



## UNITED ALLOY # 014

Be insured in quality, Be insured in service, Be insured in “United Alloys.

UNITED ALLOY is uniquely different from other available alloys. Combining the highest purity metals available, stringent quality control, special de-oxidizers and grain refiners, produce trouble-free, superior quality castings and fabrication or rolling (hand-made).

UNITED ALLOY # 014 is a spring / super hardness silver alloy for adding to fine silver to make Maximum Hardness Sterling Silver for spring, sheet, wire or special high hardness products which has been formulated to give highest hardness and may also be used to make 900 Coin Silver casting, sheet or wire products. This master silver alloy can be used for regular casting, hand-made and also continuous casting.

We do recommend pre-graining all alloy and fine silver before casting to assure a uniform mixture.

- 1.) Melt Temperature for Alloying : 1,040 - 1,090 °C
- 2.) Melt Temperature for Investment / Continuous Casting : 980 - 1,040 °C
- 3.) Die Temperature for Continuous casting : 770 - 850 °C

4.) Flask Temperature :

WEIGHT	CENTRIFUGAL CAST	VACUUM CAST
Light	530 - 550 °C	620 - 680 °C
Medium	490 - 520 °C	550 - 590 °C
Heavy	450 - 480 °C	480 - 540 °C

5.) Quench Time : Wait 20 - 30 minutes before quenching flask. Cast ingots may be quenched immediately.

6.) Pickling : United’s Brite-Cast™ (Ammonium Bi-fluoride), Sparex # 2 (sodium bisulfate), 10% - 20% Sulfuric Acid.

Rubber gloves and safety glasses are recommended when using acid pickle.

7.) Re-using : We recommend a 50% fresh / 50% Scrap mix, Cleans scrap well before re-melting.

8.) Annealing : Coat the jewelry items with boric acid or any oxidation preventing solutions available.

Anneal at 650 - 700 °C for 20 minutes followed by water quenching.

9.) Hardening : Place in a pre-heated oven set at 300 °C for 2 hour and air cool.

10.) Soldering : United Silver Solder Alloy # SSA or already mixed silver solder sheet.

11.) Notes : Melt temperature may vary with type of unit.

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