HARDOX®
WEAR PLATE

AR 500 Round Bars

SSAB is now proudly introducing the development of AR 500 round bars in different dimensions, targeting Ø 20 – 150 mm. During the development process, the bar products are named AR (Abrasion Resistant) and will be branded Hardox® when all properties consistently correspond to plate properties in production.

AR 500	Typical Properties*
Hardness (HBW)	470–530
Toughness Charpy V (J)	Min 27 (@ -20° C)
Typical Yield Strength (MPa)	1200
Typical Tensile Strength (MPa)	1700
Typical elongation (A5,%)	12
Typical max CET	0.51

*This product is under development and the data in this table are the typical values, taken from the existing limited available measurement.

DELIVERY CONDITIONS

Heat treated with rolled or turned conditions. Rolled surfaces are recommended but some bars with turned surface are available. Stock is replenished only by rolled surface.

DIMENSIONS

Valid for both turned and rolled conditions, where differences are commented on.

Diameters

Aim diameters are between 20 – 150 mm. All diameter tolerances are according to EN 10060 or SSAB specification. For turned bars – all diameter tolerances are plus, meaning -0/+ deviation.

	Diameter Tolerances	
Ø (mm)	Rolled	Turned
20 ≤ 75	EN 10060 Precision	EN 10060 Precision
> 75–150	EN 10060 Normal	SSAB Specification

Ovality

Tolerances for both rolled and turned according to EN 10060 meaning the deviation of roundness shall not exceed 75% of the diameter tolerance range, according to EN 10060.

Ø (mm)	Rolled	Turned
20–23	±0.20	0/+0.4
24–31	±0.25	0/+0.5
32–41	±0.30	0/+0.6
42–54	±0.40	0/+0.8
55–75	±0.50	0/+1.0
76–80	±1.0	0/+1.0
> 80–100	±1.3	0/+1.0
> 100–120	±1.5	0/+1.0
> 120–150	±2.0	0/+2.0

Straightness

Tolerances according to EN 10060. The maximum allowed deviation is 2 mm/m, when using a calibrated 1 meter measure.

Length

Tolerances for both rolled and turned according to EN10060 with fixed length 5000 mm with tolerances -0/+200 mm. Other lengths may be available upon request.

Surface

The tolerances for rolled are according to the most recent EN 10221 class C för Ø≤75 and for turned are according to the most recent EN 10221 class C för Ø≤120. For bars with Ø>120 mm the maximum depth of the surface discontinuities is 0.0075xØ mm.

TESTING

Bar hardness is measured on a milled surface, with indents positioned as impact test according to EN 10083. Impact toughness, Charpy V-notch test positioning is taken according to EN 10083.

SSAB

TOLERANCES – EN 10060

Ø (mm)	Limit Deviation Normal (mm)	Limit Deviation Precision (mm)
20	± 0.5	± 0.20
22		
24		± 0.25
25		
26	± 0.6	
27		
28		
30		
32		± 0.30
35		
36	± 0.8	
38		
40		
42		± 0.40
45		
48		
50		
52	± 1	
55		± 0.50
60		
63		
65		
70		
73		
75		
80		N/A

Ø (mm)	Limit Deviation Normal (mm)	Limit Deviation Precision (mm)
85	± 1.3	N/A
90		
95		
100		
105	± 1.5	
110		
115		
120		
125	± 2.0	
130		
135		
140		
145		
150		
155		
160		

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