SANDVIK ROCK DRILL STEEL
DEVELOPED FOR TOMORROW’S REQUIREMENTS

For more information and contact:
MATERIALS.SANDVIK.ROCKDRILLSTEEL
The demands on drill rods are continuously growing in line with the automation and productivity focus in the mining industry. You just have to be able to rely on the equipment. Close tolerances, high fatigue strength and toughness along with elevated resistance to wear and permanent distortion just form one side of the coin. Cost control, minimized stock and reliable deliveries make up the other side.

Sandvik is leading this development together with our customers. We have been producing long-lasting bars with straight holes, uniform wall-thickness and excellent response to heat treatment for more than a century. Today, we are monitoring stock levels for several customers, ensuring just-in-time deliveries and daily deliveries to some.

What is your vision for tomorrow’s rock drilling? We want to be part of your development, shaping rock drill steel that enables that vision.

Contact us for a discussion!
**Grades and Applications**

Sandvik rock drill steel is available in four standard grades that are described in detail in the enclosed product sheets. We are also tailoring solutions for several customers, so if the standard assortment doesn’t live up to your requirements, let us know.

**Sanbar® 20 – Integral drill rods**
Chromium molybdenum steel with high fatigue strength and excellent wear resistance.

**Sanbar® 23 - Extension and shank rods**
Air-hardening, high chromium, molybdenum alloy steel with good response to surface induction hardening and suitable for carburizing. High fatigue strength and wear resistance in the case-hardened condition.

**Sanbar® 61 – Tapered rods**
High strength silicon steel with good toughness and impact resistance.

**Sanbar® 64 - Extension and shank rods**
Air-hardening, high nickel alloy steel with excellent fatigue strength and wear resistance, and good response to carburizing.

<table>
<thead>
<tr>
<th>Grade</th>
<th>C</th>
<th>Si</th>
<th>Mn</th>
<th>P max</th>
<th>S max</th>
<th>Cr</th>
<th>Ni</th>
<th>Mo</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>0.97</td>
<td>0.2</td>
<td>0.3</td>
<td>0.025</td>
<td>0.020</td>
<td>1.0</td>
<td>0.2</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>0.24</td>
<td>0.3</td>
<td>0.5</td>
<td>0.020</td>
<td>0.025</td>
<td>3.1</td>
<td>0.5</td>
<td>0.2</td>
</tr>
<tr>
<td>61</td>
<td>0.41</td>
<td>1.5</td>
<td>0.9</td>
<td>0.025</td>
<td>0.020</td>
<td>0.7</td>
<td>0.5</td>
<td>0.2</td>
</tr>
<tr>
<td>64</td>
<td>0.22</td>
<td>0.3</td>
<td>0.7</td>
<td>0.020</td>
<td>0.25</td>
<td>1.3</td>
<td>2.9</td>
<td>0.2</td>
</tr>
</tbody>
</table>

The drill rods are supplied as hollow, hot-rolled, round or hexagon bars:

- Both the outer and inner surfaces are free from harmful slag marks, cracks and scratches
- Maximum depth of defects is 0.20 millimeters (0.008 inches) on the outer surface and 0.15 millimeters (0.006 inches) on the inner surface
- Maximum deviation is 1 millimeter per 1000 millimeter (0.04 inch in 39.4 inches)

- The ends are trimmed square with a deviation of maximum 1% of the outer diameter
- The outer surface can be supplied dry or oiled for protection against corrosion during transport
- The flushing holes are normally sealed with plastic plugs
- Bars are supplied in standard bundles containing max 1500 kg (3300 lbs)

**Length, mm (inch)**
- ≤ 3,375 (132.87) ± 2 (0.079)
- 3,376–5,750 (132.88–226.38) ± 3 (0.118)
- > 5,750 (226.38) ± 4 (0.157)

Fixed lengths can be supplied upon request.

The length tolerances for fixed lengths are:

- Length, mm (inch)
  - ≤ 3,375 (132.87) ± 2 (0.079)
  - 3,376–5,750 (132.88–226.38) ± 3 (0.118)
  - > 5,750 (226.38) ± 4 (0.157)

- Maximum depth of defects is 0.20 millimeters (0.008 inches) on the outer surface and 0.15 millimeters (0.006 inches) on the inner surface
- Maximum deviation is 1 millimeter per 1000 millimeter (0.04 inch in 39.4 inches)
DEDICATED PRODUCTION FROM STEEL MELT TO FINISHED PRODUCT
As one of very few drill steel rod manufacturers in the world, our manufacturing is fully integrated, from steel melt to final rods. This means that we control the quality from start to finish. In addition, our rock drill steel mill is fully automated and entirely dedicated to rock drill steel.

RESEARCH AND DEVELOPMENT
Every year, Sandvik invests heavily in research and development of properties and performance of our steels. This is the backbone of the Sandvik success, and it shows in efficient production processes, optimized grades, new applications and working environments. As a customer, you can always trust that the products in which you invest hold a high, uniform quality and that we have both the determination and power to be one step ahead in developing tomorrow’s rock drill steel.

ENVIRONMENTAL CARE
The Sandvik focus on sustainability is extensive, both in our own operations, selection of suppliers and in offering sustainable solutions to you as a customer. This is a responsibility we take seriously and it shows in several ways:
- Minimized water and energy consumption in our operations
- Recycling of all steel
- Minimum of scrap
- Long lasting, recyclable products
Of course we also have an ISO 14001 certification.

QUALITY ASSURANCE
The Sandvik quality management system is approved by internationally recognized organizations, such as ASME Quality System, ISO 9001, LRQA, JIS and others.

HOW TO ORDER
Ordering our standard rock drill steel grades is easy. Provide us with the following information and we can ensure a fast and accurate delivery:
- Quantity
- Grade
- Denomination
- Hole size

Also, make sure to include any special requirements regarding tolerances, lengths, maximum bundle weight, corrosion protection or anything else.

For tailored solutions of grades, lengths, or tolerance requirements, contact us for a discussion.

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