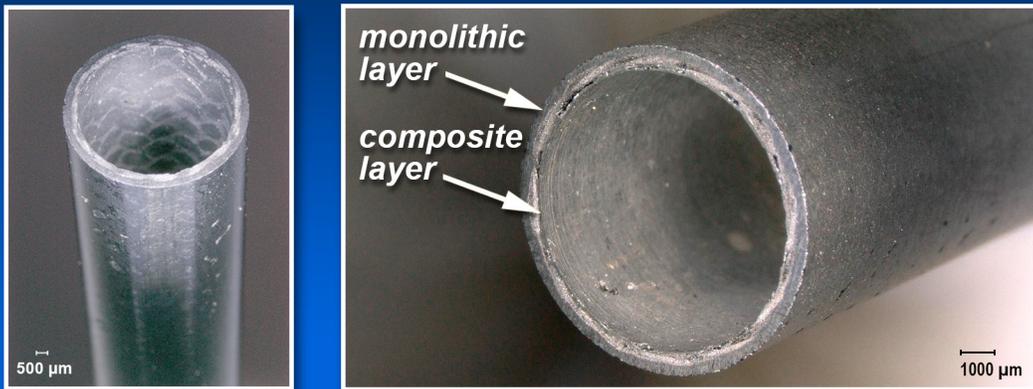
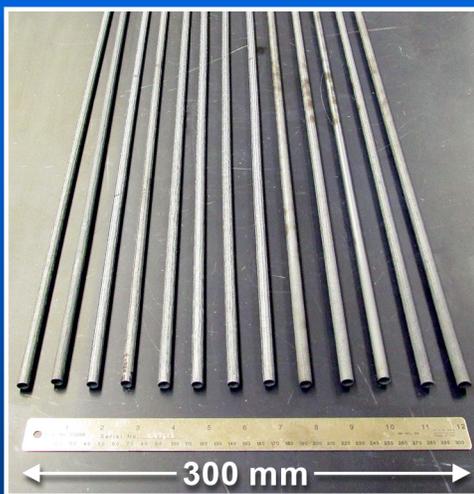


TRANSFORMATIONAL TECHNOLOGY FOR ACCIDENT TOLERANT FUEL (ATF)

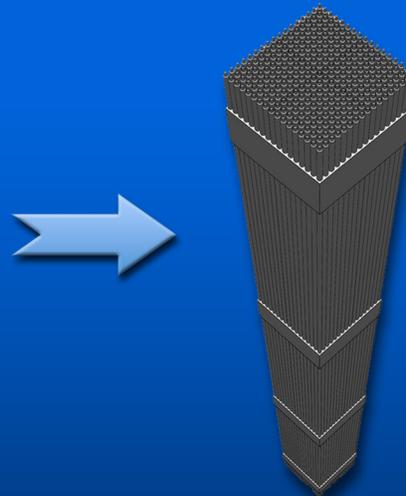
SiGA™ Silicon carbide technology developed by General Atomics greatly enhances fuel rod coping time under loss of core cooling and improves performance across normal operations



Engineered cladding design combines a tough composite layer with an impermeable monolithic layer



SiGA™ ATF Cladding



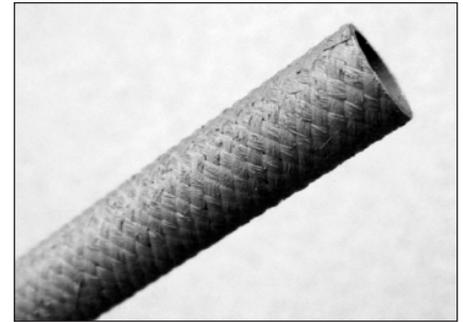
ATF Rod Assembly

- Substantially enhances safety for existing LWRs
- Saves money through reduction in redundant backup safety systems
- Improves material strength retention at high temperatures
- Reduces hydrogen formation during loss-of-coolant accidents
- Drop-in compatibility to replace existing LWR fuel

