



Koyla Web™ Carbon Nanofiber Mats

Carbon nanofibers (CNFs) are conductive materials with electronic structure similar to graphite. CNFs have high electrical and thermal conductivity, which can be imparted to a wide range of matrices including thermoplastics, thermosets, elastomers, ceramics, and metals. Carbon nanofibers also have a unique surface state, which facilitates functionalization and other surface modification techniques to tailor/engineer the nanofiber to a host polymer or application.

Production

Materic's Koyla Web CNF mats are produced via electrospinning, an efficient and facile process widely employed to acquire a large number of inexpensive nanofibers with high superficial area, large aspect ratio and outstanding mechanical properties. CNF precursor fibers are initially electrospun, followed by pre-oxidization in air and final carbonization at high temperatures under inert atmosphere to produce "Materic's electrospun CNFs". These possess not only the inherent properties of carbon nanomaterials, but also easy processability and controllable/modifiable preparation and functionalization.

Product Specs

| Material Properties | Units | Type I | Type II | Type III |
|---------------------|------------------|-----------|-----------|-----------|
| Thickness | mm | 120 ± 30 | 80 ± 40 | 180 ± 30 |
| Area Weight | g/m ² | 20 ± 3 | 15 ± 3 | 33 ± 5 |
| Fiber Diameter | nm | 600 ± 200 | 450 ± 200 | 650 ± 200 |
| Sheet Resistance | Ω/sq | 20 ± 4 | 7 ± 2 | 14 ± 4 |
| Water Contact Angle | degrees | >90 | >90 | >90 |

Applications

Energy, Automotive, Aviation, and Medical