AgNi
Silver Nickel

**SCOPE:** This information refers to silver nickel wires, profiles and contact tips manufactured by blending of silver and nickel powder, compacting, sintering, extruding and drawing or rolling to final dimension.

**Designation of standard compositions**
The Ni content of the material is designated in weight percent. Standard gradations are 10, 15, 20, 30 and 40%.

**Characteristics**
- reliable anti-welding properties for switching currents up to 100 A
- low contact resistance (nearly constant throughout the life time)
- low arc erosion for switching currents up to 100 A
- good arc migration and arc extinguishing properties
- good formability, can be welded directly

**Applications**
- switches for domestic applications, auxiliary switches
- contactors of switching currents up to 100 A
- miniature circuit breakers, circuit breakers (asymmetrical combination with AgC)
- power line relays, automotive relays
- main contacts for ACB

**Microstructure**
The Ni particles are deformed along the direction of extrusion into fibres

**Physical Properties**
The physical properties depend mainly on the Ni content.

<table>
<thead>
<tr>
<th>MATERIAL</th>
<th>DENSITY [g/cm³]</th>
<th>ELECTRICAL CONDUCTIVITY [m/(Ω·mm²)]</th>
<th>HARDNESS SOFT [HV1]</th>
<th>TENSILE STRENGTH SOFT [MPa]</th>
<th>ELONGATION SOFT [%]</th>
</tr>
</thead>
<tbody>
<tr>
<td>AgNi10</td>
<td>10.3</td>
<td>54</td>
<td>50</td>
<td>240</td>
<td>38</td>
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<tr>
<td>AgNi15</td>
<td>10.2</td>
<td>48</td>
<td>55</td>
<td>260</td>
<td>34</td>
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<tr>
<td>AgNi20</td>
<td>10.1</td>
<td>46</td>
<td>60</td>
<td>270</td>
<td>32</td>
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<tr>
<td>AgNi30</td>
<td>10.0</td>
<td>41</td>
<td>65</td>
<td>320</td>
<td>25</td>
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<tr>
<td>AgNi40</td>
<td>9.8</td>
<td>37</td>
<td>70</td>
<td>350</td>
<td>20</td>
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</table>
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