Special Bar Quality steels

STOMANA INDUSTRY S.A.
SIDIENOR GROUP
Stomana Industry S.A. specializes in the production of engineering steel (Special Bar Quality steels – SBQs) and has been actively producing SBQs for more than two decades.

SBQs are produced and delivered as “hot rolled round bars” in diameters from 22mm to 120mm and “bright round bars” (peeled and polished round bars) in diameters from 32mm to 115mm.

The production range includes a wide range of steel grades according to the European norms: structural, for quenching and tempering (Q&T), for flame and structural induction hardening steels, case hardening, micro-alloyed and free-cutting. Additionally, Stomana offers optional to its customers tailored made steel grade production to meet their special needs and/or specifications.

The expanding customers list of Stomana includes major steel distributors, service centers and manufacturing companies in the hydraulic components, forging, automotive, heavy vehicles and earth moving machines, cranes and other engineering steel sectors. Stomana’s SBQ steels are supplied to most European countries like Germany, Italy, France, Romania, Austria, Poland, and others as well as Turkey, North Africa and South America.
Applications

- Agricultural machining
- Hydraulic components
- Machine building
- Forging industry
- Cranes, forklifts & earth moving machines
- Roads & rail
- Automotive

Engineering and industrial applications
Transportation
Production process

Scrap Yard
Radioactivity control
Four scrap carrying cars 200tn capacity
Shredder machine 5000HP

EAF
Two 100tn EAF

Ladle Furnace
Two 100tn ladle furnaces

Billet Reheating Furnace
Walking beam
Heat at 1,200°C
Capacity 120tn/hr

Vacuum Degasser
100tn

Rolling Mill
Roughing Mill 6 stands H-V
Intermediate Mill 6 stands H-V
Finishing Mill 6 stands H-V
Continuous Caster
One 4-strand continuous casting machine for billets and blooms from 160x160 up to 250x300

Billet Conditioning
Billet grinding
Surface and edges
Capacity 12tn/hr

Cooling Beds & cut to length

To finishing lines
Inspection lines
Peeling lines
Quenching and tempering lines
Hot rolled round bars

**Product:**
Hot Rolled Round Bars according to EN 10060

**Diameters:**
Standard sizes in mm
- D22, D24, D25, D26, D27, D28, D30, D32, D35, D36, D37, D38, D40, D42, D43, D45, D47, D48, D50, D52, D53, D55, D58, D60, D62, D63, D65, D66, D68, D70, D73, D75, D78, D80, D83, D85, D90, D93, D95, D100, D103, D105, D110, D115, D120

Non standard sizes:
Upon request and after mill’s confirmation with a minimum order 80tn per size and grade

**Straightness:**
1. Straightness according to EN 10060
2. Maximum deviation from straightness 2.5mm/m

**Length:**
1. Standard length 6.00m
2. Non standard lengths in the range of 5.00m-7.20m
3. Non standard lengths in the range of 10.00m-12.00m for size range 22-83mm
4. Acceptable non standard lengths: X.XX0m
5. Non standard lengths upon agreement and with minimum order of 40tn per size and grade
6. Standard length tolerances: -0/+100mm, -0/+200mm
In bundles of 2.0-2.5 tn/bundle
Smaller bundles available on stock
Bundles tied with 3 steel wires for unloading with hook crane

1. Class A, according to EN 10221
   Maximum defect depth: 2% of bar size
2. Class B on request (for sizes 40mm-120mm and max length 7.20m), according to EN 10221
   Maximum defect depth: 1% of bar size
3. Eddy current on request

Colour marking

Two tags per bundle with the following information:
Bundle ID:
Order confirmation number:
Grade/Size/Length:
Heat N°:
N° of bars number:
Quality:
Batch number:
Weighth in kg:
Date:
Time:

EAF-LF-CC with EMS and Air Mist-RM
Vacuum Degasser treatment depending on the steel grade

1. Mill's inspection certificate according to EN 10204/3.1
2. Certificate according to EN 10204/3.2 upon request

Customer order information included in the inspection certificate
1. Stomana order number
2. Dispatch wagon/truck number
3. Customer name
4. Customer order reference

Per grade/size/heat number the following information is also provided
5. Heat/Cast N°
6. Grade
7. Length/Size
8. Number of bundles, Number of bars, Weight
9. Radioactivity free material declaration
10. CE mark for grades according to EN 10025:2004 (S235JR, S275JR, S355J2, S355JR)

Grain size: 5-10 according to ASTM 112

Other properties:

Certification of quality:

Marking:

Labelling:

Packing:

Manufacturing method:

Surface quality:

Ultrasonic test:
Bright steel round bars (peeled and polished)

**Product:**
Bright Steel Bars according to EN 10278

**Diameters:**
Standard diameters in mm
- D32, D35, D40, D45, D50, D55,
- D60, D65, D70, D75, D80, D85,
- D90, D95, D100, D105, D110,
- D115

