



Curing Ceramic Fiber

Objective To heat-cure a Nextel™ Ceramic fiber

Material Ceramic fiber 30,000 (9,145) ft(m)
Steel tube
Temperature indicating paint

Temperature 1300(700) °F(°C)

Frequency 100 kHz

Equipment Ameritherm 20 kW, 50-450 kHz solid-state induction power supply with a remote heat station containing two, 0.75 μF capacitors (total 0.375 μF). A custom designed induction heating coil.

Process A special steel tube and coil combination is used to build an induction heating oven to cure the fiber on a continuous basis. The ceramic fiber travels in an alumina tube inside a hot steel tube. The ID of the alumina is 0.5(13) in(mm) to prevent any build up of the residue. Temperature indicating paint is used to ensure that the fiber is heated to 1300(700) °F(°C) at processing speed. The fiber can be heated to 1300(700) °F(°C) at a speed of 100(30.5) f/m(m/m) with this setup.

Results/Benefits

- Effective removal of the binder in the ceramic fiber
- Ability to continuously process fiber with induction heat. Other non-continuous heating methods don't work.

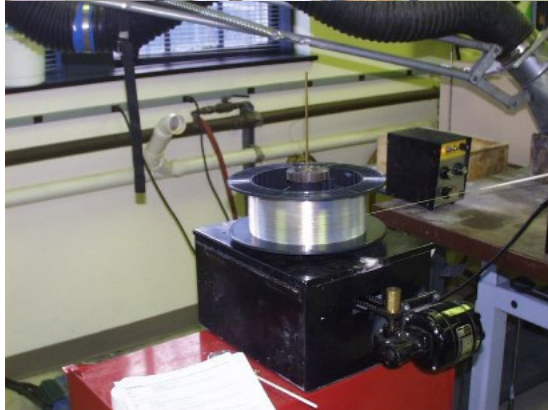
Download and print our Applications Lab Process Sheet (<http://www.ameritherm.com/PDFs/4110038b.pdf>). Answer the questions on the form to help us understand your process and performance requirements. Call with the info on the form to see if you should send us your parts for a free evaluation. If you have questions, call or e-mail us (info@ameritherm.com). We'll be in touch!



Heating setup



Fiber roll before heating



Fiber after heating

Download and print our Applications Lab Process Sheet (<http://www.ameritherm.com/PDFs/4110038b.pdf>). Answer the questions on the form to help us understand your process and performance requirements. Call with the info on the form to see if you should send us your parts for a free evaluation. If you have questions, call or e-mail us (info@ameritherm.com). We'll be in touch!