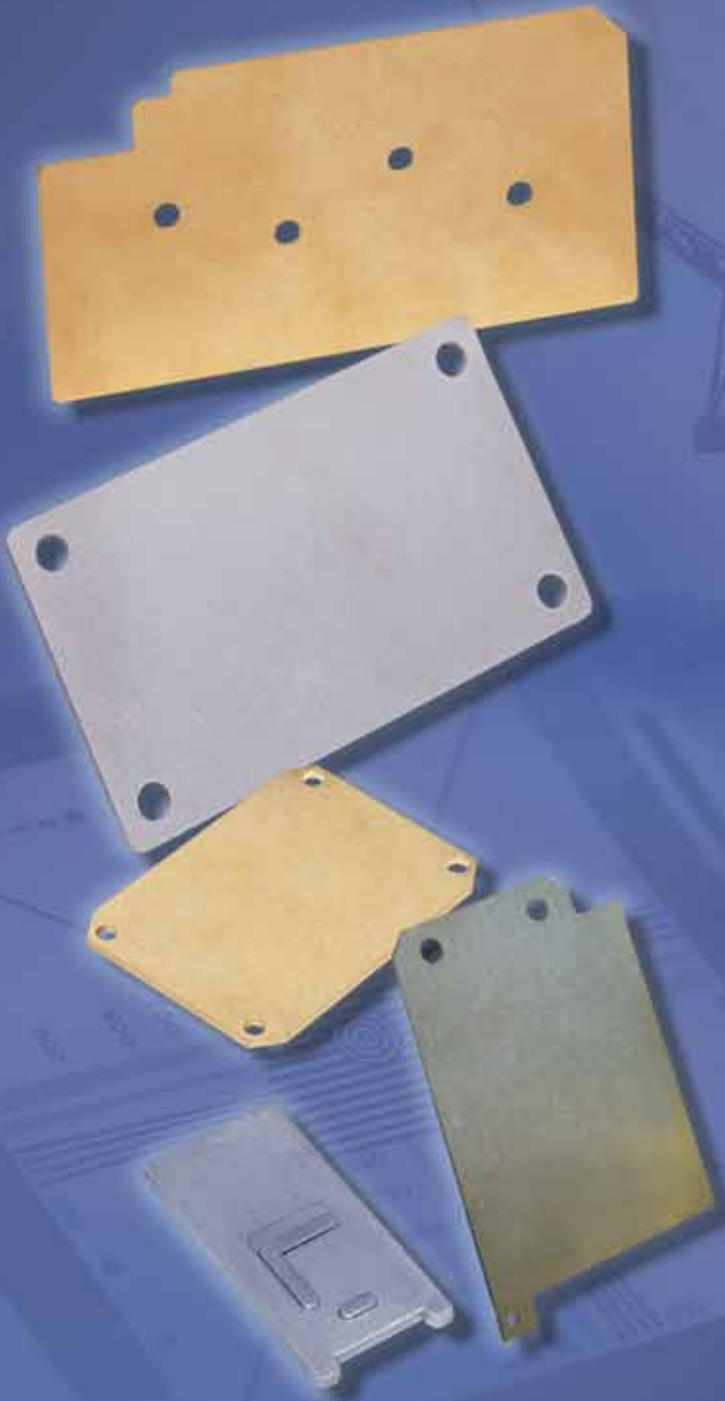


Your *One* Source

for parts made
with the composites:

Molybdenum-Copper
Tungsten-Copper



AMETEK[®]
SPECIALTY METAL PRODUCTS

Advanced Thermal

This series of composites – **Molybdenum-Copper** and **Tungsten-Copper** – developed by AMETEK using its wrought powder metallurgy technology, has unique properties for use in: heat sinks, substrates, and thermal spreaders.

