



Designation: ~~B921-02~~ Designation: **B 921 – 08**

Standard Specification for Non-hexavalent Chromium Conversion Coatings on Aluminum and Aluminum Alloys¹

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1. Scope

1.1 This specification covers the requirements relating to rinsed and non-rinsed non-hexavalent chromium conversion coatings on aluminum and aluminum alloys intended to give protection against corrosion and as a base for other coatings.

1.2 Aluminum and aluminum alloys are conversion coated in order to retard corrosion; as a base for organic films including paints, plastics, and adhesives; and as a protective coating having a low electrical contact impedance.

1.3 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory requirements prior to use.*

2. Referenced Documents

2.1 ASTM Standards:²

B 117 Practice for Operating Salt Spray (Fog) Apparatus

B 602 Test Method for Attribute Sampling of Metallic and Inorganic Coatings

D 1730 Practices for Preparation of Aluminum and Aluminum-Alloy Surfaces for Painting

D 3359 Test Methods for Measuring Adhesion by Tape Test

2.2 ISO Standards:

ISO 2409 Paint and Varnishes—Cross-Cut Test³

ISO 3768 Metallic Coatings—Neutral Salt Spray Test (NSS Test)³

ISO 4519 Electrodeposited Metallic Coatings and Related Finishes—Sampling Procedures for Inspection by Attributes³

2.3 Federal Standard:

Fed. Std. No. 141 Paints, Varnish, Lacquer, and Related Materials; Methods of Inspection⁴

2.4 Military Specification:

~~MIL-C-5541 Chemical Films for Aluminum and Aluminum Alloys⁶~~

MIL-DTL-5541 Chemical Conversion Coatings on Aluminum and Aluminum Alloys⁴ 64019e859bb/astm-b921-08

MIL-DTL-81706 Chemical Conversion Materials For Coating Aluminum and Aluminum Alloys⁴

3. Terminology

3.1 Definitions:

3.1.1 *non-rinsed*—conversion coatings that are dried immediately after the conversion coating step without receiving a water rinse.

3.1.1.1 *Discussion*—This special type of coating is typically used on long coils of aluminum sheet stock that receive an immediate subsequent paint or adhesive coating.

NOTE 1—Non-rinsed conversion coatings are finding increased usage on fabricated parts and castings.

¹ This specification is under the jurisdiction of ASTM Committee B08 on Metallic and Inorganic Coatings and is the direct responsibility of Subcommittee B08.07 on Chromate Conversion Coatings.

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards*, Vol 03.02, volume information, refer to the standard's Document Summary page on the ASTM website.

³ *Annual Book of ASTM Standards*, Vol 02.05.

³ Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036.

⁴ *Annual Book of ASTM Standards*, Vol 06.01.

⁴ Available from Standardization Documents Order Desk, DODSSP, Bldg. 4, Section D, 700 Robbins Ave., Philadelphia, PA 19111-5098.