

## Technical sheet - Alloy 450

Color - Tint of Greenish yellow

Purpose - Casting

Karat - 9K - 14K

### Physical & Mechanical Properties

Composition		Color Coordinates				Density (g/cc)		As cast Hardness (HV)	
		Karat	L*	a*	b*				
Cu	71.75%	10K 450	88.77	1.93	19.93	10K 450	11.2	10K 450	124
Ag	11.25%								
Zn	17.0%	14K 450	87.57	2.84	19.4	14K 450	12.72	14K 450	129
Ni	0								

### Melting & Casting Instructions

Temperatures			
	Karat	°C	°F
Pre alloying	9K - 14K	1030° - 1065° C	1886° - 1949° F
Casting	10K	955° - 975° C	1750° - 1786° F
	14K	935° - 955° C	1715° - 1751° F
Flask	9K - 14K	510° - 650° C	950° - 1202° F
Quench Time	15-20 Minutes	Remelting	50% Fresh Mix

### General Instructions

- Very little *boric acid* flux is recommended. Do not use carbon flux such as soda ash, saltpeter etc. No flux needed in bottom pour automatic casting unit.
- *Flouric based* investment removers are the best for silicon oxide invisible coating. Use of aggressive acid causes corrosion and surface damage. *United's brite cast* investment removers works effectively.
- To calculate the weight of the metal needed (in grams), *multiply density (gm/cc) with weight of wax (grams)*. Add 10% of the total weight for button.
- *Gypsum bonded* investment is recommended. Follow manufacturer's instruction for burnout cycle.

**Note:** There are proprietary metals in the formulation which are not included in the composition section.

**Technical Assistance:** Always available... Call 1-800-999-3463 / 1-800-999-FINE

E-mail / [techteam@unitedpmr.com](mailto:techteam@unitedpmr.com) Web-Site / [www.unitedpmr.com](http://www.unitedpmr.com)