Electrical industry
Arvedi electrical steel
Conceived to provide efficiency and production flexibility to the electrical industry
Arvedi electrical steels

The semi-processed grades are Non Grain-Oriented electrical steel which develop their required magnetic properties during a particular annealing of laminations or cores at the manufacturer’s production site. These grades are recrystallized after cold-rolling and annealing (bell-type furnaces) and subsequently subjected to skin-pass rolling with a defined degree of (critical) deformation to promote grain growth which results in further reduction of losses and increased permeability. The skin-pass rolling produces a controlled surface roughness and ensures good material behaviour during punching operations. The magnetic properties are in accordance with EN 10341:2006. Arvedi semi-processed electrical steels are suitable for small industrial motors, fans and domestic appliances.
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### Cold Rolled NGO Electrical Steel Strip and Sheet Delivered in the Semi-Processed State - EN 10341 and IEC 60404

Thickness range: 0.5 and 0.65 mm
Width range: up to 1250 mm.

<table>
<thead>
<tr>
<th>STEEL GRADE</th>
<th>Thickness</th>
<th>Min magnetic Polarization</th>
<th>Conventional Density</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steel name</td>
<td>Steel number</td>
<td>mm</td>
<td>W/kg @ 1.5T, 50Hz</td>
</tr>
<tr>
<td>M450-50K</td>
<td>1.0843</td>
<td>0.50</td>
<td>4.50</td>
</tr>
<tr>
<td>M560-50K</td>
<td>1.0844</td>
<td>0.50</td>
<td>5.60</td>
</tr>
<tr>
<td>M660-50K</td>
<td>1.0361</td>
<td>0.50</td>
<td>6.60</td>
</tr>
<tr>
<td>M890-50K</td>
<td>1.0362</td>
<td>0.50</td>
<td>8.90</td>
</tr>
<tr>
<td>M1050-50K</td>
<td>1.0363</td>
<td>0.50</td>
<td>10.50</td>
</tr>
<tr>
<td>M450-65K</td>
<td>1.0847</td>
<td>0.65</td>
<td>4.50</td>
</tr>
<tr>
<td>M520-65K</td>
<td>1.0848</td>
<td>0.65</td>
<td>5.20</td>
</tr>
<tr>
<td>M630-65K</td>
<td>1.0849</td>
<td>0.65</td>
<td>6.30</td>
</tr>
<tr>
<td>M800-65K</td>
<td>1.0364</td>
<td>0.65</td>
<td>8.00</td>
</tr>
<tr>
<td>M1000-65K</td>
<td>1.0365</td>
<td>0.65</td>
<td>10.00</td>
</tr>
<tr>
<td>M1200-65K</td>
<td>1.0366</td>
<td>0.65</td>
<td>12.00</td>
</tr>
</tbody>
</table>

**REMARKS**

- Magnetic properties after testing at the Spstein frame (IEC 60404) with samples in the reference condition
- Anisotropy of losses and polarization <5%

**NOTE:**

- Supplied with trimmed or as-rolled edges
- Surface condition as per indications of European Standard EN10341 (smooth and clean, free from grease and rust, etc.)
- Geometrical tolerances: thickness, width, length, residual curvature, edge camber and flatness (stacking factor) as per European Standard EN 10341
- Suitability for cutting / punching / welding: yes, it must be specified at the time of enquiry / order
- Marking, Packing: as per agreements with Customer

**NOTE:**

other figures / performances not specified here are according to European Standard EN 10341
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- **Width range:** up to 1250 mm.

**Arvedi electrical steels ARTME™**
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- Marking, Packing: as per agreements with Customer

**NOTE:** other figures / performances not specified here are according to European Standard EN 10341

For a more complete customer service and in order to offer a customized product format, pre-processing operations are carried out on a number of slitting lines.

**ARTME™**

**Cold Rolled Steels for Electrical Applications with High Performance Punching Aptitude**

**ARTME™** low carbon non-alloyed steel grade is the cold rolled product (coil or strips) specifically designed to meet User requirements for the manufacture of motor laminations, processing through punching / shearing of the strips.

**MANUFACTURING STANDARDS**
Arvedi Standard

**CHEMICAL COMPOSITION**

<table>
<thead>
<tr>
<th>元素</th>
<th>C</th>
<th>Mn</th>
<th>P</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Max</td>
<td>0.060</td>
<td>0.500</td>
<td>0.010</td>
<td>0.010</td>
</tr>
</tbody>
</table>

Reference values, in % weight

**MECHANICAL PROPERTIES**

<table>
<thead>
<tr>
<th>TENSILE STRENGTH (Avg, MPa)</th>
<th>YIELD to TENSILE STRENGTH RATIO</th>
<th>A80 (Avg, %)</th>
<th>Hardness HRB</th>
<th>MAX SPEC. TOTAL LESSES @ 1.5T, 50 Hz</th>
</tr>
</thead>
<tbody>
<tr>
<td>360 - 410</td>
<td>≥ 0.65</td>
<td>30 - 35</td>
<td>50 - 68</td>
<td>&gt; 16 W/kg</td>
</tr>
</tbody>
</table>

Tensile properties measured transversal to rolling direction.

**SUPPLY CONDITIONS**

**ARTME™** is supplied according to specifications defined in European Standard EN10131

**FEASIBILITY**

Thickness: 0.3 – 1.5 mm
Width: up to 1500 mm
Surface roughness: according to the definitions of European Standard EN10130 (Ra from 0.4 to 2.5 µm)
Acciaieria Arvedi

Cremona production site

Licences, approvals and product certifications:

Type of certification
AD Merkblatt W 0/TRD 100
EC marking in conformance with Directive Steel for structural 89/106/CEE of the EC Council of 21/12/88
Authorisation decree DM 9/1/96 by the Public Works Ministry for construction steels.

Field of application
Pressure vessels and boilers
Steel for structural applications as per EN 10025-2
Metallic constructions

by
TÜV
IGQ

Further information on the product is available from the sales department.

ISO 9001:2008, ISO 14001, OHSAS 18001

Istituto Italiano di Garanzia della Qualità and the company Det Norske Veritas Italy have certified the environmental management systems of Acciaieria Arvedi, Arvedi Tubi Acciaio and Ilta Inox designed according to ISO 14001.

NOTE:
This catalogue is published solely for advertising purposes. Acciaieria Arvedi reserves the right to amend its content without notice. The sales department is at your disposal to supply any information on the product.

Printed on 20/09/2018