

## ***NORTH STAR BLUESCOPE STEEL LLC* Material Specification**

Process Area: LMF	Number: AL 56.00
Material: Copper	Effective Date: 01/16/18
Authorized By: Jim Fox	Review Date: 01/16/19

### **1.0 Application:**

Ladle addition for alloying purposes.

### **2.0 Chemical Analysis and Material Properties:**

Element	Absolute min.	Preferred min.	Preferred max.	Absolute max.
Copper	99.5%			
Fe, Si, S, C, Pb, Cd, Sn, Be, Zn, Ni, Cr				.5%

### **3.0 Packaging:**

- 3.0 10 kg bulk weight (all sizing / forms for manual addition use) poly-mesh bags in 55 gal. drums with bottom spacers (for moisture drainage), banded to winged pallets that have horizontal slats extending beyond the vertical 2x4 main members (wings) to facilitate lifting via pallet chain / bar lifting rig. Packages must be stenciled with the North Star BlueScope Raw Materials Number (AL56), bulk weight (kg) per package, and material name (abbreviated) when ordered this way
- 3.1 3000–4400 lb bulk weight supersacks (all sizing / forms for bulk addition use) polymesh sacks with lifting loops at top 4 corners and no bottom spout (flat bottom) Packages must be stenciled with the North Star BlueScope Raw Materials Number (AL56), bulk weight(lbs) per package, and material name (abbreviated) when ordered this way.
- 3.2 The North Star BlueScope Steel Raw Material Number must appear on all shipping and billing paperwork.
- 3.3 Shipped on flatbed or loaded for tailgate delivery from van.

### **4.0 Sizing:**

- 4.1 1 X 1 inch max chopped wire pieces – approved for manual or bulk additions
- 4.2 1 X 1 inch max - alternate bulk forms must be qualified to run through alloy system

### **5.0 Certification and Control:**

- 5.1 Each lot received to include statements of conformity and certification. These documents must be handed in at the scales and include:
  - Certification for Copper
  - Quantity
  - Name of material
  - Lot number
  - North Star BlueScope Steel Material Number
- 5.1 All chemical constituents expressed or not expressed (other than Copper) contained in the subject material may not exceed 0.5% collectively. Any material outside of the required specifications must have prior approval by purchasing before shipment is made and analysis included on certification.
- 5.2 Material is subject to inspection at North Star BlueScope Steel to test adherence to specification.
- 5.3 All material supplied to this specification must be equivalent in all respects to the material on which approval was originally granted.

### **6.0 Relevant Industry Standards (e.g. ASTM):**

N/A

### **7.0 Hazardous Material:**

If this material is hazardous or requires special handling or storage, this information must be clearly labeled on containers and shipping documents. MSDS Sheets must also be sent to purchasing manager for new materials.

Prepared by: Jim Nevins	Page 1 of 2
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### **8.0 Attachments/Reference Documents:**

N/A

<b>Rev</b>	<b>Date</b>	<b>Description of change</b>	<b>Reason for change:</b>
00	01/19/16	New Spec	
	01/04/17	Reviewed & re-authorized	Annual review
	01/16/18	Reviewed and reauthorized	Annual review