SiGA™ Cladding: The Leading Choice for Accident Tolerant Fuel

SiGA™ COMPOSITE CLADDING FABRICATION

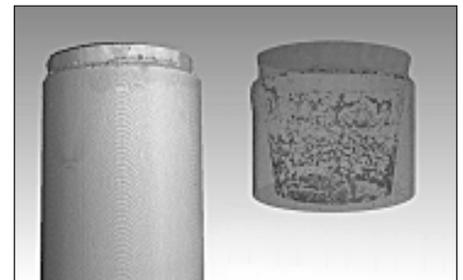
- Reinforced cladding with high-purity silicon carbide fibers
- Tailored fiber patterns and angles to control mechanical properties
- Tightly controlled dimensional tolerances
- Multi-layered structures to provide toughness and impermeability
- Long-term strength and stability under irradiation



High performance SiGA™ SiC tube

IRRADIATION-RESISTANT SiC-BASED JOINING

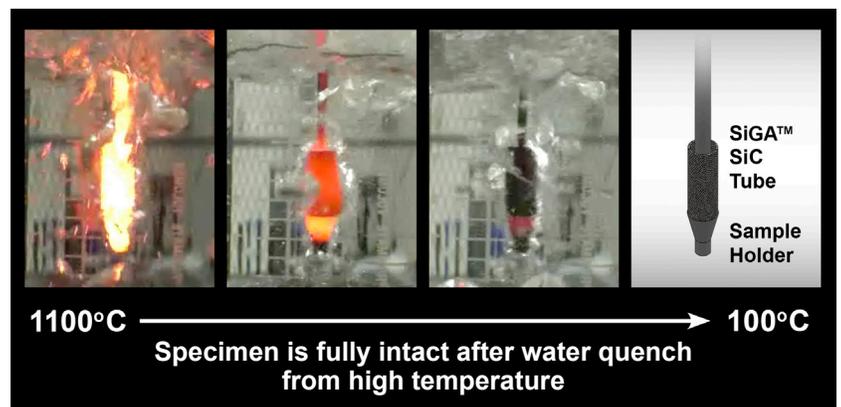
- High-purity stoichiometric SiC bonding for joining SiC components
- Full strength retention under neutron irradiation
- Joint-burst strength exceeds anticipated pressure at end-of-life
- Permeability performance surpasses LWR industry standard



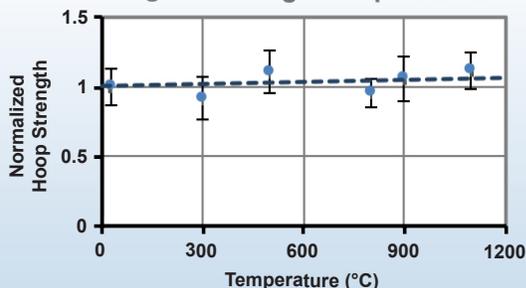
Proprietary GA-HSiC endplug joint

ENGINEERED PERFORMANCE

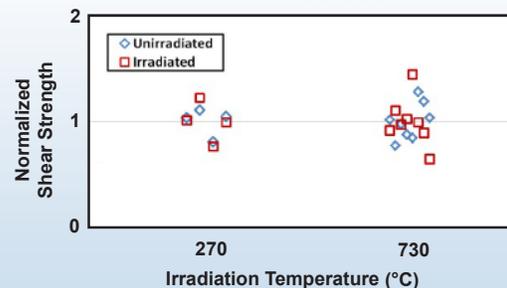
- Retains strength to beyond 1600°C
- Impermeable at internal pressures over 6000 psi
- Pseudo-ductility maintains coolable geometry
- Hermeticity retained after quenching in boiling water



Strength of SiGA™ Tube Does Not Degrade at High Temperatures



Joint Strength Does Not Change Under Irradiation



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