

## Ceramic Matrix Composite Processing Environments

Process type	Process environment	Maximum temperature	Time in process (hours)
Chemical vapor infiltration	Multiple inert and corrosive gases	940 to 1220°C (1724 to 2228°F)	100
Reaction bonding	Molten silicon	1450 to 1500°C (2642 to 2732°F)	1
Polymer infiltration and pyrolysis	Various chemical infiltrants with ceramic powders	800 to 1200°C (1472 to 2192°F)	Multiple steps with 100 hours total
Directed metal oxidation	Molten aluminum	950°C (1742°F)	100

Source: *Ceramic Fibers and Coatings: Advanced Materials for the Twenty-First Century*, National Research Council, National Academy Press, 1998