Molybdenum-Copper Composites (AMC Series)

COMPOSITIONS	Other compositions can be produced upon request			
	AMC 6040 AMC 6535 AMC 7525 AMC 8020 AMC 8515	60% molybdenum-40% copper 65% molybdenum-35% copper 75% molybdenum-25% copper 80% molybdenum-20% copper 85% molybdenum-15% copper		
DENSITY		g/cm ³	lb./in. ³	
	AMC 6040 AMC 6535 AMC 7525 AMC 8020 AMC 8515	9.68 9.74 9.87 9.94 10.01	0.349 0.352 0.356 0.359 0.361	
THERMAL CONDUCTIVITY		W/mK	BTU/hr. ft. °F	
	AMC 6040 AMC 6535 AMC 7525 AMC 8020 AMC 8515	215 205 185 175 165	125 119 108 102 96	
THERMAL EXPANSION <small>(in./in. x 10⁻⁶/°C)</small>		30-150° C	30-400° C	30-800° C
	AMC 6040 AMC 6535 AMC 7525 AMC 8020 AMC 8515	9.5 9.0 7.8 7.2 6.8	10.2 9.4 8.0 7.5 7.0	10.5 9.8 8.4 7.9 7.4

The data herein is subject to revision without notice. Since AMETEK products and the information are provided for informational purposes only, AMETEK makes no guarantee, either express or implied, concerning the suitability of any specific situation. User is solely responsible for determining the suitability of AMETEK products for their application.

Management Products

Specifications & Applications

Tungsten-Copper Composites (AWC Series)

AWC 7525	75% tungsten-25% copper	} <i>Other compositions can be produced upon request</i>
AWC 8020	80% tungsten-20% copper	
AWC 8515	85% tungsten-15% copper	
AWC 8812	88% tungsten-12% copper	
AWC 9010	90% tungsten-10% copper	

	g/cm ³	lb./in. ³
AWC 7525	14.98	0.541
AWC 8020	15.68	0.567
AWC 8515	16.45	0.594
AWC 8812	16.95	0.612
AWC 9010	17.3	0.625

	W/mK	BTU/hr. ft. °F
AWC 7525	186	107
AWC 8020	175	101
AWC 8515	162	93
AWC 8812	155	90
AWC 9010	150	86

	30-150° C	30-400° C	30-800° C
AWC 7525	9.06	9.55	9.68
AWC 8020	8.21	8.60	8.63
AWC 8515	7.36	7.65	7.58
AWC 8812	6.78	7.00	6.86
AWC 9010	6.51	6.70	6.53

The material is available as finished parts with the following maximum dimensions depending on overall size:

Width: 6 inches (152 mm)

Thickness: 0.250 inches (6.4 mm)

Length: 24 inches (610 mm)

These composites of molybdenum-copper and tungsten-copper have many applications in electronic devices. The excellent thermal conductivity and low thermal expansion makes them ideal for:

- **Chip mounting**
- **Heat sinks**
- **Circuit board cores**
- **Lids or covers**
- **Thermal spreaders**

The material can be machined into shapes and readily plated if required.

AMETEK's wrought powder metallurgy composites have superior through-thickness thermal conductivity versus other products.

Contact AMETEK to arrange for an evaluation sample to discover the advantages of the molybdenum-copper and tungsten-copper wrought powder metallurgy composites in your application.

Information given and recommendations made herein, may be used under conditions beyond our products, or the applicability and accuracy of the information or recommendations, in products for any specific purpose.

AMETEK is a name well known for high-tech materials

AMETEK Specialty Metals Products (SMP) is a world leader in metal powders, high purity strip, ultra thin metal foil, specialty wire, metal matrix composites, engineered shaped components and clad metal products with numerous patents in technically advanced metallurgical materials.

AMETEK SMP manufactures or consolidates a variety of metal alloys including stainless steels, nickel-based alloys, cobalt-based alloys, titanium and titanium alloys and master alloys. For over 50 years, it has developed innovative, proprietary products tailored to specific customer applications.

AMETEK, Inc. is a leading global manufacturer of electronic instruments and electromechanical products with annualized sales of \$3.0 billion. AMETEK has approximately 11,600 colleagues working at more than 100 manufacturing facilities and more than 100 sales and service centers in the United States and around the world.



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