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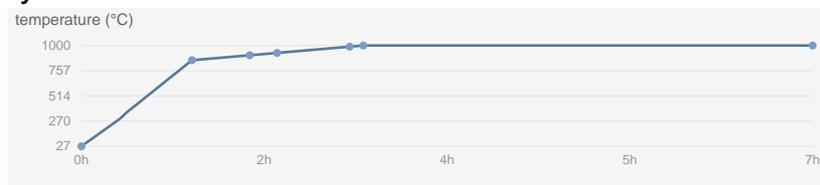
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February 3, 2026 · Falls Church, VA · egyptian blue

overview

zero time: Feb 3, 2026, 05:51 AM · duration: 7.1h

synthesis



product

yield 20.3429 g (54.1%)

expected 37.6 g

notes

- Yield calculated relative to 0.1 mol theoretical $\text{CaCuSi}_4\text{O}_{10}$ ("H37.6 g).

charge

reagent	ratio	target	measured	error
CaCO_3	1	10.01	10.02	+0.01
CuO	1	7.96	7.96	+0.01
SiO_2	4	24.03	24.04	+0.00

milling: 123 min

Weighed charge total 42.0153 g; charged to boats 39.793 g (approx 2.2223 g handling/transfer loss). Dried on Ender3 bed at 100C setting for ~1:45-1:50, then lightly ground with agate. Fired in previously-used shallow bed tray with possible Han Blue contamination; rationale: same structural family and any HB present is already reacted.

events

- t+0.0h Batch start / furnace zero-time (12:51A local). Planned: ramp to 850C, hold ~3h; step to 1000C and hold ~5h; natural cool.
- t+1.1h Reached ~858C; shoulder/soak window began.
- t+1.6h Decision: shortened shoulder soak; proceeded upward toward 900C, then 950C and 1000C.
- t+1.9h Set controller to 950C (1:54:30).
- t+2.6h Set controller to 1000C (2:37:00).
- t+2.8h 1000C reached; true high-temp soak begins (2:45:00).
- t+7.1h Cut power / ended soak at 7:08A (~4:23 into soak); natural cool to follow.

Elapsed-time log captured in run notes (00:00 27C; 22:30 292C; 26:30 354C; 1:04:40 858C; 2:45:00 1000C reached; cut at 7:08A).

For informational purposes only. Batch data reflects recorded conditions and is not a guarantee of specifications.

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