



## UNITED ALLOY # PD-5

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 # PD-5 is designed for 9K - 14K Palladium White Gold, which produces a Silvery White Color which should be Rhodium plated for optimum color. This alloy is making tremendous strides in the development of a high fluidity palladium white gold alloy which contains Technical Metals as De-oxidizers which resist oxygen absorption in melting process and better solidification characteristics to reduce the porosity which improve the quality of casting and provide high luster in finished color and can be used in normal investment as Regular Casting, Stone-In-Place Casting and Rolling (hand-made).

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

- 1.) Melt Temperature for Alloying : 1,050 - 1,080 °C
- 2.) Melt Temperature for Casting : 1,020 - 1,050 °C
- 3.) Flask Temperature :

KARAT	WEIGHT	CENTRIFUGAL CAST	VACUUM CAST
9K - 14K	Light	570 - 600 °C	680 - 720 °C
	Medium	520 - 550 °C	620 - 650 °C
	Heavy	480 - 500 °C	550 - 600 °C

- 4.) Quench Time : After casting, wait 15 - 20 minutes before quenching flask.
- 5.) Pickling : United's Brite-Cast<sup>TM</sup> (Ammonium Bi-fluoride), Sparex # 2 (sodium bisulfate), 10% - 20% Sulfuric Acid.  
Rubber gloves and safety glasses are recommended when using acid pickle.
- 6.) Re-using : New alloy and fine gold 70%, Old gold 30%, Cleans Old gold well before re-melting.
- 7.) Specific Gravity : 9K - 12.29, 10K - 12.59, 14K - 13.98
- 8.) Soldering : United White Gold Solder # 5SA, or already mixed gold solder sheet.  
Laser welding is recommendation for matching white color.
- 9.) Notes : Melt temperature may vary with type of unit.

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