

THINKY

CNT Dispersion Application by THINKY Planetary Centrifugal Mixer

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◆ Research content

Regarding to the composite film production with SBR (Styrene Butadiene Rubber) and CNT (Carbon Nano Tube), we find the method of achieving the theoretical percolating with a minimum volume of CNT and intend to improve the film characteristics and lower production cost.

◆ Features of the THINKY ARE-310

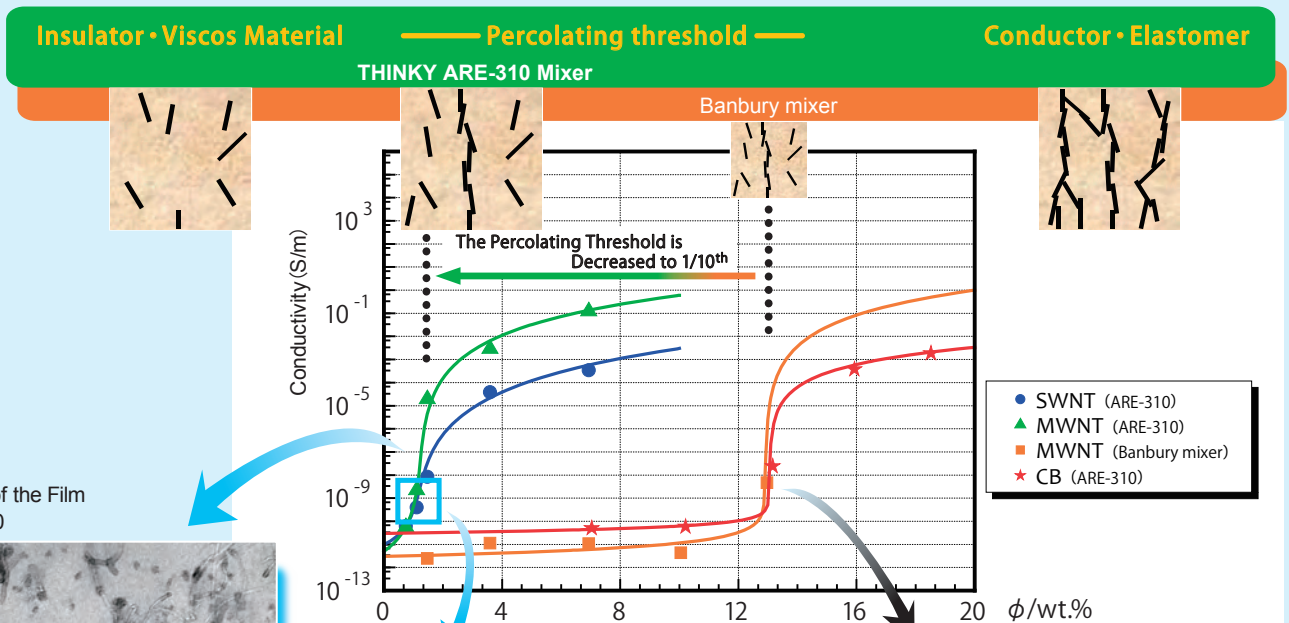
The THINKY ARE-310 does not use a propeller or media for mixing, but instead, uses centrifugal force and can disperse the materials softly without any damage to materials. The THINKY ARE-310 Mixer can disperse the conductive material of CNT without shearing uniformly, and then the material becomes conductive with small volume of CNT. The percolating threshold of ARE-310 becomes 1/10th of that comparing to the Banbury Mixer (conventional method). Resulting in a cost reduction in the future.



