

Heat Treatment of Opal in Sandstone

Opal that has formed in a sandstone bed as opposed to within ironstone is soft and needs to be treated. Problem is the background colour of the sandstone is often quite light coloured and the opal just does not show. A spray of water on the surface helps reveal the colour but that is not enough for a permanent solution. To achieve the permanent solution it needs to be treated by a heat treatment that both hardens the sandstone and stabilises the pure opal.

It is best if stones are slabbed and cut to desired shape in a pre-polish condition before any heat treatment. Whatever treatment is used it is often only skin deep. An old method of treatment was the use of sugar, water and sulphuric acid. Soaking and simmering the stone in a sugar water solution for several hours then using the acid to rapidly carbonize the sugar in the stone. Shudder at the thought of using acid, in a word - dangerous! An alternative to the sulphuric acid is a fire (BBQ?) heating the stone to the point where the sugar burns off and carbonizes. Neither method is recommended in the home, it stinks the house out! A more modern method is to use vegetable oil.

The new method involves taking near finished stones and placing them in a saucepan with canola oil. There should be enough oil to cover the stones. Simmer the stones in the oil (DO NOT BOIL) for about 4 hours. Check the stones regularly, unlike meat they do not soften but they do turn to black. When they are a nice shade of black, turn off the heat and allow to cool in the oil. Only when the stones are cool enough to handle remove each one and wash thoroughly in a fairly strong detergent/water mix to remove excess oil from the stone surface. Oil left on the surface will gel and make any finishing processes much more difficult. The result may look like black concrete with no opal showing. The last part of the procedure is to do the final recut and polish using #400 grit to #14000 grit. A final polish and the result is that the colours of the opal will show through the black background giving the look of a black opal.

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