



**MATERIAL REQUIREMENT SPECIFICATIONS**  
**FULTON MANUFACTURING – ENGINEERING DEPARTMENT**

**1. GENERAL**

These specifications serve as device for identifying Fulton Manufacturing metal strip stock types and metal strip stock properties. They provide a correlation between Fulton Manufacturing material part numbers and Unified Numbering System (UNS), Copper Development Association (CDA) or Society of Automotive Engineers (SAE) Designations.

**2. PHYSICAL PROPERTIES:**

- 2.1. Tensile Strength (TS)** – Acceptable ranges for tensile strength are listed in KSI units and are for engineering information only. Deviation from these ranges is permitted. Yield strength values rejection criteria (ASTM E-8). Exception to this will only be made if agreed upon by Fulton Manufacturing and metal manufacturer.
- 2.2. Yield Strength (YS)** – The ranges for yield strength are listed in KSI units and are for engineering information only. Deviation from these ranges is permitted. Yield strength values are helpful to Fulton Manufacturing but are not used as acceptance of rejection criteria (ASTM E-8). Exception to this will only be made if agreed by Fulton Manufacturing and metal manufacturer.
- 2.3. Percent Elongation (ELON)** – The acceptable minimums or ranges for elongation are listed as percent (%). No deviation from these values is permitted. Deviation from values listed is subject rejection (ASTM E-8).
- 2.4. GRAIN SIZE (GS)** – Average ready to finish grain size should be determined through the use of ASTM E-112. Deviation from values listed is subject to rejection.
- 2.5. Hardness** – The acceptable hardness ranges are listed in Rockwell Hardness or Rockwell Superficial Hardness Numbers (ASTM E-18). Conversion of hardness values to a scale other than specified is subject to interpretation using ASTM E-140. Deviation from values listed is subject to rejection.

**3. MATERIAL SIZES**

Material thickness and width as specified applies to the base metal and must be held within specified limits. Material found to be outside specified limits is subject to rejection.

**4. ADDITIONAL REQUIREMENTS**

- 4.1. Camber (CM)** – Allowable camber shall be defined as follows:  
Camber to be .250" maximum per 8 feet in length for strip width up to and including 3.00".  
Camber to be .125" maximum per 8 feet in length for strip width over 3.00" and up to 24.00".  
Camber to be .09375" maximum per 8 feet in length for strip width over 24.00".  
Material deviating from this, unless otherwise specified, is subject to rejection.





**4.2. Plating Requirements** – Whereas material is designated as preplated, plating shall be defined as follows:

4.2.1. **100% Hot Tin Dip COMM.** – As shown in Fulton Manufacturing specifications indicates 100% hot tin dip with a nominal tin thickness of 0.000040 – 0.000080 inches.

4.2.2. **Electro-Tin Plating** – Plating composition to be 100% tin unless otherwise specified. Tin thickness and finish to be as indicated in specification.

**4.3. Shipping Tolerances** – Allowable variance from quantity ordered shall be defined as follows:

A variance of +/-30% is allowed for order quantities up to 499 lbs. not to exceed 75 lbs.

A variance of +/-20% is allowed for order quantities of 500 lbs. through 999 lbs.

A variance of +/-10% is allowed for order quantities of 1000 lbs. and above.

Shipments deviating from this, unless otherwise specified, are subject to corrective action.

## **5. PACKAGING**

**5.1. Packaging** must reference all purchase order and part numbers. Itemize all skid weights – gross and net.

**5.2. Pancake Coils** are designated by the use of coils and CLS in Fulton Manufacturing specifications.

5.2.1. **Unless otherwise specified**, pancake coils are to be

A.) 16" ID (inside diameter).

B.) 38" – 54" OD (outside diameter).

C.) Use of tape (fiberglass or otherwise) within a coil is expressly forbidden.

5.2.2. **Skid Configuration (pancake coils)**

A.) Coils stacked no more than 2 feet tall, plus skid.

B.) 4,500 lb. maximum skid weight.

C.) Coils to be separated by suitable spacers.

D.) Four bands per skid with corner protectors.

E.) FMI prefers round skids. Square skids must fit within a 54" diameter.

**5.3. Traverse Reels** are designated by use of (TRV WND) in Fulton Manufacturing Specifications.

5.3.1. Unless otherwise specified, traverse reels are to be 2000lb maximum per reel

5.3.2. Skid configuration (traverse reels) 2 reels per skid maximum

**5.4.** Lack of Compliance with the aforementioned packaging requirements is subjects to rejection of the lot regardless of its quality.

Any deviation from the requirements stated herein shall be discussed with and approved or disapproved by Fulton Manufacturing prior to shipment.