

### Physical & Mechanical Properties

| Composition |        | Color Coordinates |       |      |       | Density (g/cc) |       | As cast Hardness (HV) |     |
|-------------|--------|-------------------|-------|------|-------|----------------|-------|-----------------------|-----|
|             |        | Karat             | L*    | a*   | b*    | 10K 270        | 11.33 | 10K 270               | 160 |
| Cu          | 68.70% | 10K 270           | 89.73 | 2.37 | 19.62 | 14K 270        | 12.85 | 14K 270               | 151 |
| Ag          | 17.30% | 14K 270           | 88.57 | 3.11 | 19.76 |                |       |                       |     |
| Zn          | 14.00% |                   |       |      |       |                |       |                       |     |
| Ni          | 0.00%  |                   |       |      |       |                |       |                       |     |

### Melting & Casting Instructions

| Temperatures |               |                 |                   |
|--------------|---------------|-----------------|-------------------|
|              | Karat         | °C              | °F                |
| Pre alloying | 9K - 14K      | 1010° - 1040° C | 1850° - 1910° F   |
| Casting      | 10K           | 945° - 965° C   | 1733° - 1769° F   |
|              | 14K           | 920° - 940° C   | 1688° - 1724° F   |
| Flask        | 9K - 14K      | 510° - 650° C   | 950° - 1202° F    |
| Quench Time  | 20-25 Minutes | Remelting       | 35%-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)