ACSS - Aluminum Conductor Steel Supported

Product Description

ACSS is a concentric-lay stranded composite conductor made up of a core of galvanized steel strands and one or more layers of annealed or soft 1350-O Aluminum. The steel core wire is Class A galvanized zinc-coated steel which, due to the annealed or soft temper Aluminum, carries most or all of the mechanical load of the conductor. Upon request the steel load is carried in High strength.

Application

Aluminum conductor steel supported (ACSS) cable is used for overhead transmission lines. ACSS is designed to operate continuously at higher temperatures up to 250°C without loss of strength, which allows for a significant increase in current carrying capacity over ACSR. ACSS is self-damping, sags less than ACSR under emergency electrical conditions, and its final sag is not affected by the long term creep of aluminum. These advantages make ACSS useful in new line applications where structures can be optimized due to the reduced conductor sag or where high emergency loads may be required, or in lines where Aeolian vibration is a problem. Existing lines can be re-conducted using ACSS to allow for increased current using the existing clearances and tensions.

Product Data

**Product Code Word**

<table>
<thead>
<tr>
<th>Diameter (in.)</th>
<th>Weight Per 1000 ft</th>
<th>Resistance CHMSL/1000 ft</th>
<th>Amenity at 20°C (Mhos)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wires</td>
<td>All</td>
<td>Core</td>
<td></td>
</tr>
<tr>
<td>Complete Cable</td>
<td>(kcmil)</td>
<td>DC W/ft²°C</td>
<td>AC W/ft²°C</td>
</tr>
</tbody>
</table>

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*Data based on a nominal cable manufactured in accordance with ASTM B-456.

**Resistance and ampacity based on an aluminum conductor of 60%, IACS of 20°C, and a steel conductivity of 8% IACS at 20°C.

**Ampacity based on a 20°C conductor temperature, 25°C ambient temperature, 2.9 ft/sea wind in sun with an emissivity of 0.5 and a coefficient of solar absorption of 0.5 at sea level.