

«The elaboration of effective methods of obtaining of the new heat-proofing matrix polymeric nanostructured composites

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Research group:

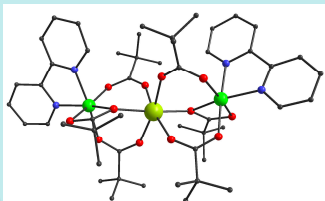
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- STC Nanotechnology Ltd.

Such materials can be suitable for the thermal protection landing module spacecraft or for creation of the construction of elements orbital stations and airplanes

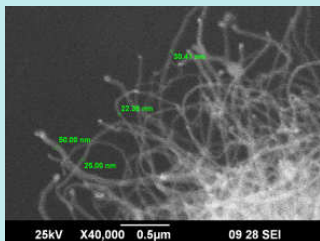
Produced descriptions to composition material	World analogues	New composition material
tensile strength, kg/sm ²	200	220
breaking stress in static bending, kg/sm ²	400	440
operating temperature (for ablative materials)	up to 2000°C	above 2000°C
linear thermal expansion coefficient, 1/°C	from 8·10 ⁻⁶ to 9·10 ⁻⁶	from 7·10 ⁻⁶ to 8·10 ⁻⁶
thermal conductivity in the direction of normal to the work face, kcal/(°C·c)	0,62 ·10 ⁻⁴	0,61– 0,62·10 ⁻⁴

The obtaining of the new composition materials

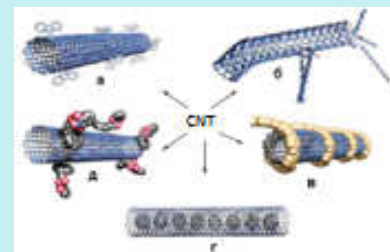
Catalyst obtaining for CNTs and CNFs synthesis



CNTs and CNFs obtaining



CNTs and CNFs modification



CNTs / CNFs dispersion in coupling agent

CNTs / CNFs siliceous fabrics modification

CNT – Carboic nanotube
CNF – Carbonic nanofibers

The production of the composition