



BRASS STRIP, ARSENICAL

ESH-M2A116-A

1. SCOPE

The material defined by this specification is arsenical brass strip furnished in either the rolled to temper or annealed to temper condition.

2. APPLICATION

This specification was originally released for material used to manufacture radiator tubes. The brass contains a controlled amount of arsenic, which inhibits dezincification.

3. REQUIREMENTS

3.0 STANDARD REQUIREMENTS FOR PRODUCTION MATERIALS

Material suppliers and part producers must conform to the Company's Standard Requirements For Production Materials (WSS-M99P1111-A).

3.1 CHEMICAL COMPOSITION

Copper	68.50 - 71.50
Arsenic	0.025 - 0.05
Lead	0.07 max
Iron	0.05 max
Zinc	Remainder

3.2 MECHANICAL PROPERTIES

Annealed to Temper

Rolled to Temper

Tensile Strength, psi (MPa)	62,000-72,000 (428-496)	62,000-72,000 (428-496)
Elongation, %	25 min	8 - 25
*Yield Strength, psi (MPa), min	40,000 (276)	40,000 (276)

3.3 METALLURGICAL PROPERTIES

Microstructure	Fully Recrystallized
Grain Size	0.002 - 0.010 mm

3.4 FINISH

The material shall be free from injurious external and internal defects of a nature which will interfere with the purpose for which the material is intended. It shall have a workmanlike finish and be well cleaned and free from dirt.

3.5 SURFACE CONDITIONS

3.5.1 Material to be free from holes, laminations, abrasions, and other surface defects and when unrolled must be free of buckles, crimps, and short waves.

Date	Action	Revisions
2006 03 17	Revised	Inserted 3.0; Deleted 3.8 & 4
1981 04 27		3.1 - Arsenic min was 0.02 R#8/CH8K/RD-876099
1979 10 23	Released	R#10-5/CH8H-RD-834190





3.5.2 Surface Finish 5 - 15 μin (0.13 - 0.38 μm) rms*

*Indicated properties not to be used as basis for rejection; however, can be used to support functional rejection.

3.6 QUALITY

3.6.1 Cleanliness

Must be clean and free from scale, stains, dirt, greases, oils, or foreign matter which are detrimental to fabricating operations. (Certain lubricants not detrimental to fabricating may be used if very lightly and evenly applied).

3.6.2 Fabrication Techniques

Annealing, rolling cleaning, and slitting must be in accordance with best commercial practice.

3.7 DIMENSIONAL REQUIREMENTS

3.7.1 Edgewise bend or curvature not to exceed 1/8 in (3.2 mm) in 6 ft (1830 mm) length.