JFE Steel Corporation has developed an “endless hot rolling process” which makes continuous hot rolling possible at the No.3 Hot Strip Mill in East Japan Works (Chiba). This enables us to manufacture ultra thin-hot rolled steel sheet in coil under 1.2mm in thickness, which was formally able to produce only via the cold rolling process. We have commercialized this hot rolled product as JFE-HTC, substituting it for the conventional cold rolled products.

East Japan Works (Chiba)

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Application

Residential House Fence

Water Tube Pipe

Furniture

Small Diameter Pipe

Sliding Door Shutter

Purlin
Characteristics

1. Good appearance
JFE-HTC has the same appearance as conventional hot rolled products with thickness of 1.2mm.

2. High gauge accuracy
It is outstanding in terms of accuracy of thickness due to the endless hot rolling process.

3. Superior Paintability
It demonstrates high performance for painting processes such as furniture pipes due to its thin scale layer.

Specification

Chemical Composition and Mechanical Properties

<table>
<thead>
<tr>
<th>Designation</th>
<th>Chemical Composition,%</th>
<th>Tensile Test</th>
<th>Bend Test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>C max.</td>
<td>Mn max.</td>
<td>P max.</td>
</tr>
<tr>
<td>JFE-HTC</td>
<td>0.15</td>
<td>0.60</td>
<td>0.050</td>
</tr>
</tbody>
</table>

Tolerances

<table>
<thead>
<tr>
<th>Designation</th>
<th>Width range, mm (inch)</th>
<th>Tolerances</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Thickness Tolerance</td>
</tr>
<tr>
<td>JFE-HTC</td>
<td>1000 (40) to 1200 (48) excl.</td>
<td>± 0.10 mm (0.0039 in.)</td>
</tr>
</tbody>
</table>

Applicable Size

<table>
<thead>
<tr>
<th>Designation</th>
<th>Thickness, mm (inch)</th>
<th>Width, mm (inch)</th>
</tr>
</thead>
<tbody>
<tr>
<td>JFE-HTC</td>
<td>0.9 (0.035) ≤ t &lt; 1.0 (0.040)</td>
<td>1000 (40)</td>
</tr>
<tr>
<td></td>
<td>1.0 (0.040) ≤ t &lt; 1.2 (0.047)</td>
<td>1198, 1199</td>
</tr>
</tbody>
</table>
Product Data

Note: Following values are for reference only.

Mechanical Test Results (Examples)

<table>
<thead>
<tr>
<th>Designation</th>
<th>Thickness, mm</th>
<th>Tensile Test</th>
<th>YP, MPa</th>
<th>TS, MPa</th>
<th>El, %</th>
<th>Test Piece</th>
<th>Testing Direction</th>
</tr>
</thead>
<tbody>
<tr>
<td>JFE-HTC</td>
<td>1.0</td>
<td></td>
<td>265</td>
<td>375</td>
<td>39</td>
<td>JIS No.5</td>
<td>Rolling</td>
</tr>
</tbody>
</table>

JFE-HTC (Thickness: 1.0mm [0.040in.])

Accuracy of Thickness

JFE-HTC (Thickness: 1.0mm [0.040in.])

On gauge ratio (%) vs. Crown (µm)

On gauge ratio (%) vs. Crown (µm)
Here you see revolutionary innovations which have opened up a new chapter in the history of steel making.

“Endless rolling”, a hot-rolling process unique in the world.

In endless rolling, sheet bars (semi-finished products 30 to 40mm thick produced by rough-rolling slabs) are joined and rolled continuously. This process enables stable quality in finish rolling, simplifies the production process, and makes it possible to produce entirely new products. Endless rolling is a dream that has come true thanks to a new technology developed at East Japan Works (Chiba).