

# Hot Rolled Structural HA350 steel

# HR S

Revision 6, November 2003

This literature supersedes all previous issues

## GENERAL DESCRIPTION

HA350 - Hot-rolled Structural steel with a guaranteed minimum yield strength of 350 MPa, with good ductility.

## TYPICAL USES

Structural sections, racking, truck chassis and gas cylinders.

## AUSTRALIAN STANDARDS

AS/NZS 1594/2002

AS/NZS 1365/1996

## GUARANTEED PROPERTIES OF STEEL BASE



MECHANICAL PROPERTIES	GUARANTEED	CHEMICAL PROPERTIES	GUARANTEED MAXIMUM %	TYPICAL %
Longitudinal tensile		Carbon (C)	0.20	0.08 - 0.11
Yield strength, MPa	350 min	Silicon (Si)	0.35	0.010 - 0.015
Tensile strength, MPa	430 min	Manganese (Mn)	1.60	0.50 - 0.60
		Phosphorus (P)	0.04	0.01 - 0.02
Elong on 80 mm, %		Sulphur (S)	0.03	0.008 - 0.015
≤ 3.0 mm	16 min	Aluminium (Al)	0.10	0.02 - 0.04
> 3.0 mm	20 min	Nitrogen (N)	-	0.002 - 0.005
180° transverse bend (L axis)		Niobium (Nb)	-	0.03 - 0.04
≤ 5.0 mm	2t	Vandadium	0.10	-
> 5.0 mm	3t	Niobium + Vanadium		
		+ Titanium (Nb+V+Ti)	0.15	-

## DIMENSIONAL CAPABILITIES

Preferred Thickness, mm	Width Range, mm									
	900	1000	1100	1200	1300	1400	1500	1600	1700	1800
13										
10										
8										
6										
5										
4.5										
4										
3.5										
3										
2.5										
2										
1.6										
1.5										

**Note:** Widths in the range 50 to 865mm are available by negotiation only.

These dimensions are a reflection of technical capability to produce. Supply conditions may be subject to dimensional restrictions and is subject to BlueScope Steel Sales and Marketing confirmation.

<b>Key</b>	 available black only	 available pickled
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## NORMAL/OPTIONAL SUPPLY CONDITIONS

	Normal	Optional <sup>#</sup>
Surface finish	As-rolled	Pickled & Oiled
Tolerance class		
Thickness	AT	-
Width	AW	ME
Length	-	-
Flatness	AF	-
Oiling	Not oiled	Oiled
Branding	Not branded	-

<sup>#</sup> Optional supply conditions may be subject to dimensional restrictions.

## FABRICATING PERFORMANCE

Method	Rating
Bending	3
Drawing	2*
Pressing	2*
Roll-forming	3
Welding	5
Painting (Pretreatment)	5
Galvanizing	5

\* Surface scale adversely affects die performance of this product, pickled recommended.

where **1** = limited to **5** = excellent, or **NR** = not recommended.

**Note:** It is recommended that customers use product promptly to avoid the possibility of rusting during storage. Oiling improves corrosion resistance but oiled product should be used within three months.

BlueScope is a trade mark of BlueScope Steel Limited.

Please ensure you have the current data sheet for this product as displayed at [www.bluescopesteel.com.au](http://www.bluescopesteel.com.au)

## BlueScope Steel Limited

BlueScope Steel Limited ABN 16 000 011 058  
BlueScope Steel (AIS) Pty Ltd ABN 19 000 019 625

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Produced by Artimprint (02) 9984 8586



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**Continued**

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## TYPICAL PROPERTY RANGES (FOR NORMAL SUPPLY PRODUCT)

Thickness mm	Yield Strength & Tensile Strength MPa																					
	360	370	380	390	400	410	420	430	440	450	460	470	480	490	500	520	530	540	550	560	570	580
≤ 3.0				Yield Strength												Tensile Strength						
≤ 3.5				Yield Strength												Tensile Strength						
≤ 8.0				Yield Strength												Tensile Strength						

<b>Key</b>	 yield strength	 tensile strength
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Thickness mm	Total Elongation (%)																															
	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40									
≤ 3.0						Total Elongation																										
≤ 3.5						Total Elongation																										
≤ 8.0						Total Elongation																										

**Note:** Typical mechanical properties are based on aggregation of  $\bar{X}$  and 2SD performance.

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