Hot Rolled Formable HA4N-P steel

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Revision 8, November 2003 This literature supersedes all previous issues

GENERAL DESCRIPTION

HA4N-P - Hot-rolled, pickled, extra deep drawing steel guaranteed nonageing, suitable for severe drawing and pressing.

TYPICAL USES

Automotive components, mower parts.

AUSTRALIAN STANDARDS

AS/NZS 1594/2002 AS/NZS 1365/1996

GUARANTEED PROPERTIES OF STEEL BASE

MECHANICAL PROPERTIES	GUARANTEED
Transverse tensile Yield strength, MPa Tensile strength, MPa	
Elong on 80 mm, % ≤ 3 mm > 3 mm	34 min 36 min
180° transverse bend (L axis) Uniform elong, %	Ot -

CHEMICAL PROPERTIES	GUARANTEED MAXIMUM %	TYPICAL %
Carbon (C) Silicon (Si) Manganese (Mn) Phosphorus (P) Sulphur (S) Aluminium (Al) Titanium (Ti) Micro-alloy (Nb, V) Boron (B) Nitrogen (N)	0.08 0.03 0.40 0.03 0.02 0.10 0.04 *	0.04 - 0.07 0.005 - 0.010 0.20 - 0.30 0.01 - 0.02 0.01 - 0.02 0.03 - 0.05 - 0.002 - 0.008 0.001 - 0.005

Note: * (Nb) - 0.010% max, (V) - 0.010% max

DIMENSIONAL CAPABILITIES

Preferred Thickness,		Width Range, mm																		
mm	900 1000		00	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.

* HA4N is not available pickled less than 2.00mm thickness.

Key available black only available pickled

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.

NORMAL/OPTIONAL SUPPLY CONDITIONS

	Normal	$\mathbf{Optional}^{\#}$
Surface finish	Pickled & Oiled	-
Tolerance class		
Thickness	AT	-
Width	AW	ME
Length	AL	-
Flatness	AF	-
Oiling	Oiled	-
Branding	Not branded	-
# Optional supply cor	nditions may be subject to	dimensional restrictions.

FABRICATING PERFORMANCE

Method	Rating
Bending	5
Drawing	5
Pressing	5
Roll-forming	5
Welding	5
Painting (Pretreatment)	5
Galvanizing	5
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 Limted.

Please ensure you have the current data sheet for this product as displayed at www.bluescopesteel.com.au

BlueScope Steel Limited

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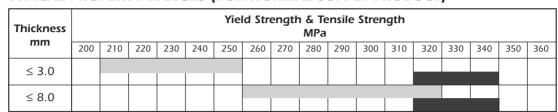


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TYPICAL PROPERTY RANGES (FOR NORMAL SUPPLY PRODUCT)





Thickness								Total	Elong (%)	gatio	n						
mm	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
≤ 3.0																	
≤ 8.0																	

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

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