**THINKY MIXER
ARE-310**

Comparison Chart of the Percolating threshold of the THINKY ARE-310 Mixer and the Banbury Mixer

Schematic Diagram of the Percolating (the sudden change of the characterization generates the phase transition)



The TEM image of the Film made by ARE-310

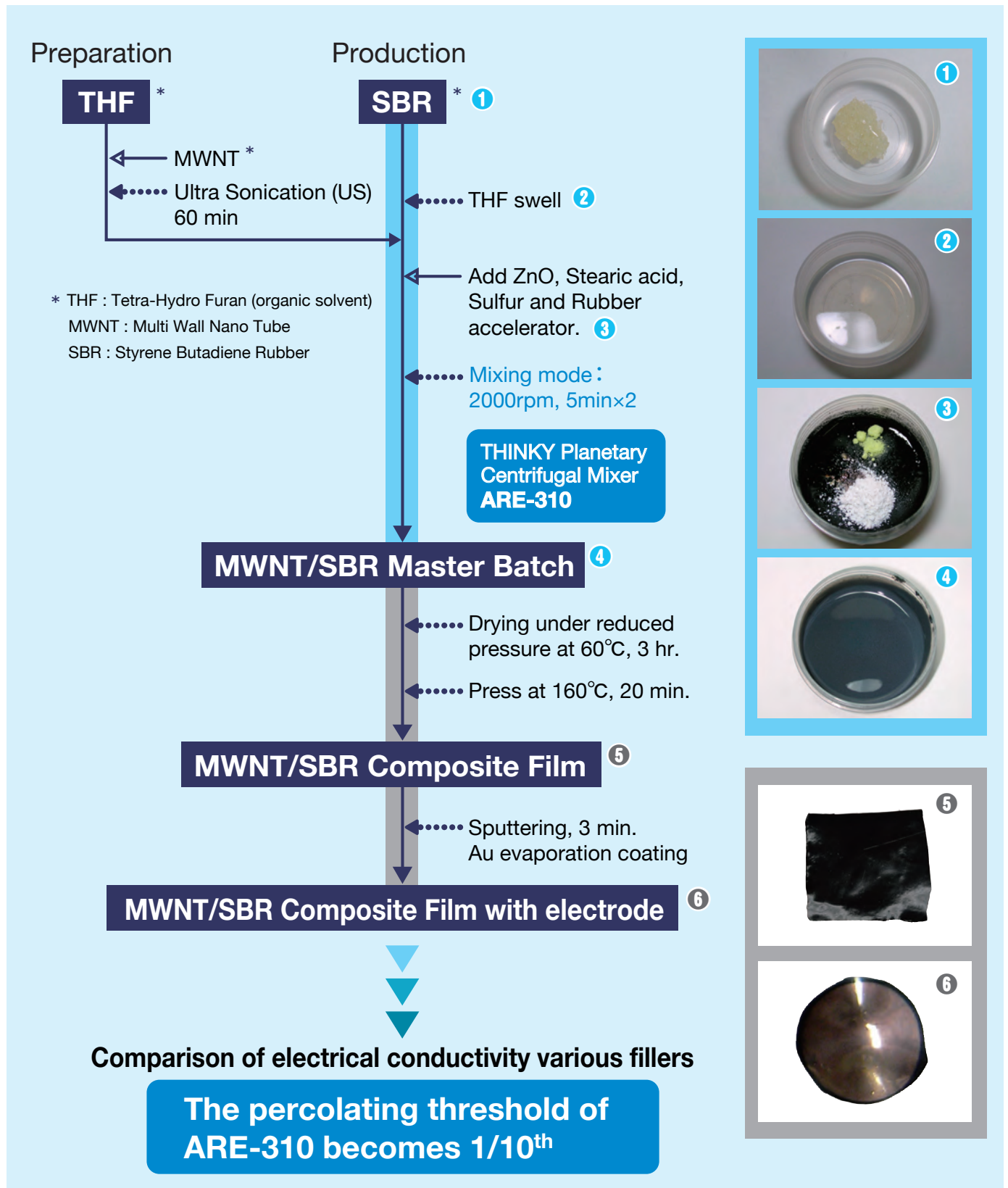


MWNT/SBR Composite Film made by ARE-310
The uniform dispersion of CNT shows the dark black color and smoothness of the film.



MWNT/SBR Composite Film made by Banbury mixer
The bad dispersion of CNT shows the gray color and surface irregularity of the film.

The production procedure of the MWNT/SBR composite by THINKY Planetary Centrifugal Mixer



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Pioneer of planetary centrifugal mixers

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