

AS2074 Cast Steel

Originated as AS B27 - 1931 and AS E7 - 1938. After consultation with stakeholders in both countries, Standards Australia and Standards New Zealand decided to develop this Standard as an Australian, rather than an Australian/New Zealand Standard.

The objective of this Standard is to specify the steel specifications, heat treatment and test requirements for cast steels.

AS 2074 - 1982 specified additional requirements, including fettling and dressing, freedom from defects, rectification of defects and certification. These additional requirements are now specified in AS 4738. This edition of the Standard is a standard of materials.

This Standard specifies requirements for carbon, low alloy and high alloy cast steels.

Grade	Chemical Composition %															Tensile Strength		Yield	Elongation %
	C		Si		Mn		S	P	Cr		Mo		Ni		Other				
	min	max	min	max	min	max	max	max	min	max	min	max	min	max	max / range	min	max	min	min
AS2074/C1	0.1	0.18	-	0.60	0.60	1.00	0.050	0.050	-	-	-	-	-	-	-	490	-	-	12
AS2074/C2	-	0.15	-	0.60	-	0.50	0.050	0.050	-	-	-	-	-	-	-	340	430	-	17
AS2074/C3	-	0.25	-	0.60	-	0.90	0.060	0.060	-	-	-	-	-	-	-	430	-	230	17
AS2074/C4-1	-	0.30	-	0.60	-	1.00	0.060	0.060	-	-	-	-	-	-	-	460	-	245	21
AS2074/C4-2	-	0.35	-	0.60	-	1.00	0.060	0.060	-	-	-	-	-	-	-	490	-	265	15
AS2074/C5	-	0.45	-	0.60	-	1.00	0.060	0.060	-	-	-	-	-	-	-	540	-	295	11
AS2074/C6	0.40	0.50	-	0.60	-	1.00	0.050	0.050	-	-	-	-	-	-	-	620	-	325	8
AS2074/C7A-1	-	0.25	-	0.60	-	0.90	0.050	0.050	-	-	-	-	-	-	-	430	-	230	22
AS2074/C7A-2	-	0.30	-	0.60	-	0.90	0.050	0.050	-	-	-	-	-	-	-	480	-	245	20
AS2074/C7A-3	-	0.35	-	0.60	-	1.10	0.050	0.050	-	-	-	-	-	-	-	540	-	280	13
AS2074/L1A	0.18	0.25	-	0.60	1.20	1.60	0.050	0.050	-	-	-	-	-	-	-	540	-	340	13
AS2074/L1B	0.25	0.33	-	0.60	1.20	1.60	0.050	0.050	-	-	-	-	-	-	-	620	-	370	11
AS2074/L2A	0.45	0.55	-	0.75	0.50	1.00	0.060	0.060	0.80	1.20	-	-	-	-	A1 0.06	-	-	-	-

