

Common Industry Standards & Columbus Castings Metal Grade Mechanical Properties						
Industry Standard	Columbus Castings Metal Grade	Tensile Strength	Yield Strength	Elongation	Reduction of Area	
ASTM A27 Gr. N2	B					*
ASTM A216 Gr. WCA	BM	60	30	24	35	**
ASTM A27 Gr. 65-35	B	65	35	24	35	
ASTM A27 Gr. 70-36	B	70	36	22	30	
ASTM A216 Gr. WCB	B85M	70	36	22	35	**
AAR M201 Gr. B	B	70	38	24	36	
ASTM A27 Gr. 70-40	B85M	70	40	22	30	
ASTM A216 Gr. WCC	B85M, C1M	70	40	22	35	**
ASTM A148 Gr. 80-40	B85	80	40	18	30	
ASTM A148 Gr. 80-50	C1	80	50	22	35	
ASTM A487 Gr. 2N	C1M/04	85	53	22	35	**
ASTM A148 Gr. 90-60	C1, CE	90	60	20	40	
AAR M201 Gr. C	C1	90	60	22	45	
ASTM A487 Gr. 2Q	CEM	90	65	22	40	**
ASTM A148 Gr. 105-85	CE	105	85	17	35	
AAR M201 Gr. E	CE	120	100	14	28	
ASTM A148 Gr. 130-115	CE1, ME, B29	130	115	11	25	
ASTM A148 Gr. 135-125	ME, B29	135	125	9	22	
ASTM A148 Gr. 150-135	B29	150	135	7	18	
HS160	B29M	160	140	6	16	
HS170	B29M	170	150	6	15	
HS180	B29M	180	155	6	14	
* No mechanical property requirements						
** Maximum specification on Tensile and Yield Strength.						

Columbus Castings Metal Grade Chemical Properties								
Columbus Castings Metal Grade	C	Mn	P	S	Si	Ni	Cr	Mo
B	0.22 - 0.28	0.55 - 0.75	0.020	0.012	0.30 - 0.50	0.20	0.20	0.15
B11	0.28 - 0.32	0.70 - 0.85	0.012	0.012	0.25 - 0.55	0.50	0.15 - 0.35	0.15
B85	0.28 - 0.32	0.75 - 0.85	0.012	0.012	0.35 - 0.60	0.50	0.30 - 0.40	0.06 - 0.08
NICKEL	0.17 - 0.25	0.55 - 0.85	0.020	0.012	0.30 - 0.60	2.00 - 3.00	0.15	0.15
C1	0.24 - 0.32	1.20 - 1.60	0.020	0.025	0.30 - 0.60	0.20	0.20	0.10 - 0.30
CE	0.24 - 0.30	1.30 - 1.50	0.020	0.025	0.30 - 0.50	0.20	0.15 - 0.40	0.15 - 0.30
CE1	0.22 - 0.32	1.45 - 1.55	0.012	0.015	0.30 - 0.60	0.50	0.20 - 0.30	0.25 - 0.35
ME	0.20 - 0.25	0.90 - 1.20	0.020	0.015	0.30 - 0.60	1.20 - 1.40	0.50 - 0.70	0.35 - 0.45
B29	0.16 - 0.24	0.90 - 1.20	0.015	0.015	0.40 - 0.55	1.60 - 1.90	1.00 - 1.20	0.30 - 0.50