ASTM CortenB steel plate/sheet for steel resistant to atmospherical corrosion steels

Corten B

Corten B Steel Description:
ASTM Corten B steel grade is a hot rolled products of structural steels in technical delivery conditions with improved atmospheric corrosion resistance. The steel grade Corten B is according to ASTM standard which with the yield strength of 355MPa and 345MPa which is based on the different thickness. The anti-corrosive properties of Corten B steel are better than those of other structural steels in many applications. Corten B steel is self-protecting. The rust layer on the surface becomes a tight oxide layer that slows down the progress of corrosion. Corten B steel is an economical, long-lasting and fully recyclable material.

Corten B Steel Application:
ASTM Corten B is used for various types of welded, bolted and riveted constructions e.g. steel frame structures, building cladding, metal sculptures (Angel of the North), chimneys, bridges, tanks and containers, exhaust systems, vehicles and equipment constructions.

As it ages it takes on a orange/brown appearance dependent on the salt level of the atmosphere, over time it forms a protective layer or skin against the elements. It was originally developed to eliminate the requirement of painting surface finishes.

In most circumstances, Corten B steel plate and sheet for steel atmospheric corrosion resistance is better than carbon structural steel plate and sheet containing copper or not in essence. When fully exposed to the atmosphere, Corten B can be widely used in many cases under bare (uncoated) condition.

Corten B Steel Delivery state:
Hot Rolled, Cold Rolled, Normalized, Quenched, Tempering, Thermal Mechanical Control Process (TMCP), Electroslag Remelting Technical, HIC test.

Corten B Steel Specification(mm):
Thickness:2-460
Width:1500-3200
Length:6000-12000

ASTM Corten B steel chemical composition by [%]

<table>
<thead>
<tr>
<th>Grades</th>
<th>C max</th>
<th>Si</th>
<th>Mn.</th>
<th>P</th>
<th>S max</th>
<th>Cr</th>
<th>Ni</th>
<th>Cu</th>
<th>V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corten B</td>
<td>0.16</td>
<td>0.30-0.50</td>
<td>0.80-1.25</td>
<td>0.030</td>
<td>0.03</td>
<td>0.40-0.65</td>
<td>0.40</td>
<td>0.25-0.40</td>
<td>0.02-0.10</td>
</tr>
</tbody>
</table>

In order to obtain fine grain structure a sufficient amount of:

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nitrogen absorbing elements is added (e.g. ≥0.02% Al)

**ASTM CortenB steel Mechanical properties:**
At room temperature for plates ≥3mm in thickness (transverse test specimens, according to EN 10002).
Requirements to hot rolled plates ≤3mm in thickness according to EN 10025-5.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Thickness (mm)</th>
<th>Yield Strength MPa(min)</th>
<th>Tensile Strength MPa</th>
<th>Elongation % (min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corten B</td>
<td>≤16</td>
<td>355</td>
<td>470-630</td>
<td>20</td>
</tr>
<tr>
<td>&gt;16≤50</td>
<td>345</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1 Mpa = 1N/mm²

The impact energy is determined on ISO-V longitudinal test specimens at a temperature of - 20°C as an average of three tests. For product thicknesses ≥10mm the average value is at least 27 J. For thicknesses between 10mm and 6mm, the minimum impact value is reduced proportionally to the specimen width (product thickness).

Henan BEBON international co.,ltd is a zhengzhou-based supplier of Corten B Steel. We have the professional production team adopting precise equipment and technique to manufacture standard Corten B Steel to meet customers' requirements. The latest comprehensive production facilities are used throughout the production process, from incoming material inspection to producing, packaging, and delivery. If you are interested in learning more details about the Corten B Steel, please browse the web pages or contact us, and we are there at your service.