Avocet Nano-Carbon Coated Aluminium Datasheet

AvNANO:

Next generation graphite coated aluminium foil for the manufacture of Lithium-ion batteries.

Nano graphite is used to coat the surface of aluminium, improving energy and power density. Thickness of the functional coating is around 400nm.

Increases adhesion between aluminium and active material.

Allows for less binder needed for the electrode, enhancing energy density and lowering cost of production.

Protects the Al collector from surface corrosion and oxidation.

Reduces interface resistance and internal resistance of the cell.

Decreases polarization and improves the specific capacity of the electrode material.

Mitigates exothermic reactions and enhances battery safety.

Improves production stability and reproducibility, as well as increases the consistency and cycling life of the cell.

### Properties

<table>
<thead>
<tr>
<th>Planar Density</th>
<th>Covering rate</th>
<th>Conductivity</th>
<th>Peel strength</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.5g/m² (+/-0.2mg/cm²)</td>
<td>≥80%</td>
<td>≈30S/cm</td>
<td>2.0N</td>
</tr>
<tr>
<td>1.0g/m² (+/-0.2mg/cm²)</td>
<td>≥90%</td>
<td>≈30S/cm</td>
<td>2.5N</td>
</tr>
<tr>
<td>1.5g/m² (+/-0.3g/m²)</td>
<td>≥95%</td>
<td>≈30S/cm</td>
<td>2.8N</td>
</tr>
<tr>
<td>2.0g/m² (+/-0.3g/m²)</td>
<td>100%</td>
<td>≈30S/cm</td>
<td>2.8N</td>
</tr>
</tbody>
</table>
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Usage and Storage

- Use in a temperature of 20-25°C and humidity of ≤20%RH.
- The coating is highly hydrophilic so protection needs to be worn when handling.
- Avoid using in areas of dust, dust purification should be over 0.1M.
- Product can be easily damaged and so needs to be handled carefully.
- Should be stored below 35°C.
- Vacuum package should only be opened immediately prior to use. After use, the left product should be dried at 40-60°C for 2 hours under vacuum. It should then be kept in a cabinet filled with Nitrogen at room temperature.
- This product can be stored under vacuum for one year at ambient temperature and moisture without direct sun. Once the vacuum package is opened, the product can be kept in a vacuum cabinet for max one month.