

# Supplementary Materials

*Article*

## Seamless Tube-Type Heater with Uniform Thickness and Temperature Distribution Based on Carbon Nanotubes Aligned by Circumferential Shearing

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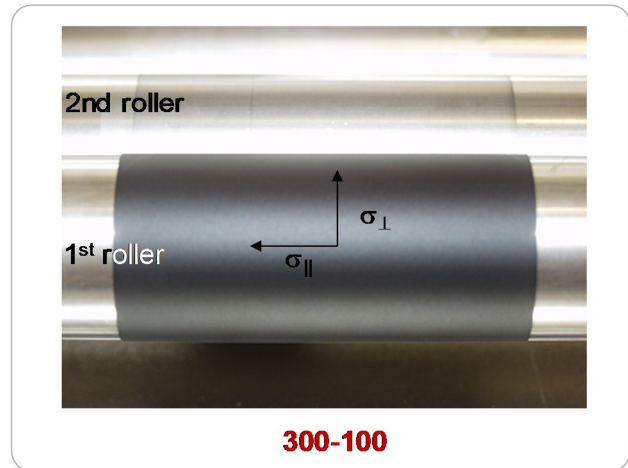
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Surface morphology	Roller speed ( $v_1-v_2$ )
	50-45
	100-45
	200-60
	300-60



**Figure. S1.** Optimization of rolling speed for two-roller process.

If ratio of rolling speed of the 1<sup>st</sup> roller to the 2<sup>nd</sup> one was low, surface roughness after rolling process was observed to be large. The optimal ratio of the rolling speeds was set to be 300:100.