



Huta Stali Jakościowych S.A.

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CC billets and slabs

HSJ S.A. has the approval of the TÜV Nord in the following grades and conditions of reception:

Billets				
Grade	Norm	height[mm]	width[mm]	delivery condition
X5CrNi18-12 (1.4303)	DIN 17440	130 - 270	180 - 320	AD W2/ W10
	DIN 17441			TRD 107
X5CrNi18-10 (1.4301)	DIN 17440			AD W2/ W10
	DIN 17441			TRD 107
XGCrNiTi18-10 (1.4541)	DIN 17440			AD W2/ W10
	DIN 17441			TRD 107
RS1 37-2	DIN 17100			AD W9/ W13 TRD 107
S235JR	DIN EN 10025-2			AD2000- W9/ W13
SI 37-3	DIN 17100			AD W9/ W10/ W13 TRD107
S235J2	DIN EN 10025-2			AD2000 W9/ W10/ W13
St 52-3	DIN 17100			AD W9/ W10/ W13, TRD107
S355J2	DIN EN 10025-2			AD2000 W9/ W10/ W13
C 22.8 (1.0460)	va TÜV 350/3			AD W9. TRD 107
C 22.3 (1.0427)	vd Tüv 364			AD W9/ W12/ W13 TRD107
34CrMo4 (1.7220)	DIN EN 10083-1			DIN EN 10083-1

CC BILLETS			
Cross- section dimensions [mm]	Cross- section tolerance [mm]	Length [mm]	Length tolerance [mm]
270 x 320	270 (+0.0 /-5.0)	1400 - 2200	+50 /-0.0
	320 (+2.0 /-5.0)	3000 - 4500	0.0 / -100

Corners of billets are bevelled (45°) - diagonal length 10 – 15 mm

CC SLABS			
Cross- section dimensions [mm]	Cross- section tolerance [mm]	Length [mm]	Length tolerance [mm]
130 x 800	130 (+2.0 /-4.0)	1400 - 2200	+50 /-0.0
	800 (+6.0 /-2.0)	3000 - 4500	0.0 / -100
180 x 800	180 (+2.0 /-8.0)	1400 - 2200	+50 /-0.0
	800 (+5.0 /-5.0)	3000 - 4500	0.0 / -100

Straightness deviation: max 10 mm/m

QUALITY OF CC BILLETS:

POTENTIAL IMPERFECTIONS	ACCEPTABLE DEFECTS
Diagonal cracks	Not allowed
Subsurface cracks	Allowable up to a few cracks not exceeding 16 mm
Subsurface cracks near to corners	Cracks of up to 14mm are acceptable
Center segregation	Max. permissible diameter of dark inside - 9mm
Center porosity	Max. permissible diameter - 6 mm
Star cracks in center of product	Max. permissible diameter - 9 mm
Microporosity	Max. permissible diameter - 6 mm
Hydrogen cracks (flakes)	Not allowed

DELIVERY CONDITION:

Billets and slabs are delivered as cast condition.

As cast conditions mean the cooling after casting. The following cooling procedures are used:

- Cooling in pile
- Cooling in retaining boxes to room temperature
- Cooling in retaining boxes to 300 °C and then in air

SURFACE QUALITY:

As- cast products with the market of powder and scale as result of casting process. Facesurface after cutting with flame - cutting burner (some partial melting on the products surface can be visible), material flash is not removed. Visual control of CC products surface is made only. Maximum permissible depth of surface defects is 3 mm. The surface conditioning for products up to 2200 mm length only.

INTERNAL QUALITY:

Internal quality of continuously cast products is examined on as- cast transverse sections cut from billets or slabs. All cuts slices are macro etched and estimated on accordance with ASTM E381. Acceptable degree- patterns: C3- R3- S3. Macro etch sampling is agreed with the customer. Bauman's print as requested by the customer.

MARKING:

Billets of 1400 – 2200 in length are marked on face surface with marking device. Making includes: hear No; grade of steel; secondary metallurgy treatment code; strand No; product No. Additionally, CC product are marked with white paint (on face surface) – paint marking includes: Heat No; steel grade.