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**UNITED 95 % PLATINUM 5 % RUTHENIUM CASTING ALLOY**

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Thank you for using UNITED'S Alloys.

Our Platinum casting alloys are melted in high frequency Induction furnaces and poured into shots. PT85% RU has good machining properties.

**SPECIFICATIONS**

95 % Platinum 5 % Ruthenium

Melting Point – **1795° C / 3263° F**

Specific gravity – **20.70 g/cu cm @ 20° C**

Hardness – **150 Hv** Annealed ( Quenched at 1100 °C )

Hardness – **350 Hv** Hardened ( Aged 700 °C &/ Slow cooled )

**CASTING**

Medium to Heavy Castings - **2020° C / 3668° F**

**TEMPERATURE**

Light weight detailed Castings - **2150° C / 3902° F**

**FLASK**

Heavy weight mountings - **1200° to 1400° F**

**TEMPERATURE**

Medium weight mountings - **1500° to 1600° F**

Delicate Light weights - **1700° to 1800° F**

Check recommended temperature range of type of investment used.

**NOTE: Use only ceramic crucibles designed for melting platinum such as Wesgo platinum crucibles. Avoid using acetylene – oxygen gas for platinum, use hydrogen – oxygen or propane – oxygen torches. A strong oxidizing torch flame should be used for melting platinum. If the platinum alloy is melted in an induction furnace, no gas cover is needed. Use phosphate, acid bonded or other investment materials specifically designed for platinum casting and follow the manufacturer's instructions. Keep the melting area very clean when melting platinum to avoid contamination with other metals. Close attention to sprue design and placement is critical when casting platinum. Wax patterns for Platinum castings are normally attached directly to the sprue base. Platinum alloys will solidify quickly and larger sprues are needed than those used for casting gold or silver alloys. Make sure all investment material is removed from platinum alloys before re-melting the metal. Flux should never be used when melting Platinum alloys.**

**QUENCH TIME**

**10 - 15 Minutes.** Some casters prefer to cool to a dull red and knock out with a hammer before quenching.

**INVESTMENT REMOVAL**

J – Break investment remover (Romanoff), Hydrofluoric Acid or Hydrochloric Acid can be used to remove investment from the castings. A mix of 2.50 Lbs of Sodium Hydroxide and 2.50 Lbs of Potassium Hydroxide to 1 gallon of water, put in a steel pan, used hot, will remove investment from platinum castings.

**REMELTING**

Use a 50 % scrap 50 % fresh mix. Make sure all investment is removed from scrap.

**EYE PROTECTION**

**Wear Proper Eye protection when melting Platinum Alloys, #10 to #12 lenses.**

**TECHNICAL ASSISTANCE**

Always available... Call 1-800-999-3463 / 1-800-999-FINE

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

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