial publication.
2	MAY 2009	Updated Section 3.1 to clarify how rating scale is to be used. (Material and Corrosion Engineering)
3	JUN 2009	No change to content of document. Republished to revise distribution requirements from internal only to external. (Material and Corrosion Engineering)
4	SEP 2014	5 Year Refresh. Added 7.1.2 on safety. Updated Figure B1 and Figure B2. Added Figure B3 and Figure B4. (Material – General Corrosion Global Subsystem Leadership Team).
5	OCT 2019	5 Year Refresh. Modified Appendix A and Appendix B. Added 4.2 and 4.3 to be common across all rating scales. (Materials – Corrosion GSSLT)

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