

## SupremEX<sup>®</sup> MATERIAL: 640XA

Effective Jan 11<sup>TH</sup> 2018

Revision: A

### 1. SCOPE

- 1.1. This specification defines the requirements for a grade of consolidated Aluminum-Silicon Carbide metal matrix composite (MMC), entitled "640XA". The MMC contains nominally 40 volume % Silicon Carbide (SiC) and is produced by mechanical alloying processes.

### 2. CHEMICAL COMPOSITION

- 2.1. The chemical composition of Aluminum powder matrix shall conform to Aluminum 6061B.
- 2.2. The composition of Aluminum-Silicon Carbide MMC shall conform to the following:

<u>Element</u>	<u>Volume % Minimum</u>	<u>Volume % Maximum</u>
Aluminum 6061B	-----Balance-----	
Silicon Carbide	39.5	40.5

### 3. DENSITY

- 3.1. The actual bulk density of the MMC, entitled "640XA", shall be reported.
- 3.2. Density shall be determined using the water displacement method.

### 4. TOLERANCES

- 4.1. Materials furnished under this specification shall conform to the dimensions and dimensional tolerances as established by the purchase order and applicable drawings. If tolerances are not specified by purchase order, the following standard tolerances shall apply employing ANSI 14.5M:

Diameter, Width, Length, or Thickness

-0, +0.250" (-0, +6.35mm)

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## 5. SURFACE FINISH

- 5.1. Materials furnished under this specification shall conform to the surface finish established by the purchase order and applicable drawings. If no surface finish is specified, the material shall be furnished with an as-sawed, or better, surface.

## 6. REPORTS

- 6.1. Certification of Compliance with this specification will be furnished on request. Testing in accordance with individual customer instructions will be performed if mutually acceptable and actual test results will be provided.

## 7. MARKING

- 7.1. Each lot material shipped to the customer will be appropriately identified, tagged, packaged and labeled to include the following:

Materion Inc.

Lot Number

Specification Number

Purchase Order Number

Product SDS and Corresponding Shipping Label

Additional marking and serialization can be performed at customer request.

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