AS2074/L2B	0.55	0.65	-	0.75	0.50	1.00	0.060	0.060	0.80	1.50	0.20	0.40	-	-	A1 0.06	-	-	-	-
AS2074/L2C	0.70	0.90	-	0.75	0.50	1.20	0.060	0.060	1.30	2.40	0.20	0.40	-	-	-	-	-	-	-
AS2074/L3A	-	0.12	-	0.60	-	0.80	0.030	0.030	-	-	-	-	3.00	4.00	-	460	-	280	20
AS2074/L4A	0.10	0.18	-	0.60	0.30	0.60	0.040	0.040	-	-	-	-	2.75	3.50	A1 0.06	700	-	-	11
AS2074/L5A-1	-	0.25	0.20	0.50	0.50	1.00	0.050	0.050	-	-	0.40	0.70	-	-	-	460	-	280	15
AS2074/L5A-2	-	0.20	0.20	0.60	0.50	1.00	0.040	0.040	-	-	0.45	0.65	-	-	-	460	-	260	18
AS2074/L5B-1	-	0.20	-	0.60	0.50	0.80	0.050	0.050	1.00	1.50	0.45	0.65	-	-	-	480	-	280	17
AS2074/L5B-2	-	0.20	-	0.60	0.50	0.80	0.050	0.015	1.00	1.50	0.45	0.65	-	-	A1 0.01	480	-	280	17
AS2074/L5C	-	0.18	-	0.60	0.40	0.70	0.050	0.050	2.00	2.75	0.90	1.20	-	-	-	540	-	325	17
AS2074/L5D	-	0.25	-	0.75	0.30	0.70	0.040	0.040	2.50	3.50	0.35	0.60	-	-	-	620	770	370	13
AS2074/L5E	-	0.20	-	0.75	0.40	0.70	0.040	0.040	4.00	6.00	0.45	0.65	-	-	-	620	-	420	13
AS2074/L5F	-	0.20	-	0.60	0.50	0.80	0.050	0.050	4.00	1.50	0.90	1.20	-	-	V 0.15-0.25	650	-	415	11
AS2074/L5G	-	0.15	-	0.50	0.40	0.80	0.050	0.050	1.00	1.00	0.70	1.00	-	-	V 0.22-0.35	540	-	310	17
AS2074/L5H	0.10	0.15	-	0.45	0.40	0.70	0.030	0.030	0.70	0.50	0.40	0.60	-	-	V 0.22-0.30	510	-	295	17
AS2074/L6	-	0.35	-	-	-	-	0.050	0.050	0.30	-	-	-	-	-	-	620	-	415	19
AS2074/L6A-1	-	-	-	-	-	-	0.050	0.050	-	-	-	-	-	-	A1 0.06	700	850	495	11
AS2074/L6A-2	-	-	-	-	-	-	0.050	0.050	-	-	-	-	-	-	A1 0.06	750	-	585	15
AS2074/L6B-1	-	-	-	-	-	-	0.040	0.040	-	-	-	-	-	-	A1 0.06	850	1000	590	8
AS2074/L6B-2	-	-	-	-	-	-	0.040	0.040	-	-	-	-	-	-	A1 0.06	825	-	690	12
AS2074/L6C	-	-	-	-	-	-	0.030	0.030	-	-	-	-	-	-	A1 0.06	1000	1160	695	6
AS2074/H1A	1.0	1.35	-	1.00	11.00	-	0.10	-	-	-	-	-	-	-	-	-	-	-	-
AS2074/H1B	1.0	1.35	-	1.00	11.00	-	0.10	-	1.50	2.50	-	-	-	-	-	-	-	-	-
AS2074/H1C	1.0	1.35	-	1.00	11.00	-	0.10	-	-	-	0.90	1.20	-	-	-	-	-	-	-
AS2074/H1D	1.3	1.50	-	1.00	17.0	-	0.10	-	-	-	-	-	-	-	-	-	-	-	-
AS2074/H2A	-	0.20	-	1.00	0.30	0.70	0.040	0.040	8.0	10.0	0.90	1.20	-	-	-	620	-	415	13
AS2074/H3A	-	0.15	-	1.00	-	1.00	0.040	0.040	11.5	13.5	-	-	-	1.00	-	540	-	370	15
AS2074/H3B	-	0.20	-	1.00	-	1.00	0.040	0.040	11.5	13.5	-	-	-	1.00	-	700	-	465	11
AS2074/H3C	-	0.10	-	1.00	-	1.00	0.040	0.040	11.5	13.5	-	0.60	3.40	4.20	-	770	-	620	12
AS2074/H3D	-	0.06	-	1.00	-	1.00	0.040	0.030	11.5	14.0	0.40	1.00	3.50	4.50	-	755	-	550	15

