

Re: Carbon-carbon is...?

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To: sci-space-tech@moderators.isc.org

Len Lekx wrote:

> *Just out of curiosity...*

>

> *What is the carbon-carbon heat shielding on the leading edges and*

> *nose of the Shuttle composed of? I'm assuming that part of it is a*

> *graphite-fiber cloth material, but is it embedded in a ceramic*

> *material, or a high-temperature epoxy?*

>

Carbon-carbon is a composite made of carbon fibers embedded in ... carbon.

They make it by forming carbon cloth or fibers into the right shape, then repeatedly infiltrating it with a hydrocarbon and heating it to high temperature to pyrolyze the hydrocarbon to carbon + gases (methane, hydrogen, and others).

Paul