In between sizes (including sizes with decimals) possible on request

**Tolerances:**
h9, according to EN 10278

**Straightness:**
Maximum deviation from straightness: 0.5mm/m
Peeled straightness method is according to EN 10278 (B.2)

(The straightness is defined as half of the max. indication of the ‘clock’ in a 360 deg. The round is suspended on 2 points, left and right from the measuring point and at 1 meter distance in between)

**Length:**
- 6.000 -0/+100mm
- 3.000 -0/+100mm
- 3.000 -0/+50mm
Packing:
In bundles of 0.7-1.5 tn/bundle
In bundles of 0.5-1.1 tn/bundle
Smaller bundles available on stock
Bundles tied with 4 straps, carton between strap-bar, and 2 belts for unloading with hook crane
Optional upon request:
1. Nylon cover (transparent)
2. Plastic-paper cover for humidity protection (opaque)

Bar ends:
Optional upon request:
1. No chamfering - saw cutting
2. 45 deg chamfering (one or both ends)

Labelling:
Two tags per bundle with the following information:
Bundle ID:
Order confirmation number:
Grade/Size/Length:
Heat No:
N° of bars number:
Quality:
Batch number:
Weight in kg:
Date:
Time:

Marking:
Colour marking

Surface quality:
According to EN 10277-1, Class 3

Ultrasonic test:
On request.
According to: EN 10308

Other properties:
Grain size: 5-10 according to ASTM 112

Manufacturing method:
EAF-LF-(VD)-CC with EMS - Air Mist-RM-Cold Finishing (PEELING) Vacuum Degasser treatment depending on the steel grade

Certificate of quality:
1. Mill’s inspection certificate according to EN 10204/3.1
2. Certificate according to EN 10204/3.2 upon request
Customer order information included in the inspection certificate
1. Stomana order number
2. Dispatch wagon/truck number
3. Customer name
4. Customer order reference
Per grade/size/heat number the following information is also provided
5. Heat/Cast N°
6. Grade
7. Length/Size
8. Number of bundles,
   Number of bars, Weight
9. Radioactivity free material declaration
Special Bar Quality steel grades

<table>
<thead>
<tr>
<th>Grade</th>
<th>Notes</th>
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<tbody>
<tr>
<td>S355J2</td>
<td>CS (*) based on EN 10025-2 (Mat.Nr 1.0577)</td>
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<tr>
<td>S235JR</td>
<td>CS (*) based on EN 10025-2 (Mat.Nr 1.0038)</td>
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<tr>
<td>C45E / R</td>
<td>CS (*) based on EN ISO 683-1 (C45E: Mat. N° 1.1191) / (C45R: Mat. N° 1.1201)</td>
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<td>Cf53</td>
<td>CS (*) based on DIN 17212 (Mat. N° 1.1213)</td>
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<tr>
<td>C50E / C60E</td>
<td>CS (*) based on EN ISO 683-1 (C50E: Mat. N° 1.1206) / (C60E: Mat. N° 1.1221)</td>
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<tr>
<td>16(20)MnCr5</td>
<td>CS (*) based on EN ISO 683-3 (16: Mat.Nr 1.7131) / (20: Mat.Nr 1.7147)</td>
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<tr>
<td>16(20)MnCr(S)5</td>
<td>CS (*) based on EN ISO 683-3 (16: Mat. N° 1.7139) / (20: Mat. N° 1.7149)</td>
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<td>20MnCrS5+HH</td>
<td>CS (*) based on EN ISO 683-3 (Mat. N° 1.7149+HH)</td>
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<td>11SMn30</td>
<td>CS (*) based on EN ISO 683-4 (Mat. N° 1.0715)</td>
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<td>20MnV6</td>
<td>CS (*)</td>
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<td>38MnVS6</td>
<td>CS (*) based on EN 10267 (Mat Nr 1.1303)</td>
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<td>27MnCrB5-2</td>
<td>CS (*) based on EN ISO 683-2 (Mat. N° 1.7182)</td>
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<td>33MnCrB5-2</td>
<td>CS (*) based on EN ISO 683-2 (Mat. N° 1.7185)</td>
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<td>41Cr4</td>
<td>CS (*) based on EN ISO 683-2 (Mat. N° 1.7035)</td>
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<td>42CrMoS4</td>
<td>CS (*) based on EN ISO 683-2 (Mat.Nr 1.7227)</td>
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<tr>
<td>42CrMoS4+QT</td>
<td>CS (*) based on EN ISO 683-2 (Mat.Nr 1.7227)</td>
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<td>34CrNiMo6</td>
<td>CS (*) based on EN ISO 683-2 (Mat.Nr 1.6582)</td>
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<td>20NiCrMo2-2</td>
<td>CS (*) based on EN ISO 683-3 (Mat.Nr 1.6523)</td>
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(*) CS: Stomana Specification