RAKU FIRING
AT WATERSHED

I. CLAY BODIES & GLAZES

Clay bodies used for Raku firings need to be able to withstand significant thermal stress. Almost any high-fire stoneware will work straight out of the bag. The addition of up to 20% Kyanite will increase the ware's ability to absorb thermal shock but will make for a groggier body. Most commercial clay manufacturers formulate a body specifically for Raku. Avoid using earthenware.

Most Raku glazes reach maturity between 800–1,000° C (1,470–1,830° F), which falls into the cone 06 firing temperature range. Virtually any glaze that reaches maturity at these temperatures can work, however there are many glazes that have been formulated specifically for reliable Raku firing. Many glaze formulas are available online through commerical clay companies. Known for bright colors, lusters and special effects, Raku firing lends itself to experimenting with a wide number of glazes and alternative techniques. Watershed has a limited number of Raku glazes available for an additional fee.

Generally speaking, pyrometers and pyrometric cones are not used for determining glaze maturity. Glaze maturity is usually determined by observing the ware through spy holes in the kiln. Once the glaze has bubbled and settled back to a smooth glossy surface, the work is ready to be removed from the kiln and placed in reduction chambers. Most firings can be completed in less than three hours.

Please note: all ware should be bisque-fired prior to glazing and Raku firing. After Raku firing, bodies will not be fully vitrified, leaving them somewhat porous. Glazes are susceptible to crazing, meaning organics may leach into the body and standing water inside vessels may eventually leak. While traditionally used in the Japanese tea ceremony, Raku ware is not considered functional.

II. COMBUSTION PROCESS & MATERIALS

A wide variety of combustible materials can be used for the glaze reduction process. Shredded newspaper and wood shavings are popular choices. The work should be removed from the kiln and directly placed atop combustible material in a fire-proof container with a lid. Additional combustible material should cover the ware, be allowed to ignite, and then the chamber covered with the lid. Reduction times can vary, 3 – 15 minutes, before the ware is removed from the chambers. Be careful opening lids after work has been placed inside as flames may reignite combustible material when oxygen is reintroduced. Renters must supply their own combustible materials.

III. COOLING RAKU-FIRED WARE

Once removed from the reduction chambers the work can air-dry slowly or be crash-cooled by submerging the ware in a bucket of water. If crash cooling, be careful to avoid being sprayed with steam as cold water enters the interiors of hot ware. Always point narrow openings away from yourself and any bystanders and allow the water to enter the pot slowly.

IV. SAFETY

Anyone participating in removing hot work from the kiln or manning the reduction chambers should wear:
Long sleeves - preferably cotton or wool. No synthetics.
Long pants
Closed-toe shoes
Leather gloves with long cuffs (welder's gloves are best - available at most Hardware stores)

V. FURTHER INFORMATION

This tutorial is designed to be used in conjunction with the Wateshed's Raku video tutorial, found here:
https://vimeo.com/489048248