

400 series stainless steels

Alloy (AISI Equivalent)	chemical composition									
	C %	Mn %	Si %	p ≤ %	S ≤ %	Ni %	Cr %	Mo %	Cu %	Other %
CA-15 (410)	0.05-0.15	1.00	1.50	0.04	0.04	1.00	11.5-14.0	0.50	-	
IC 416 (416)	0.15	1.25	1.50	0.05	0.15-0.35	0.50	11.50-14.0	0.50	0.50	
CA-40 (420)	0.20-0.40	1.00	1.50	0.04	0.04	1.0	11.50-14.0	0.50	-	
IC 431 (431)	0.08-0.15	1.00	1.00	0.04	0.04	1.50-2.20	15.0-17.0	-	-	C + Ni : 0.22, 0.03-0.12N*
IC 440A (440A)	0.60-0.75	1.00	1.00	0.04	0.03	-	16.0-18.0	0.75	-	
IC 440C (440C)	0.95-1.20	1.00	1.00	0.04	0.03	0.75	16.0-18.0	0.35-0.75	-	
IC 440F (440F)	0.95-1.2	1.00	1.00	0.04	0.15-0.35	0.50	16.0-18.0	0.75	0.50	
IC 17-4	0.06	0.70	0.05-1.00	0.04	0.03	3.60-4.60	15.50-16.70	-	2.80-3.50	Cb+Ta : 0.15-0.40, 0.05N
CA-6NM	0.06	1.00	1.00	0.04	0.03	3.50-4.50	11.50-14.0	0.40-1.00	-	
IC 15-5	0.05	0.60	0.50-1.00	0.02 5	0.025	4.20-5.00	14.00-15.50	-	2.50-3.20	Cb + Ta 0.15-0.30, 0.05N
CD-4MCu	0.04	1.00	1.00	0.04	0.04	4.75-6.00	24.50-26.50	1.75-2.25	2.75-3.25	

*Nitrogen analysis is not routinely measured for commercial casting. to assure hardenability, nitrogen must be in range and it's analysis should be requested by the purchaser

Alloy	Heat treatment Condition	Properties of separately cast test bars of hardenable, stainless steel					
		Tensile strength		0.2% yield strength		%Elongation range	Hardness range or max
		English(psia)	Metric(Mpa)	English(psia)	Metric(Mpa)		
CA-15	Annealed	-	-	-	-	-	100Rb
	Hardened	95-200000	655-1394	75-160000	517-1103	5-12	94 Rb-45Rc
IC 416	Annealed	-	-	-	-	-	100Rb
	Hardened	95-200000	655-1394	75-160000	517-1103	3-8	94 Rb-45Rc
CA-40	Annealed	-	-	-	-	-	25Rc
	Hardened	200-225000	1394-1551	130-210000	896-1448	0-5	30-52Rc
IC 431	Annealed	-	-	-	-	-	30Rc
	Hardened	110-160000	759-1103	75-105000	517-724	5-20	20-40Rc
IC 440A	Annealed	-	-	-	-	-	30Rc
	Hardened	-	-	-	-	-	35-56Rc
IC 440C	Annealed	-	-	-	-	-	35Rc
	Hardened	-	-	-	-	-	40-60Rc
IC 440F	Annealed	-	-	-	-	-	35Rc
	hardened	-	-	-	-	-	40-60Rc
IC 17-4	Annealed	-	-	-	-	-	36Rc
	hardened	150-190000	1034-1310	140-160000	965-1103	6-20	34-44Rc
AM-355	hardened	200-220000	1394-1517	150-165000	1034-1138	6-12	-
	hardened	135-170000	931-1172	110-145000	759-1000	5-15	26-38Rc
IC 15-5	hardened	100-115000	690-793	75-85000	517-586	20-30	90-100Rb
	hardened	135-145000	931-1000	100-120000	690-827	10-25	28-32Rc