



Billets e Blooms from Continuous Casting

Business contact

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Revision 01/2017



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STEEL RANGE

Structural steels EN 10025-2-3-5
Free cutting non-alloyed steels EN 10087
Case hardening steels EN 10084
Steels for quenching and tempering EN 10083-2-3
Hot-rolled steels for quenched and tempered springs EN 10089
Cold-finished steels EN 10277-2-3-4-5
Steels for cold heading and cold extrusion EN 10263
Micro-alloyed steels EN 10267
Steels for pressure purposes EN 10273 - ASTM A105 - ASTM A 350

Note: possibility of supplying steels in accordance with Customer specifications, to be agreed upon at the order stage.

PRODUCTION RANGE

STANDARD MANUFACTURING SIZES

C.C. Billets: 120 - 140 - 160 mm (3% standard cross-section deviation)
C.C. Blooms: 200 - 260 mm (1.5% standard cross-section deviation)

SUPPLY LENGTHS

120 ÷ 160 mm C.C. Billets: 3.5 ÷ 12 m
200 ÷ 260 mm C.C. Blooms: 4 ÷ 12 m
Commercial length with range ≤ 1 m
Standard Fixed Length: +/- 100 mm.
Extra Standard Fixed Length: to be agreed upon at the order definition stage.

Note: crop end, if agreed upon at the order, ≥ 3 m for ≤ 15% of the ordered weight.

DIMENSIONAL TOLERANCES

Standard	EN 10031 - UNI 7063 - NFA 43-302
Extra standard	In accordance with Customer specification, to be evaluated at the order acceptance stage.

Note: stricter tolerances may be accepted, but they must have been defined at the order definition stage.

STRAIGHTNESS

Standard	Camber ≤ 3‰ L.
Extra Standard	In accordance with Customer specification, to be evaluated at the order acceptance stage.

DIAGONALS

Standard	Max D – Min D ≤ 6% Max D
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TORSION

Standard	120 ÷ 160 mm C.C. Billets: ≤ 2°/m on 10 m. 200 ÷ 260 mm C.C. Blooms: ≤ 0.8°/m with max. 7° for 12 m length.
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END APPEARANCE

Standard	120 ÷ 160 mm C.C. Billets: diagonal hot shearing (Caronno), oxygen cutting (Lesegno) 200 ÷ 260 mm C.C. Blooms: oxygen cutting
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SUPERFICIAL DEFECTS

Standard	Depth of allowed defects \leq 1.2 mm
Extra Standard	For peculiar direct applications of the material, bench conditioning is envisaged.

NON-METALLIC INCLUSIONS

Standard	Macro-purity at grade \leq 2 as per S.E.P. 1584 standard. Micro-purity at grade \leq 2.5 as per ASTM E 45 standard or with K method at the values of the EN 10083/06-1 standard, App E or EN10084/08 App. C. Macro-segregation \leq C3-R2-S2 as per ASTM E 381 standard
Extra Standard	Through the vacuum degassing (VD) process it is possible to obtain macro-inclusions falling into grade 0 of the S.E.P. 1584 standard.

BANDING

Standard	Maximum guaranteed banding as per Grade IV of the UNI 8449 standard.
Extra Standard	Through the vacuum degassing (VD) process, maximum guaranteed banding as per Grade III of the UNI 8449 standard.

SUPERFICIAL FINISH

Standard	Billets and blooms are supplied with "As cast" superficial finish.
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AUSTENITE GRAIN REFINING FOR SPECIAL STEELS

Standard	5 ÷ 8 austenite grain as per ASTM E112 or ISO 643 guaranteed. This grain size range is not guaranteed for general purpose structural steels, with the exception of the J2 types envisaged in the EN 10025-2 table.
Extra Standard	With extra standard process, 6 or finer austenite grain can be guaranteed.

MECHANICAL CHARACTERISTICS AND HARDENABILITY

Standard	In accordance with the standardisation table mentioned in the order. On request, all steels can be produced with hardenability restricted to 2/3 of the H standard band, i.e. in the HL (lower 2/3) and HH (upper 2/3) types. Reference for Jominy test: EN ISO 642 standard.
Extra Standard	In accordance with Customer specification, to be evaluated at the order acceptance stage.



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PACKAGING

Standard	Individual (not packaged) Billets and blooms are marked through paint stamping of the ladle number on the head of every bloom, possible colouring of the opposite head and steel type inscription on one billet every six/ one bloom every three or through colouring of one head and application of a metal label
Extra Standard	In 2.5 ÷ 4.7 ton bundles. 4 wire rod containment ties for 120 – 140 – 160 mm cross-sections produced by Caronno. Peculiar conditions are to be evaluated at the order acceptance stage. Billets and blooms are marked through paint stamping of the ladle number on the head of every bloom, possible colouring of the opposite head and steel type inscription on one billet every six/ one bloom every three or through colouring of one head and application of a metal label.

ANTI-MIX CHECK

Standard	Billets/blooms are stored at the warehouse, divided by casting. Spectrometric check is envisaged for the first and last billets of every casting.
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MAGNETIC RETENTIVITY

Standard	Not guaranteed
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HEAT TREATMENTS

No heat treatments are envisaged on billets/blooms.
A hydrogen embrittlement relief treatment through slow cooling is envisaged for materials NOT vacuum degassed intended for forging.

OTHER INFORMATION

Cold sawability	Guaranteed
Manufacturing times	160 - 200 - 260 mm: 30 days 120 mm: 90 days 140 mm: 40 ÷ 60 days
Product certificate	Compliant with EN 10204 TÜV – AD WO/TRD100 and 97/23/EC Directive (PED) for rolled sections intended for pressurised systems Caterpillar Approval (1E1861)
Minimum batch size	120 ÷ 160 mm carbon and general purpose steels: 5 tons 200 ÷ 260 mm: 30 tons other steel types: 80 tons
Weight tolerance with respect with the ordered amount	± 20% up to 5 tons. ± 10% > 5 ÷ 25 tons. ± 6% > 25 tons.
Compliance with RoHS directive	All the products supplied by Riva Acciaio S.p.A. are compliant with the 2011/65/EU Directive (Restrictions of Hazardous Substances). Additional details and declaration of conformity are available at the following link: http://www.rivafe.com/it/responsabilita_sociale/direttiva_rohs
Compliance with the REACH European regulation	All the products supplied by Riva Acciaio S.p.A. are compliant with the nr. 1907/2006 "REACH" European regulation (EC). Additional details and declaration of conformity are available at the following link: http://www.rivafe.com/it/documentazione_reach/italia .
Ionising radiation	<ul style="list-style-type: none">All the products supplied by Riva Acciaio S.p.A. are guaranteed to be compliant with the nr. 230 Leg. D. dated 17/03/2005.The conformity with the nr. 230 Leg. D. dated 17/03/2005 can be indicated on the 3.1 test certificate or declared separately on headed letter-paper.