

Chapter 9

Silver Elastomeric Specification

MIL-DTL-83528



MIL-DTL-83528 Rev. G is a specification covering Silver Elastomeric EMI gaskets “approved for use by all departments and agencies of the department of defense” [1].

The document is a general specification to be used for purchasing silver elastomeric EMI gaskets for the purpose of providing environmental and shielding protection for Department of Defense (DoD) weapon systems. The silver elastomeric gaskets referenced in this specification can possess two (2) significant problems for the DoD. These problems are:

1. The gaskets can possess a relatively short shelf life (the ability to shield a weapon system from the effects of an electromagnetic wave can be compromised while sitting on the shelf.)
2. The gaskets can possess a relatively short useful life. The silver content of the gasket material when exposed to moisture or salt fog environments will create a galvanic corrosion between the gasket and the structural surface of a weapon system [2]. This galvanic corrosion will highly compromise the ability of the gaskets to provide the required shielding.

A full critique of MIL-DTL-83528 G verifies that the problems exist, and is contained in Appendix A.

References

1. MIL-DTL-83528 Rev. G (2017) Gasketing material, conductive, shielding gasket, electronic, elastomer EMI/RFI general specification, US Department of Defense
2. SAE ARP-1481 Rev. A (2004) Corrosive controlled and electrical conductivity in enclosure design, SAE International