AS2074/H4A	-	0.50	-	2.00	-	1.00	0.040	0.040	26.0	30.0	-	0.50	-	4.00	-	-	-	-	-
AS2074/H5A	-	0.08	-	1.50	-	2.00	0.040	0.040	17.0	21.0	-	-	8.0	-	-	480	-	200	20
AS2074/H5B	-	0.12	-	1.50	-	2.00	0.040	0.040	17.0	21.0	-	-	8.0	-	-	480	-	200	20
AS2074/H5C	-	0.08	-	1.50	-	2.00	0.040	0.040	17.0	21.0	-	-	8.5	-	Nb 8×C- 1.0(max)	480	-	200	20
AS2074/H6A		0.08	-	1.50	-	2.00	0.040	0.040	18.0	20.0	3.00	4.00	10.0	-	-	480	-	200	20
AS2074/H6B		0.08	-	1.50	-	2.00	0.040	0.040	18.0	20.0	2.00	3.00	10.0	-	-	480	-	200	20
AS2074/H6C		0.08	-	1.50	-	2.00	0.040	0.040	17.00	20.0	2.00	3.00	10.0	-	Nb 8× C- 1.0(max)	480	-	200	15
AS2074/H6D	-	0.03	-	1.50	-	2.00	0.040	0.040	17.0	21.0	2.00	3.00	9.0	13.0	-	430	-	210	26
AS2074/H6E	-	0.25	-	1.00	-	1.20	0.045	0.010	19.5	20.5	6.00	7.00	17.5	19.5	-	550	-	260	30
AS2074/H7A	-	0.07	-	1.00	-	0.70	0.035	0.030	15.5	17.7	-	-	3.6	4.6	Cu 2.50~3.20	-	-	-	-
AS2074/H7B	-	0.07	-	1.00	-	0.70	0.035	0.030	14.4	15.5	-	-	4.5	5.5	Cu 2.50~3.20	-	-	-	-
AS2074/H8A	-	0.20	-	2.00	-	2.00	0.040	0.040	22.0	27.0	-	-	10.0	14.0	-	480	-	200	20
AS2074/H8B	0.20	0.45	-	1.50	-	2.50	0.040	0.040	24.0	28.0	-	0.50	11.0	14.0	N 0.20	560	-	-	3
AS2074/H8C	-	0.50	-	2.50	-	2.00	0.060	0.060	22.0	27.0	-	1.00	10.0	14.0	-	-	-	-	-
AS2074/H8E-1	-	0.20	-	1.50	-	2.00	0.040	0.040	24.0	27.0	-	0.5	19.0	22.0	-	450	-	200	20
AS2074/H8E-2	0.30	0.50	-	1.50	-	2.00	0.040	0.040	24.0	27.0	-	0.5	19.0	22.0	-	450	-	-	7
AS2074/H8F	-	0.50	-	3.00	-	2.00	0.060	0.060	17.0	23.0	-	1.00	23.0	28.0	-	-	-	-	-
AS2074/H8G	-	0.75	-	3.00	-	2.00	0.060	0.060	13.0	20.0	-	1.00	30.0	40.0	-	-	-	-	-
AS2074/H8H	-	0.75	-	3.00	-	2.00	0.060	0.060	15.0	25.0	-	1.00	36.0	46.0	-	-	-	-	-
AS2074/H8J	-	0.75	-	3.00	-	2.00	0.060	0.060	10.0	20.0	-	1.00	55.0	65.0	-	-	-	-	-
AS2074/H8K	0.05	0.05	-	2.00	-	0.80	0.040	0.030	20.0	22.0	-	0.30	10.0	11.0	N 0.14~0.20 Cc0.03~0.08	350	-	280	35
AS2074/H9A	-	0.07	-	1.50	-	1.50	0.040	0.040	19.0	22.0	0.20	0.30	27.5	30.5	Cu 3.00~4.00	-	-	-	-
AS2074/H10A	-	0.04	-	1.00	-	1.00	0.040	0.040	24.5	26.5	1.75	2.25	4.75	6.00	Cu 2.75~3.25	690	-	485	16
AS2074/H10B	-	0.08	-	1.00	-	1.00	0.040	0.040	22.5	25.5	3.00	4.50	8.0	11.0	N 0.1~0.3	655	-	450	24
AS2074/H4/10C	-	0.03	-	1.50	-	1.50	0.020	0.020	21.0	23.5	2.50	3.50	4.5	6.5	N 0.1~0.3	620	-	415	24
AS2074/H10D	-	0.03	-	1.00	-	1.50	0.040	0.040	24.0	26.0	4.00	5.00	6.0	8.0	N 0.1~0.3	690	-	515	18

NOTES:

1. Advice and recommendations on information for optional test requirements to be supplied by the purchaser at the time of enquiry or order are contained in Appendix A.
2. A summary of chemical composition and tensile properties of steels included in this Standard is given in Appendix B, which also provides guidance on the selection of grades for specific applications.
3. AS 2074 only specifies materials. AS 4738 specifies the other additional requirements of the casting.

The following sheet is the comparison of materials between AS2074 and BS3100. As for the specific chemical components, please refer to the link of [BS3100 Standard](#).

CARBON AND ALLOY STEEL CASTINGS

AS2074	ASTM	BS
C1		BS3100 AW1
C2	-	BS3100 AM1, AM2
C3	A27 N-1	BS3100 A1
C4-1	A27 65-35	-
C4-2	A27 70-36	BS3100 A2
C5	-	BS3100 A3
C6	-	BS3100 AW2
C7A-1	A214 WCA	BS1504 430
C7A-2	A214 WCB	BS1504 480
C7A-3	A214 WCB	BS1504 540
L1A	-	BS3100 A4
L1B	-	BS3100 A5, A6
L2A	-	BS3100 BW2, BW3
L2B	-	BS3100 BW4

L3A	A352 LC2		BS3100 BL2
L4A	-		-
L5A-1	A217	WC1	BS3100 B1
L5A-2	A356-2		
L5B	A217 WC6, W11		BS3100 B2
L5C	A217	WC9	BS3100 B3
	A356-10		
L5D			BS3100 B4
L5E	-		BS3100 B5
L5F	-		BS3100 B6
L5G	-		-
L5H	-		BS3100 B7
L6	A148 90-60		-
L6A-1			
L6A-2	A148 105-85		BS3100 BT1
L6B-1			
L6B-2	A148	115-95	BS3100 BT2
L6C	A148 150-135		BS3100 BT3