

PRECIMETAL CAST PVT. LTD.

We cast your needs

Material Grade Specification Sheet

Cast Steel • Stainless Steel • Alloy Steel

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Scope of this Document

The material grades listed in this specification sheet represent some of the general material grades and alloy systems within Precimetal Cast Pvt. Ltd.'s manufacturing capabilities and are provided for reference and indicative purposes only. Our manufacturing capabilities are not limited to the grades listed herein.

For grades not listed, or for specific composition, mechanical property, or heat-treatment requirements, please contact our technical team — we routinely qualify additional grades against customer specifications.

How to Read This Table

The following table lists every material grade in Precimetal's standard material database, with its chemical composition (two element groups shown side by side) and typical mechanical properties. Each grade block occupies up to eight element rows. Blank cells indicate the parameter is not specified or not applicable for that grade.

Chemical composition values are expressed in weight percent (wt.%). Mechanical property units are shown in the parameter column — tensile and yield strength in MPa, elongation and reduction of area as a percentage.

PRECIMETAL CAST PVT. LTD. — MATERIAL GRADE SPECIFICATION

Grade	Chemistry (Element / Min / Max)						Mechanical Properties (Min / Max)		
MATERIAL GRADE	Element	Min	Max	Element	Min	Max	Mechanical Property	Min	Max
ASTM A27 Grade 60-30	C		0.3	Mn		0.6	Tensile Strength (MPa)	415	
	Si		0.8	P		0.05	Yield Strength (MPa)	205	
	S		0.06	Cr			Elongation (%)	24	
	Ni			Mo			Reduction of Area (%)	35	
	Cu			N					
	V			Nb					
	W			Ti					
	Al								
ASTM A27 Grade 65-35	C		0.3	Mn		0.7	Tensile Strength (MPa)	450	
	Si		0.8	P		0.05	Yield Strength (MPa)	240	
	S		0.06	Cr			Elongation (%)	24	
	Ni			Mo			Reduction of Area (%)	35	
	Cu			N					
	V			Nb					
	W			Ti					
	Al								
ASTM A27 Grade 70-40	C		0.25	Mn		1.2	Tensile Strength (MPa)	485	
	Si		0.8	P		0.05	Yield Strength	275	

PRECIMETAL CAST PVT. LTD. — MATERIAL GRADE SPECIFICATION									
Grade	Chemistry (Element / Min / Max)						Mechanical Properties (Min / Max)		
MATERIAL GRADE	Element	Min	Max	Element	Min	Max	Mechanical Property	Min	Max
							(MPa)		
	S		0.06	Cr			Elongation (%)	22	
	Ni			Mo			Reduction of Area (%)	30	
	Cu			N					
	V			Nb					
	W			Ti					
	Al								
ASTM A216 WCA	C		0.25	Mn		0.7	Tensile Strength (MPa)	415	585
	Si		0.6	P		0.035	Yield Strength (MPa)	205	
	S		0.045	Cr			Elongation (%)	24	
	Ni			Mo			Reduction of Area (%)	35	
	Cu			N					
	V			Nb					
	W			Ti					
	Al								
ASTM A216 WCB	C		0.3	Mn		1	Tensile Strength (MPa)	485	655
	Si		0.6	P		0.035	Yield Strength (MPa)	250	
	S		0.045	Cr			Elongation (%)	22	

PRECIMETAL CAST PVT. LTD. — MATERIAL GRADE SPECIFICATION

Grade	Chemistry (Element / Min / Max)						Mechanical Properties (Min / Max)		
MATERIAL GRADE	Element	Min	Max	Element	Min	Max	Mechanical Property	Min	Max
	Ni			Mo			Reduction of Area (%)	35	
	Cu			N					
	V			Nb					
	W			Ti					
	Al								
ASTM A216 WCC	C		0.25	Mn		1.2	Tensile Strength (MPa)	485	655
	Si		0.6	P		0.035	Yield Strength (MPa)	275	
	S		0.045	Cr			Elongation (%)	22	
	Ni			Mo			Reduction of Area (%)	35	
	Cu			N					
	V			Nb					
	W			Ti					
	Al								
ASTM A148 Grade 80-50	C			Mn			Tensile Strength (MPa)	550	
	Si			P		0.05	Yield Strength (MPa)	345	
	S		0.06	Cr			Elongation (%)	22	
	Ni			Mo			Reduction of Area (%)	35	
	Cu			N					

