

# Tarnish-Resistant Silver Alloys

ALLOY	Argentium 935 Original	Argentium 935 Pro	Argentium 960 Pro	Argentium 960 Pure	Silvadium
<b>GENERAL ALLOY COMPOSITION</b>	93.5% silver, copper, and germanium	93.5% silver, copper, and germanium	96% silver, copper, and germanium	96% silver, copper, and germanium	93% silver, 7% palladium, and germanium
<b>SUITABLE FOR WHAT PROCESSES</b>	Fabrication into sheet and wire products. Can also be used for investment casting.	Investment casting alloy	Investment casting alloy	Fabrication into sheet and wire products. Can also be used for investment casting.	Casting and fabrication
<b>MELTING TEMPERATURE RANGE</b>	Solidus 1,477°F (803°C); Liquidus 1,657°F (903°C)	Solidus 1,598°F (870°C); Liquidus 1,670°F (910°C)	Solidus 1,625°F (885°C); Liquidus 1,697°F (925°C)	Solidus 1,661°F (905°C); Liquidus 1,697°F (925°C)	875°C to 910°C (1,607°F to 1,670°F)
<b>COLOR</b>	Very white with high reflectivity. CIElab color measurements: L*97.5, a*-0.3, b*2.5 Yellowness Index 5.7	Very white with high reflectivity. CIElab color measurements: L*97.8, a*-0.3, b*2.7 Yellowness Index 6	Very white with high reflectivity. CIElab color measurements: L*97.6, a*-0.2, b*2.2 Yellowness Index 5.2	Very white with high reflectivity. CIElab color measurements: L*96, a*-0.3, b*2.6 Yellowness Index 5.9	Metallic white
<b>HARDNESS (AS-CAST) (HV)</b>	68	52	52	55	50 to 55
<b>HARDNESS (WORK-HARDENED) (HV)</b>	167 (70% reduction in area)	154 (70% reduction in area)	154 (70% reduction in area)	180 (70% reduction in area)	80 (cold rolled), 90 (aged)
<b>AVAILABLE FORMS</b>	Sheet, wire, tube, beads, findings, and casting grain	Casting grain	Casting grain	Sheet, wire, tube, beads, findings, and casting grain	Casting grain
<b>SPECIAL FEATURES</b>	Superior quality sterling silver alloy of high purity with exceptional brightness, reflectivity, color, and tarnish resistance. This alloy is easily fabricated for all silversmithing applications and can also be hardened by up to 30 HV from the as-cast hardness by simple heat treatment at 572°F (300°C) for 2 hours.	Superior quality sterling silver alloy of high purity with exceptional brightness, reflectivity, color, and tarnish resistance. When investment cast, this alloy shows excellent fluidity and very low porosity levels. This alloy can be hardened by up to 30 HV from the as-cast hardness by simple heat treatment at 572°F (300°C) for 2 hours.	Premium quality silver alloy of high purity with exceptional brightness, reflectivity, color, and tarnish resistance, which conforms to the U.K. Britannia standard. When investment cast, this alloy has good fluidity and very low porosity levels. This alloy is capable of being hardened by up to 30 HV from the as-cast hardness by simple heat treatment at 572°F (300°C) for 2 hours.	Premium quality silver alloy of high purity with exceptional brightness, reflectivity, color, and tarnish resistance, which conforms to the U.K. Britannia standard. This alloy is easily fabricated for all silversmithing applications and can also be hardened by up to 30 HV from the as-cast hardness by simple heat treatment at 572°F (300°C) for 2 hours.	High metal reusability, firescale-free, high fluidity for stone-in-place casting, white-gold-like appearance, age-hardenable, and superior tarnish resistance.

## SILVER ALLOY CONTACT INFORMATION

The data in this section was provided by the suppliers. For more information, contact the companies directly.

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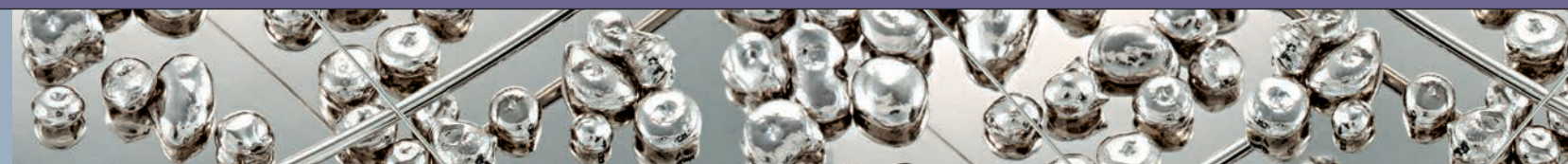
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<b>Sterling Super</b>	<b>Sterlium-Plus</b>	<b>TruSilver</b>	<b>Elite Silver (950-3P)</b>	<b>Sterilite Sterling #122</b>	<b>Sterilite Sterling #250-B</b>
92.6% silver, 3.9% copper, 3% zinc, and 0.5% palladium	93% silver, 4% zinc, 3% copper, and germanium	92.5% silver, copper, and other metals	95% silver available with additions of 1% palladium, 0.5% gold, and other proprietary elements	92.5% silver, copper, tin, zinc, germanium, and silica	92.5% silver, copper, tin, zinc, and silica
Casting and fabrication	Casting and fabrication	Available in two formulations: one for mill products and one for investment casting	Casting, stamping, and hand fabrication	Casting, stamping, and hand fabrication	Casting, stamping, and hand fabrication
858°C to 905°C (1,576°F to 1,661°F)	848°C to 901°C (1,558°F to 1,654°F)	805°C to 875°C (1,481°F to 1,607°F)	900°C to 945°C (1,652°F to 1,733°F)	875°C to 910°C (1,607°F to 1,670°F)	875°C to 925°C (1,607°F to 1,697°F)
Metallic white	Snow white	White	Bright white	Bright sterling white	Bright sterling white
60 to 65	55 to 60	75 (mill alloy), 79 (casting alloy)	94	60	89
92 (cold rolled), 102 (aged)	90 (cold rolled), 120 (aged)	150 (mill alloy)	118	152	105
Casting grain	Casting grain, sheet, wire, and tubing	Sheet, round wire, shaped wire, patterned wire, beaded and half-beaded wire, tubing, and casting grain	Casting grain and wire	Casting grain, sheet, and wire	Casting grain, sheet, and wire
High metal reusability, firescale-free, high fluidity for stone-in-place casting, steel white color, age-hardenable, and superior tarnish resistance.	High metal reusability, firescale-free, high fluidity for stone-in-place casting, improved hardness, age-hardenable, and superior tarnish resistance.	The alloys will be available in June. The mill alloy offers excellent rolling and drawing properties with high tarnish resistance. The casting alloy features excellent and forgiving casting properties with good flow characteristics and high tarnish resistance. Both alloys give an excellent polished finish.	Tarnish resistance similar to 10k gold, good casting properties, and a bright white finish.	Excellent casting properties, extremely bright out of investment with no firescale, bright white finish, good tarnish resistance, and excellent hand fabrication properties.	Excellent casting properties (high fill rate), no firescale, bright white finish, heat-treatable, and high tarnish resistance (five times that of sterling).

**United Precious Metal Refining Inc.**

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