Nickel Coated Nonwovens

Conductive Composites uses a unique and proprietary reel-to-reel Chemical Vapor Deposition (CVD) process to place a continuous ductile conductive coating over every surface of a finished nonwoven, including fibers and binders.

Traditional nonwovens are produced by chopping and binding conductive fibers, with corresponding limitations in weight, caliper, and conductivity. Our CVD coated nonwovens are ultra-lightweight, robust, uniform, and highly conductive as a standalone component or when infused. Our nonwoven can be used as a standalone self-supporting sheet, embedded in polymers (such as tapes or resins), or cured into composite surfaces/structures. High levels of electrical conductivity and broadband electromagnetic shielding can be inserted into applications at very attractive weight and cost points.

Product Advantages

- Ultra lightweight and conductive with highly effective broadband shielding
- Ductile, uniform coatings layer on all surfaces, including over binders
- Ability to combine elements in multiple layers
- No change in conductivity when infused or cured
- Naturally corrosion resistant
- Conductivity with thin coatings leads to lower caliper
- Coating substrates include carbon, aramid, cellulose, and other fiber types.
- Coated nonwoven can be wet processed (binder is protected)
- Coating is ferromagnetic
- Increased weight and cost savings compared to traditional solutions
- Improved material capabilities

Fiber Types

Our CVD technology allows a wide range of fiber types to be coated including cellulose, silk, cotton, jute and even carbon nano materials to name a few. Contact us to find out what other materials are available.
## NiShield Nickel CVD Coated Nonwovens

<table>
<thead>
<tr>
<th>Product #</th>
<th>Substrate Type</th>
<th>Surface Resistivity (ohm/square)</th>
<th>Nominal Specification (ohm/square)</th>
<th>Conductivity (S/cm)</th>
<th>Basis Weight (grams/m²)</th>
<th>Caliper, Thickness (inch)</th>
<th>Single-layer, X band EMI Shielding (dB)</th>
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</thead>
<tbody>
<tr>
<td>2-1-208</td>
<td>Carbon Fiber</td>
<td>1</td>
<td>0.7 to 1.5</td>
<td>200</td>
<td>8</td>
<td>0.0018</td>
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<td>Carbon Fiber</td>
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<td>0.3 to 0.6</td>
<td>400</td>
<td>11</td>
<td>0.002</td>
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<td>2-0.1-208</td>
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<td>0.08 to 0.2</td>
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<td>18</td>
<td>0.0022</td>
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<tr>
<td>2-0.04-208</td>
<td>Carbon Fiber</td>
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<td>0.03 to 0.07</td>
<td>4000</td>
<td>35</td>
<td>0.0025</td>
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<tr>
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<td>Carbon Fiber</td>
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<td>0.012 to 0.025</td>
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<td>0.0031</td>
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<tr>
<td>2-0.1-3CC</td>
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<td>0.08 to 0.2</td>
<td>1600</td>
<td>50</td>
<td>0.0025</td>
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<tr>
<td>2-0.04-3CC</td>
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<td>0.03 to 0.07</td>
<td>3300</td>
<td>62</td>
<td>0.003</td>
<td>72</td>
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</tbody>
</table>

Inquire about additional substrate options, nickel coating levels, converted widths, dual layer constructions, and infusion options.

## Chemical Vapor Deposition (CVD)

Conductive Composites’ proprietary process provides continuously coated fibers and provides many advantages over traditional methods of coating fibers.

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