PRECIMETAL CAST PVT. LTD. — MATERIAL GRADE SPECIFICATION									
Grade	Chemistry (Element / Min / Max)						Mechanical Properties (Min / Max)		
MATERIAL GRADE	Element	Min	Max	Element	Min	Max	Mechanical Property	Min	Max
	V			Nb					
	W			Ti					
	Al								
ASTM A148 Grade 90-60	C			Mn			Tensile Strength (MPa)	620	
	Si			P		0.05	Yield Strength (MPa)	415	
	S		0.06	Cr			Elongation (%)	20	
	Ni			Mo			Reduction of Area (%)	40	
	Cu			N					
	V			Nb					
	W			Ti					
	Al								
ASTM A148 Grade 105-85	C			Mn			Tensile Strength (MPa)	725	
	Si			P		0.05	Yield Strength (MPa)	585	
	S		0.06	Cr			Elongation (%)	17	
	Ni			Mo			Reduction of Area (%)	35	
	Cu			N					
	V			Nb					
	W			Ti					

PRECIMETAL CAST PVT. LTD. — MATERIAL GRADE SPECIFICATION									
Grade	Chemistry (Element / Min / Max)						Mechanical Properties (Min / Max)		
MATERIAL GRADE	Element	Min	Max	Element	Min	Max	Mechanical Property	Min	Max
	Al								
ASTM A148 Grade 115-95	C			Mn			Tensile Strength (MPa)	795	
	Si			P		0.05	Yield Strength (MPa)	655	
	S		0.06	Cr			Elongation (%)	14	
	Ni			Mo			Reduction of Area (%)	30	
	Cu			N					
	V			Nb					
	W			Ti					
	Al								
ASTM A351 CF3	C		0.03	Mn		1.5	Tensile Strength (MPa)	485	
	Si		2	P		0.04	Yield Strength (MPa)	205	
	S		0.04	Cr	17	21	Elongation (%)	35	
	Ni	8	12	Mo		0.5	Reduction of Area (%)		
	Cu			N					
	V			Nb					
	W			Ti					
	Al								

PRECIMETAL CAST PVT. LTD. — MATERIAL GRADE SPECIFICATION									
Grade	Chemistry (Element / Min / Max)						Mechanical Properties (Min / Max)		
MATERIAL GRADE	Element	Min	Max	Element	Min	Max	Mechanical Property	Min	Max
ASTM A351 CF3M	C		0.03	Mn		1.5	Tensile Strength (MPa)	485	
	Si		1.5	P		0.04	Yield Strength (MPa)	205	
	S		0.04	Cr	17	21	Elongation (%)	30	
	Ni	9	13	Mo	2	3	Reduction of Area (%)		
	Cu			N					
	V			Nb					
	W			Ti					
	Al								
ASTM A351 CF8	C		0.08	Mn		1.5	Tensile Strength (MPa)	485	
	Si		2	P		0.04	Yield Strength (MPa)	205	
	S		0.04	Cr	18	21	Elongation (%)	35	
	Ni	8	11	Mo		0.5	Reduction of Area (%)		
	Cu			N					
	V			Nb					
	W			Ti					
	Al								
ASTM A351 CF8M	C		0.08	Mn		1.5	Tensile Strength (MPa)	485	
	Si		1.5	P		0.04	Yield Strength	205	

PRECIMETAL CAST PVT. LTD. — MATERIAL GRADE SPECIFICATION									
Grade	Chemistry (Element / Min / Max)						Mechanical Properties (Min / Max)		
MATERIAL GRADE	Element	Min	Max	Element	Min	Max	Mechanical Property	Min	Max
							(MPa)		
	S		0.04	Cr	18	21	Elongation (%)	30	
	Ni	9	12	Mo	2	3	Reduction of Area (%)		
	Cu			N					
	V			Nb					
	W			Ti					
	Al								
ASTM A351 CF8C	C		0.08	Mn		1.5	Tensile Strength (MPa)	485	
	Si		2	P		0.04	Yield Strength (MPa)	205	
	S		0.04	Cr	18	21	Elongation (%)	30	
	Ni	9	12	Mo		0.5	Reduction of Area (%)		
	Cu			N					
	V			Nb	stabilized				
	W			Ti					
	Al								
ASTM A351 CF10	C	0.04	0.1	Mn		1.5	Tensile Strength (MPa)	485	
	Si		2	P		0.04	Yield Strength (MPa)	205	
	S		0.04	Cr	18	21	Elongation (%)	35	

PRECIMETAL CAST PVT. LTD. — MATERIAL GRADE SPECIFICATION									
Grade	Chemistry (Element / Min / Max)						Mechanical Properties (Min / Max)		
MATERIAL GRADE	Element	Min	Max	Element	Min	Max	Mechanical Property	Min	Max
	Ni	8	11	Mo		0.5	Reduction of Area (%)		
	Cu			N					
	V			Nb					
	W			Ti					
	Al								
ASTM A351 CF10M	C	0.04	0.1	Mn		1.5	Tensile Strength (MPa)	485	
	Si		1.5	P		0.04	Yield Strength (MPa)	205	
	S		0.04	Cr	18	21	Elongation (%)	30	
	Ni	9	12	Mo	2	3	Reduction of Area (%)		
	Cu			N					
	V			Nb					
	W			Ti					
	Al								
ASTM A743 CF3	C		0.03	Mn		1.5	Tensile Strength (MPa)	485	
	Si		2	P		0.04	Yield Strength (MPa)	205	
	S		0.04	Cr	17	21	Elongation (%)	35	
	Ni	8	12	Mo			Reduction of Area (%)		
	Cu			N					

PRECIMETAL CAST PVT. LTD. — MATERIAL GRADE SPECIFICATION

Grade	Chemistry (Element / Min / Max)						Mechanical Properties (Min / Max)		
MATERIAL GRADE	Element	Min	Max	Element	Min	Max	Mechanical Property	Min	Max
	V			Nb					
	W			Ti					
	Al								
ASTM A743 CF3M	C		0.03	Mn		1.5	Tensile Strength (MPa)	485	
	Si		1.5	P		0.04	Yield Strength (MPa)	205	
	S		0.04	Cr	17	21	Elongation (%)	30	
	Ni	9	13	Mo	2	3	Reduction of Area (%)		
	Cu			N					
	V			Nb					
	W			Ti					
	Al								
ASTM A743 CF8	C		0.08	Mn		1.5	Tensile Strength (MPa)	485	
	Si		2	P		0.04	Yield Strength (MPa)	205	
	S		0.04	Cr	18	21	Elongation (%)	35	
	Ni	8	11	Mo			Reduction of Area (%)		
	Cu			N					
	V			Nb					
	W			Ti					

PRECIMETAL CAST PVT. LTD. — MATERIAL GRADE SPECIFICATION

Grade	Chemistry (Element / Min / Max)						Mechanical Properties (Min / Max)		
MATERIAL GRADE	Element	Min	Max	Element	Min	Max	Mechanical Property	Min	Max
	Al								
ASTM A743 CF8M	C		0.08	Mn		1.5	Tensile Strength (MPa)	485	
	Si		2	P		0.04	Yield Strength (MPa)	205	
	S		0.04	Cr	18	21	Elongation (%)	30	
	Ni	9	12	Mo	2	3	Reduction of Area (%)		
	Cu			N					
	V			Nb					
	W			Ti					
	Al								
ASTM A743 CF8C	C		0.08	Mn		1.5	Tensile Strength (MPa)	485	
	Si		2	P		0.04	Yield Strength (MPa)	205	
	S		0.04	Cr	18	21	Elongation (%)	30	
	Ni	9	12	Mo			Reduction of Area (%)		
	Cu			N					
	V			Nb	stabilized				
	W			Ti					
	Al								
ASTM A743 CA15	C		0.15	Mn		1	Tensile Strength (MPa)	620	

PRECIMETAL CAST PVT. LTD. — MATERIAL GRADE SPECIFICATION

Grade	Chemistry (Element / Min / Max)						Mechanical Properties (Min / Max)		
MATERIAL GRADE	Element	Min	Max	Element	Min	Max	Mechanical Property	Min	Max
	Si		1.5	P		0.04	Yield Strength (MPa)	450	
	S		0.04	Cr	11.5	14	Elongation (%)	18	
	Ni		1	Mo		0.5	Reduction of Area (%)	30	
	Cu			N					
	V			Nb					
	W			Ti					
	Al								
ASTM A743 CA40	C	0.2	0.4	Mn		1	Tensile Strength (MPa)	690	
	Si		1.5	P		0.04	Yield Strength (MPa)	485	
	S		0.04	Cr	11.5	14	Elongation (%)	15	
	Ni		1	Mo		0.5	Reduction of Area (%)	25	
	Cu			N					
	V			Nb					
	W			Ti					
	Al								
ASTM A743 CA6NM	C		0.06	Mn		1	Tensile Strength (MPa)	755	
	Si		1	P		0.04	Yield Strength (MPa)	550	
	S		0.03	Cr	11.5	14	Elongation (%)	15	

PRECIMETAL CAST PVT. LTD. — MATERIAL GRADE SPECIFICATION									
Grade	Chemistry (Element / Min / Max)						Mechanical Properties (Min / Max)		
MATERIAL GRADE	Element	Min	Max	Element	Min	Max	Mechanical Property	Min	Max
	Ni	3.5	4.5	Mo	0.4	1	Reduction of Area (%)	35	
	Cu			N					
	V			Nb					
	W			Ti					
	Al								
ASTM A995 Grade 4A / CD3MN	C		0.03	Mn		1.5	Tensile Strength (MPa)	620	
	Si		1	P		0.04	Yield Strength (MPa)	415	
	S		0.02	Cr	21	23.5	Elongation (%)	25	
	Ni	4.5	6.5	Mo	2.5	3.5	Reduction of Area (%)		
	Cu		1	N	0.1	0.3			
	V			Nb					
	W			Ti					
	Al								
ASTM A995 Grade 5A / CE3MN	C		0.03	Mn		1.5	Tensile Strength (MPa)	690	
	Si		1	P		0.04	Yield Strength (MPa)	515	
	S		0.04	Cr	24	26	Elongation (%)	18	
	Ni	6	8	Mo	4	5	Reduction of Area		

PRECIMETAL CAST PVT. LTD. — MATERIAL GRADE SPECIFICATION

Grade	Chemistry (Element / Min / Max)						Mechanical Properties (Min / Max)		
MATERIAL GRADE	Element	Min	Max	Element	Min	Max	Mechanical Property	Min	Max
							(%)		
	Cu			N	0.1	0.3			
	V			Nb					
	W			Ti					
	Al								
ASTM A995 Grade 6A / CD3MWCuN	C		0.03	Mn		1	Tensile Strength (MPa)	690	
	Si		1	P		0.03	Yield Strength (MPa)	450	
	S		0.025	Cr	24	26	Elongation (%)	25	
	Ni	6.5	8.5	Mo	3	4	Reduction of Area (%)		
	Cu	0.5	1	N	0.2	0.3			
	V			Nb					
	W	0.5	1	Ti					
	Al								
UNS S31803 - Duplex 2205	C		0.03	Mn			Tensile Strength (MPa)	620	
	Si			P			Yield Strength (MPa)	450	
	S			Cr	21	23	Elongation (%)	25	
	Ni	4.5	6.5	Mo	2.5	3.5	Reduction of Area (%)		
	Cu			N	0.08	0.2			

PRECIMETAL CAST PVT. LTD. — MATERIAL GRADE SPECIFICATION

Grade	Chemistry (Element / Min / Max)						Mechanical Properties (Min / Max)		
MATERIAL GRADE	Element	Min	Max	Element	Min	Max	Mechanical Property	Min	Max
	V			Nb					
	W			Ti					
	Al								
UNS S32205 – Duplex 2205	C		0.03	Mn			Tensile Strength (MPa)	655	
	Si			P			Yield Strength (MPa)	450	
	S			Cr	22	23	Elongation (%)	25	
	Ni	4.5	6.5	Mo	3	3.5	Reduction of Area (%)		
	Cu			N	0.14	0.2			
	V			Nb					
	W			Ti					
	Al								
UNS S32750 – Super Duplex 2507	C		0.03	Mn			Tensile Strength (MPa)	795	
	Si			P			Yield Strength (MPa)	550	
	S			Cr	24	26	Elongation (%)	15	
	Ni	6	8	Mo	3	5	Reduction of Area (%)		
	Cu			N	0.24	0.32			
	V			Nb					
	W			Ti					

PRECIMETAL CAST PVT. LTD. — MATERIAL GRADE SPECIFICATION

Grade	Chemistry (Element / Min / Max)						Mechanical Properties (Min / Max)		
MATERIAL GRADE	Element	Min	Max	Element	Min	Max	Mechanical Property	Min	Max
	Al								
UNS S32760 – Super Duplex	C		0.03	Mn			Tensile Strength (MPa)	750	
	Si			P			Yield Strength (MPa)	550	
	S			Cr	24	26	Elongation (%)	15	
	Ni	6	8	Mo	3	4	Reduction of Area (%)		
	Cu			N	0.2	0.3			
	V			Nb					
	W	0.5	1	Ti					
	Al								
AISI 405	C		0.08	Mn		1	Tensile Strength (MPa)	448	
	Si		1	P			Yield Strength (MPa)	276	
	S			Cr	11.5	14.5	Elongation (%)	25	
	Ni		0.5	Mo			Reduction of Area (%)		
	Cu			N					
	V			Nb					
	W			Ti					
	Al	0.1	0.3						
AISI 409	C		0.05	Mn		1	Tensile Strength (MPa)	390	560

PRECIMETAL CAST PVT. LTD. — MATERIAL GRADE SPECIFICATION

Grade	Chemistry (Element / Min / Max)						Mechanical Properties (Min / Max)		
MATERIAL GRADE	Element	Min	Max	Element	Min	Max	Mechanical Property	Min	Max
	Si		1	P			Yield Strength (MPa)	220	
	S			Cr	10.5	12.5	Elongation (%)	23	
	Ni			Mo			Reduction of Area (%)		
	Cu			N					
	V			Nb					
	W			Ti	stabilized				
	Al								
AISI 430	C		0.08	Mn		1.5	Tensile Strength (MPa)	450	600
	Si		1	P			Yield Strength (MPa)	280	
	S			Cr	16	18	Elongation (%)	20	24
	Ni		0.75	Mo			Reduction of Area (%)		
	Cu			N					
	V			Nb					
	W			Ti					
	Al								
AISI 434	C		0.12	Mn			Tensile Strength (MPa)	500	650
	Si			P			Yield Strength (MPa)	300	400
	S			Cr	16	18	Elongation (%)		

PRECIMETAL CAST PVT. LTD. — MATERIAL GRADE SPECIFICATION

Grade	Chemistry (Element / Min / Max)						Mechanical Properties (Min / Max)		
MATERIAL GRADE	Element	Min	Max	Element	Min	Max	Mechanical Property	Min	Max
	Ni			Mo	0.75	1	Reduction of Area (%)		
	Cu			N					
	V			Nb					
	W			Ti					
	Al								
AISI 439	C		0.05	Mn			Tensile Strength (MPa)	450	
	Si			P			Yield Strength (MPa)	230	
	S			Cr	16	18	Elongation (%)	23	
	Ni			Mo			Reduction of Area (%)		
	Cu			N					
	V			Nb					
	W			Ti	stabilized				
	Al								
AISI 446	C		0.2	Mn			Tensile Strength (MPa)	500	650
	Si			P			Yield Strength (MPa)	300	400
	S			Cr	23	27	Elongation (%)		
	Ni			Mo	may be specified		Reduction of Area (%)		
	Cu			N					

PRECIMETAL CAST PVT. LTD. — MATERIAL GRADE SPECIFICATION									
Grade	Chemistry (Element / Min / Max)						Mechanical Properties (Min / Max)		
MATERIAL GRADE	Element	Min	Max	Element	Min	Max	Mechanical Property	Min	Max
	V			Nb					
	W			Ti					
	Al								
ASTM A217 WC1	C		0.25	Mn	0.5	0.8	Tensile Strength (MPa)	450	620
	Si		0.6	P		0.04	Yield Strength (MPa)	240	
	S		0.045	Cr			Elongation (%)	24	
	Ni			Mo	0.45	0.65	Reduction of Area (%)	35	
	Cu			N					
	V			Nb					
	W			Ti					
	Al								
ASTM A217 WC6	C	0.05	0.2	Mn	0.5	0.8	Tensile Strength (MPa)	485	655
	Si		0.6	P		0.04	Yield Strength (MPa)	275	
	S		0.045	Cr	1	1.5	Elongation (%)	20	
	Ni			Mo	0.45	0.65	Reduction of Area (%)	35	
	Cu			N					
	V			Nb					
	W			Ti					

PRECIMETAL CAST PVT. LTD. — MATERIAL GRADE SPECIFICATION

Grade	Chemistry (Element / Min / Max)						Mechanical Properties (Min / Max)		
MATERIAL GRADE	Element	Min	Max	Element	Min	Max	Mechanical Property	Min	Max
	Al								
ASTM A217 WC9	C	0.05	0.18	Mn	0.4	0.7	Tensile Strength (MPa)	485	655
	Si		0.6	P		0.04	Yield Strength (MPa)	275	
	S		0.045	Cr	2	2.75	Elongation (%)	20	
	Ni			Mo	0.9	1.2	Reduction of Area (%)	35	
	Cu			N					
	V			Nb					
	W			Ti					
	Al								
ASTM A217 C5	C		0.2	Mn	0.4	0.7	Tensile Strength (MPa)	620	795
	Si		0.75	P		0.04	Yield Strength (MPa)	415	
	S		0.045	Cr	4	6.5	Elongation (%)	18	
	Ni			Mo	0.45	0.65	Reduction of Area (%)	35	
	Cu			N					
	V			Nb					
	W			Ti					
	Al								
AISI 4130	C	0.28	0.33	Mn	0.4	0.6	Tensile Strength (MPa)	670	

PRECIMETAL CAST PVT. LTD. — MATERIAL GRADE SPECIFICATION									
Grade	Chemistry (Element / Min / Max)						Mechanical Properties (Min / Max)		
MATERIAL GRADE	Element	Min	Max	Element	Min	Max	Mechanical Property	Min	Max
	Si	0.15	0.35	P			Yield Strength (MPa)	435	
	S			Cr	0.8	1.1	Elongation (%)	25	
	Ni			Mo	0.15	0.25	Reduction of Area (%)		
	Cu			N					
	V			Nb					
	W			Ti					
	Al								
AISI 4140	C	0.38	0.43	Mn	0.75	1	Tensile Strength (MPa)	850	1000
	Si			P			Yield Strength (MPa)	650	850
	S			Cr	0.8	1.1	Elongation (%)		
	Ni			Mo	0.15	0.25	Reduction of Area (%)		
	Cu			N					
	V			Nb					
	W			Ti					
	Al								
AISI 4145	C	0.43	0.48	Mn	0.75	1	Tensile Strength (MPa)	900	1050
	Si			P			Yield Strength (MPa)	700	900
	S			Cr	0.8	1.1	Elongation (%)		

PRECIMETAL CAST PVT. LTD. — MATERIAL GRADE SPECIFICATION

Grade	Chemistry (Element / Min / Max)						Mechanical Properties (Min / Max)		
MATERIAL GRADE	Element	Min	Max	Element	Min	Max	Mechanical Property	Min	Max
	Ni			Mo	0.15	0.25	Reduction of Area (%)		
	Cu			N					
	V			Nb					
	W			Ti					
	Al								
AISI 4150	C	0.48	0.53	Mn	0.75	1	Tensile Strength (MPa)	950	1100
	Si			P			Yield Strength (MPa)	750	950
	S			Cr	0.8	1.1	Elongation (%)		
	Ni			Mo	0.15	0.25	Reduction of Area (%)		
	Cu			N					
	V			Nb					
	W			Ti					
	Al								
AISI 4320	C	0.17	0.22	Mn	0.45	0.65	Tensile Strength (MPa)	850	1000
	Si			P			Yield Strength (MPa)	650	850
	S			Cr	0.4	0.6	Elongation (%)		
	Ni	1.65	2	Mo	0.2	0.3	Reduction of Area (%)		
	Cu			N					

PRECIMETAL CAST PVT. LTD. — MATERIAL GRADE SPECIFICATION									
Grade	Chemistry (Element / Min / Max)						Mechanical Properties (Min / Max)		
MATERIAL GRADE	Element	Min	Max	Element	Min	Max	Mechanical Property	Min	Max
	V			Nb					
	W			Ti					
	Al								
AISI 4340	C	0.38	0.43	Mn	0.6	0.8	Tensile Strength (MPa)	900	1100
	Si			P			Yield Strength (MPa)	700	950
	S			Cr	0.7	0.9	Elongation (%)		
	Ni	1.65	2	Mo	0.2	0.3	Reduction of Area (%)		
	Cu			N					
	V			Nb					
	W			Ti					
	Al								
AISI 8620	C	0.18	0.23	Mn	0.7	0.9	Tensile Strength (MPa)		
	Si			P			Yield Strength (MPa)		
	S			Cr	0.4	0.7	Elongation (%)		
	Ni	0.4	0.6	Mo	0.15	0.25	Reduction of Area (%)		
	Cu			N					
	V			Nb					
	W			Ti					

PRECIMETAL CAST PVT. LTD. — MATERIAL GRADE SPECIFICATION

Grade	Chemistry (Element / Min / Max)						Mechanical Properties (Min / Max)		
MATERIAL GRADE	Element	Min	Max	Element	Min	Max	Mechanical Property	Min	Max
	Al								
AISI 8630	C	0.28	0.33	Mn	0.7	0.9	Tensile Strength (MPa)	850	1000
	Si			P			Yield Strength (MPa)	650	850
	S			Cr	0.4	0.7	Elongation (%)		
	Ni	0.4	0.6	Mo	0.15	0.25	Reduction of Area (%)		
	Cu			N					
	V			Nb					
	W			Ti					
	Al								
AISI 4620	C	0.17	0.22	Mn	0.45	0.65	Tensile Strength (MPa)	800	950
	Si			P			Yield Strength (MPa)	600	800
	S			Cr			Elongation (%)		
	Ni	1.65	2	Mo	0.2	0.3	Reduction of Area (%)		
	Cu			N					
	V			Nb					
	W			Ti					
	Al								
AISI 4640	C	0.38	0.43	Mn	0.75	1	Tensile Strength (MPa)	900	1050

PRECIMETAL CAST PVT. LTD. — MATERIAL GRADE SPECIFICATION									
Grade	Chemistry (Element / Min / Max)						Mechanical Properties (Min / Max)		
MATERIAL GRADE	Element	Min	Max	Element	Min	Max	Mechanical Property	Min	Max
	Si			P			Yield Strength (MPa)	700	900
	S			Cr			Elongation (%)		
	Ni	1.65	2	Mo	0.2	0.3	Reduction of Area (%)		
	Cu			N					
	V			Nb					
	W			Ti					
	Al								
AISI 1330	C	0.28	0.33	Mn	1.6	1.9	Tensile Strength (MPa)	600	750
	Si	controlled		P			Yield Strength (MPa)	400	550
	S			Cr			Elongation (%)		
	Ni			Mo			Reduction of Area (%)		
	Cu			N					
	V			Nb					
	W			Ti					
	Al								
AISI 1335	C	0.33	0.38	Mn	1.6	1.9	Tensile Strength (MPa)	650	800
	Si	controlled		P			Yield Strength (MPa)	450	600
	S			Cr			Elongation (%)		

PRECIMETAL CAST PVT. LTD. — MATERIAL GRADE SPECIFICATION

Grade	Chemistry (Element / Min / Max)						Mechanical Properties (Min / Max)		
MATERIAL GRADE	Element	Min	Max	Element	Min	Max	Mechanical Property	Min	Max
	Ni			Mo			Reduction of Area (%)		
	Cu			N					
	V			Nb					
	W			Ti					
	Al								
AISI 1340	C	0.38	0.43	Mn	1.6	1.9	Tensile Strength (MPa)	700	850
	Si	controlled		P			Yield Strength (MPa)	500	650
	S			Cr			Elongation (%)		
	Ni			Mo			Reduction of Area (%)		
	Cu			N					
	V			Nb					
	W			Ti					
	Al								
ASTM A217 C12	C		0.2	Mn	0.35	0.65	Tensile Strength (MPa)	620	795
	Si		1	P		0.04	Yield Strength (MPa)	415	
	S		0.045	Cr	8	10	Elongation (%)	18	
	Ni			Mo	0.9	1.2	Reduction of Area (%)	35	
	Cu			N					

PRECIMETAL CAST PVT. LTD. — MATERIAL GRADE SPECIFICATION									
Grade	Chemistry (Element / Min / Max)						Mechanical Properties (Min / Max)		
MATERIAL GRADE	Element	Min	Max	Element	Min	Max	Mechanical Property	Min	Max
	V			Nb					
	W			Ti					
	Al								
ASTM A217 C12A	C	0.08	0.12	Mn	0.3	0.6	Tensile Strength (MPa)	585	760
	Si	0.2	0.5	P		0.03	Yield Strength (MPa)	415	
	S		0.01	Cr	8	9.5	Elongation (%)	18	
	Ni			Mo	0.85	1.05	Reduction of Area (%)	45	
	Cu			N	0.03	0.07			
	V	0.18	0.25	Nb	0.06	0.1			
	W			Ti					
	Al								

Beyond this Sheet

This document reflects a representative subset of Precimetal Cast Pvt. Ltd.'s material capability. In practice, our foundry regularly casts to customer-specific compositions, tighter tolerance envelopes, and non-standard alloy systems where the application demands it.

For material qualification against your specification, or to request a technical discussion with our metallurgy team, please reach us via the enquiry form on our website or through the contact details below.

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