

Argentium 940 - Torch Fuels & Other Choices for Fusing

Butane Vs. Propane Vs. Acetylene & Charcoal Vs. Solderite

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My Conclusions:

- When fusing more than 2 times, there can be roughness in the surface.
 - The soldering board and the fuel gas influence this roughness.
 - Charcoal produced the smoothest surfaces of all fusing blocks that I tried. Charcoal, magnesium, vermiculite, and ceramic honeycomb all produced finer surfaces with multiple fusings than solderite.
 - Cooler fuels such as butane and propane produce less roughness than acetylene. Oxy-acetylene and oxy-propane produce the most roughness.

My Recommendations:

- **Fuse over charcoal**
- **Plan so that you do as few fusing procedures as possible**
- **If possible, choose butane or propane rather than an acetylene/air torch.**
- **Avoid oxy-acetylene, oxy-propane and Solderite for fusing AS 940**

Some details about my investigations:

- ALL the samples that were fused more than two times are grainier on the solderite. The difference is particularly obvious on the backs. The graininess seems to start showing at the third fusing.
- The charcoal samples are both significantly smoother than the solderite, no matter the fuel used.
- Acetylene produced more graininess than butane or propane.
- Butane has a bit less graininess than propane or acetylene.

The difference between charcoal and solderite is rather astounding!
The difference between acetylene vs. butane and propane is significant.

Multiple fusings were done using two different types of heating surface (charcoal and Solderite) and three gases (butane, propane and acetylene). The top surface was covered with Argentium Flux or My-T-Flux in all cases. The photo compares the backs of the samples, where the differences are most apparent.

- *No significant difference seems to appear if there are only one or two fusings.*
- *When 3 or more fusings were done, the samples done on charcoal are significantly smoother than those done on Solderite, no matter the gas used.*
- *Butane gave the smoothest result, followed by propane and then acetylene. The lower the temperature of the gas used for fusing produced the smoothest finish on the Argentium.*