

Salt Lake City, Utah 84116 Phone - 801-977-9705 Fax - 801-977-9768

Submittal Date: March 29, 2015

Letter of Material Certification -

This letter is in response to your request for documentation of materials supplied by Hercules Industries.

The aluminum sheet product that we supply adheres to the following ASTM – (American Society Testing Materials) standards.

ASTM B209 – 07 – Standard specification for Aluminum and Aluminum Alloy Sheet & Plate ASTM Standards – Volume 02.02

This specification covers aluminum and aluminum-alloy flat sheet, coiled sheet, and plate in particular alloys and tempers described. Plate in all alloys and sheet in heat-treatable alloys shall have a mill finish. Sheet in non heat-treatable alloys shall have any one of the following finishes: mill finish, one-side bright mill finish, standard one-side bright finish, and standard two- side's bright finish. The sheet and plate shall conform to the specified requirements for tensile properties. The heat treatment capability, reheat-treatment capability, bend properties, stress-corrosion resistance, and exfoliation-corrosion resistance of the sheet and plate shall be determined through specified processes.

Specifically – 3003 Alloy H14 – For general purpose use, moderate strength, good workability. This product qualifies as Duct Sheet stock and should be able to make a Pittsburgh lock form.

Typical Mechanical Properties – 3003 H14 - (Generally- Non Heat Treatable)

Ultimate Tensile – 22,000 PSI Yield Strength – 21,000 PSI Elongation – (1/16" Specimen) 16%

Nominal Chemistry – 3003 H14 (Manganese - main alloying element)

Copper - 0.12 Manganese - 1.2

Additional Commonly Referenced Documents: (When required)

B548 – Test Methods (Ultrasonic), B557 Test Methods (Tension Testing), E34 (Chemical Analysis) E55 – Sampling methods for chemical composition, E290 Bend Testing, Other test procedures upon request.

Please contact me if you have any additional questions or concerns.

Sincerely

Don Modesitt Steel Products Manager Hercules Industries Inc. **801-644-6998**