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Supersedes : 17-Aug-07
Effective: 27-Aug-07

1.0 Purpose

This material is intended for use in a Simple CVD Reaction used to coat jet engine turbine components with eventual nickel or cobalt aluminide coatings.

2.0 Certificate Required

Each lot supplied must be accompanied with a **Certificate of Analysis**. The analysis must show that the material meets or exceeds the specification given for that given material according to these specifications. The purity of the material is important to the eventual reliability of the airfoil components in use and has been provided to the FAA as documentation of this process.

3.0 Specifications

3.1 The vendor may not alter the manufacturing process utilized to prepare this material without written permission of the requestor.

3.2 The material will conform to the following specifications:

3.2.1 Nominal Chemistry

3.2.1.1 Aluminum Percentage 42-46% by weight as measured by ICP

3.2.1.2 Chromium Percentage 54-58% by weight as measured by ICP

3.2.2 Trace elements

3.2.2.1 **Bismuth** 0.0001% Maximum as measured by ICP-MS.

3.2.2.2 **Carbon** 0.04% maximum as measured by combustion.

3.2.2.3 **Cobalt** 1.00% maximum as measured by ICP

3.2.2.4 **Pb Lead** 0.0025% maximum as measured by ICP-MS

3.2.2.5 **Mn Manganese** 0.25% maximum as measured by ICP.

3.2.2.6 **Ni Nickel** 0.50% maximum as measured by ICP.

3.2.2.7 **Si Silicon** 0.250% maximum as measured by ICP

3.2.2.8 **Nitrogen** 0.2% maximum as measured by Fusion.

3.2.2.9 **Sulfur** 10 ppm maximum obtained by selection of low sulfur heats from master chromium heats.

3.2.3 Screen Size

US Standard ASTM B214

+5/8” 0% maximum

-5/8” + 1/8 “ Balance

-5 Mesh 1% maximum

Date		Date	
Prepared by		Approved	

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The material must be homogeneous within reason. No clumps or segregated materials are allowed.

4.0 Packaging

The materials must be packaged in containers convenient for use by the customer and sufficiently strong and weather resistant to maintain the integrity of the material. Five-gallon metal pails, with tin-plated or chrome plated interiors and rubber sealed gasketed lids seem to be the preferred method of meeting this requirement. Other alternatives will be considered consistent with the need to maintain the quality of the material.

5.0 Labeling

The container must be clearly identified with the following:

Material Specification Number: (MS-101)
Lot Size in Kilograms
Material description: "Chromium-Aluminum Chunklets"
Lot Number:
Purchase Order Number:
MSDS Contact Number:

