MATERIAL SPECIFICATIONS

				Chemical Compostion *(Max % unless range is given)*						Mechanical Compostion *(Min)*			
ASTM	SAE	ASME	Heat Treatment	C	Mn	Si	Ni	Cr	Mo	Tensile *ksi*	Yield *ksi*	% Elong	% RA
LOWER ALLOYED CARBON STEELS													
	1020		N or N&T	.20-.25	.60-.90	0.60							
	1025		N or N&T	.20-.30	.60-.90	0.60							
	1030		N or N&T, Q&T	.28-.34	.60-.90	0.60							
	1035		N or N&T, Q&T	.32-.38	.60-.90	0.60							
	1040		N or N&T, Q&T	.37-.44	.60-.90	0.60							
A27 Gr N-1			Normalize	0.25	0.75	0.60							
A27 Gr 60-30			N or N&T	0.25	0.75	0.60				60	30	24	35
A27 Gr 65-35			N or N&T	0.30	0.60	0.60				65	35	24	35
A27 Gr 70-36			N or N&T	0.35	0.70	0.60				70	36	22	30
A27 Gr 70-40			N or N&T	0.25	1.20	0.60				70	40	22	30
A216 Gr WCA		SA-216 Gr WCA	N or N&T	0.25	0.70	0.60				60 - 85	30	24	35
A216 Gr WCB		SA-216 Gr WCB	N or N&T	0.30	1.00	0.60				70 - 95	36	22	35
A216 Gr WCC		SA-216 Gr WCC	N or N&T	0.25	1.20	0.60				70 - 95	40	22	35
A352 Gr LCA		SA-352 Gr LCA	Q&T	0.25	0.70	0.60				60 - 85	30	24	35
A352 Gr LCB		SA-352 Gr LCB	Q&T	0.30	1.00	0.60				65 - 90	35	24	35
A352 Gr LCC		SA-352 Gr LCC	Q&T	0.25	1.20	0.60				70 - 95	40	22	35
HIGHER ALLOYED CARBON STEELS													
A217 Gr WC6		SA-217 Gr WC6	N&T	.05-.20	.50-.80	0.60		1.00-1.50	.45-.65	70 - 95	40	20	35
A217 Gr WC9		SA-217 Gr WC9	N&T	.05-.18	.40-.70	0.60		2.00-2.75	.90-1.20	70 - 95	40	20	35
A217 Gr C5		SA-217 Gr C5	anneal	0.20	.40-.70	0.75		4.00-6.50	.45-.65	90 - 115	60	18	35
A217 Gr C12		SA-217 Gr C12	anneal	0.20	.35-.65	1.00		8.00-10.00	.90-1.20	90 - 115	60	18	35
A352 Gr LC2		SA-352 Gr LC2	Q&T	0.25	.50-.80	0.60	2.00-3.00			70 - 95	40	24	35
A352 Gr LC3		SA-352 Gr LC3	Q&T	0.15	.50-.80	0.60	3.00-4.00			70 - 95	40	24	35
A356 Gr 10			N&T	0.20	.50-.80	0.60		2.00-2.75	.90-1.20	85	55	20	35
A148 Gr 80-50			N&T	0.25	1.25-1.45	0.60	.25-.40		.15-.25	80	50	22	35
A148 Gr 90-60	8625		N&T or Q&T	.20-.30	.60-.90	0.60	.40-.80	.40-.80	.15-.30	90	60	20	40
A148 Gr 105-85	8625		Q&T	.20-.30	.60-.90	0.60	.40-.80	.40-.80	.15-.30	105	85	17	35
A148 Gr 115-95	8625		Q&T	.20-.30	.60-.90	0.60	.40-.80	.40-.80	.15-.30	115	95	14	30
A148 Gr 130-115	8630		Q&T	.25-.35	.60-.95	0.60	.40-.80	.40-.80	.15-.30	130	115	11	25
A148 Gr 135-125	8630		Q&T	.25-.35	.60-.95	0.60	.40-.80	.40-.80	.15-.30	135	125	9	22
A148 Gr 150-135	8630		Q&T	.25-.35	.60-.95	0.60	.40-.80	.40-.80	.15-.30	150	135	7	18
A148 Gr 160-145			Q&T	.20-.27	1.00-1.15	0.60	.80-1.00	.70-.90	.45-.55	160	145	6	12
A148 Gr 165-150			Q&T	.20-.27	1.00-1.15	0.60	.80-1.00	.70-.90	.45-.55	165	150	5	20
A487 Gr 2 Cl A		SA-487 Gr 2 Cl A	Q&T	0.30	1.00-1.40	0.60			.10-.30	85 - 110	53	22	35
A487 Gr 2 Cl B		SA-487 Gr 2 Cl B	Q&T	0.30	1.00-1.40	0.60			.10-.30	90 - 115	65	22	40
A487 Gr 2 Cl C		SA-487 Gr 2 Cl C	Q&T	0.30	1.00-1.40	0.60			.10-.30	90	65	22	40
A487 Gr 4 Cl A		SA-487 Gr 4 Cl A	Q&T	0.30	1.00	0.60	.40-.80	.40-.80	.15-.30	90 - 115	60	18	40
A487 Gr 4 Cl B		SA-487 Gr 4 Cl B	Q&T	0.30	1.00	0.60	.40-.80	.40-.80	.15-.30	105 - 130	85	17	35
A487 Gr 4 Cl C		SA-487 Gr 4 Cl C	Q&T	0.30	1.00	0.60	.40-.80	.40-.80	.15-.30	90	60	18	35
A487 Gr 4 Cl D		SA-487 Gr 4 Cl D	Q&T	0.30	1.00	0.60	.40-.80	.40-.80	.15-.30	100	75	17	35
A487 Gr 4 Cl E		SA-487 Gr 4 Cl E	Q&T	0.30	1.00	0.60	.40-.80	.40-.80	.15-.30	115	95	15	35
A487 Gr 9 Cl A		SA-487 Gr 9 Cl A	Q&T	.05-.33	.60-1.00	0.60		.75-1.10	.15-.30	90	60	18	35
A487 Gr 9 Cl B		SA-487 Gr 9 Cl B	Q&T	.05-.33	.60-1.00	0.60		.75-1.10	.15-.30	105	85	16	35
A487 Gr 9 Cl C		SA-487 Gr 9 Cl C	Q&T	.05-.33	.60-1.00	0.60		.75-1.10	.15-.30	90	60	18	35
A487 Gr 9 Cl D		SA-487 Gr 9 Cl D	Q&T	.05-.33	.60-1.00	0.60		.75-1.10	.15-.30	100	75	17	35
A487 Gr 9 Cl E		SA-487 Gr 9 Cl E	Q&T	.05-.33	.60-1.00	0.60		.75-1.10	.15-.30	115	95	15	35
STAINLESS STEELS													
A351 Gr CF3	304L	SA-351 Gr CF3	SA	0.03	1.50	2.00	8.0-12.0	17.0-21.0	0.50	70	30	35	
A351 Gr CF3M	316L	SA-351 Gr CF3M	SA	0.03	1.50	1.50	9.0-13.0	17.0-21.0	2.0-3.0	70	30	30	
A351 Gr CF8	304	SA-351 Gr CF8	SA	0.08	1.50	2.00	8.0-11.0	18.0-21.0	0.50	70	30	35	
A351 Gr CF8M	316	SA-351 Gr CF8M	SA	0.08	1.50	1.50	9.0-12.0	18.0-21.0	2.0-3.0	70	30	30	
A351 Gr CG8M	317	SA-351 Gr CG8M	SA	0.08	1.50	1.50	9.0-13.0	18.0-21.0	3.0-4.0	75	35	25	
A487 Gr CA6NM		SA-487 Gr CA6NM	N&T	0.06	1.00	1.00	3.5-4.5	11.5-14.0	.40-1.0	110 - 135	80	15	35
A487 Gr CA15 Cl B	410	SA-487 Gr CA15 Cl B	N&T	0.15	1.00	0.65	1.00	11.5-14.0	.15-1.0	90	65	18	30
A487 Gr CA15 Cl C	410	SA-487 Gr CA15 Cl C	N&T	0.15	1.00	0.65	1.00	11.5-14.0	.15-1.0	90	60	18	35
A487 Gr CA15 Cl D	410	SA-487 Gr CA15 Cl D	N&T	0.15	1.00	0.65	1.00	11.5-14.0	.15-1.0	100	75	17	35
A743 Gr CB30	442		anneal	0.30	1.00	1.50	2.00	18.0-21.0		65	30		
NICKEL ALLOYS													
A494 Gr CW2M	*Hastaloy C4*		SA	0.02	1.00	0.80	bal	15.0-17.5	15.0-17.5	72	40	20	
A494 Gr CW12MW	*Hastaloy C*		SA	0.12	1.00	1.00	bal	15.5-17.5	16.0-18.0	72	40	4	
A494 Gr M35-1	*Monel*		as-cast	0.35	1.50	2.00	bal	Cu = 26.0-33.0		65	25	25	
A297 Gr HT	330		as-cast	.35-.75	2.00	2.50	33.0-37.0	15.0-19.0	0.50	65		4	

Eagle Alloy, Inc. is capable of producing any steel specifications. The above is a representative sample of alloys produced.

MATERIAL SPECIFICATIONS

ASTM A27	Carbon Steel Castings for General Application.
ASTM A148	High Strength Castings for Structural Purposes.
ASTM A216	Carbon Steel Castings suitable for Welding, for High Temperature Service.
ASTM A217	Alloy Steel Castings for Pressure Containing Parts, suitable for High Temperature Service.
ASTM A297	Heat Resistant Iron-Chromium-Nickel Alloy Castings for General Application.
ASTM A351	Austenitic Steel Castings for Pressure Containing Parts.
ASTM A352	Ferritic and Martensitic Steel Castings for Pressure Containing Parts, suitable for Low Temperature Service.
ASTM A356	Carbon Steel Castings for Heavy Walled Parts.
ASTM A487	Steel Castings suitable for Pressure Service.
ASTM A494	Nickel and Nickel Alloy Castings.
ASTM A743	Corrosion Resistant Iron-Chromium-Nickel Alloy Castings for General Application.

SHELL CASTING CHARACTERISTICS:

Patterns usually made of cast iron or steel. Very durable.
Uses resin-coated sand that bonds when applied to preheated pattern.
Tolerances: +/- .030 inch
Surface Finish: 200-250 rms* Good letter detail.
Dimensional repeatability: Excellent.
Tooling Wear: Excellent.
Size range: 1-400 lbs.
Overall: An economical way to get quality steel castings quickly and consistently with low probability of sand defects and dimensional discrepancies.
* Secondary surface finish improvement operations available.

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