

00/03

SUPERALLOYS

Supply is by Custom Stock agreement or Indent basis.

ALLOY	MATERIAL CONDITION	CHEMICAL COMPOSITION										TYPICAL MECHANICAL PROPERTIES						NATIONAL SPECIFICATIONS		
400	Annealed	Ni	Cu	Fe	Mn	C	Si	S				% Tensile Strength, min	PSI 70,000	MPa 480	%	BS 3076 NA13 ASTM B164 UNS N04400 W Nr 2.4360				
		Min 63.0	28.0	—	—	—	—	—	—	—	—	% Yield Strength (0.2% offset), min	25,000	170						
		Max —	34.0	2.5	2.0	0.3	0.5	0.024				Elongation in 2" or 50mm (or 4D), min		35						
K500	Hot worked Solution Annealed & Precipitation Treated (Aged)	Ni	Cu	Fe	Al	C	—Si	Mn	Ti	S		Size MM				BS 3076 NA18 UNS N05500 W Nr 2.4375				
		Min 63.0	27.0	—	2.3	—	—	—	0.35	—	—	% Tensile Strength, min	PSI 120,000	MPa 872	%					
		Max —	33.0	2.0	3.2	0.25	0.5	1.5	0.85	0.01		Over 25	110	585	900		Elongation on gauge length of 5.65/So	20		
625	Annealed Grade 1	C	Mn	Si	P	S	Cr	Cb+Ta	Co	Mo	Fe	Al	Ni			BS 3076 NA21 ASTM B446 UNS N06625 W Nr 2.4856				
		Min 0.10	0.50	0.50	0.15	0.15	23.0	2.75	1.00	10.00	5.0	0.40	% Tensile Strength, min	PSI 120,000	MPa 872		%			
		Max —	—	—	—	—	20.0	2.25	—	8.0	—	—	58.0	% Yield Strength (0.2% offset), min	60,000		413			
825	Annealed	Ni	Cr	Fe	Mn	C	Cu	Si	S	Al	Ti	Mo				BS 3076 NA16 ASTM B425 UNS N08825				
		Min 38.0	19.5	22.0	—	—	1.5	—	—	0.6	—	2.5	% Tensile Strength, min	PSI 85,000	MPa 586		%			
		Max 46.0	23.5	—	1.0	0.05	3.0	0.5	0.03	0.2	1.2	3.5	% Yield Strength (0.2% offset), min	35,000	241					
718	Solution Annealed & Precipitation Treated (Aged)	C	Mn	Si	P	S	Cr	Ni	Mo	Cb+Ta	Ti	Al	Co	B	Cu	Fe	ASTM B637 UNS N07718 (Chemistry)			
		Min —	—	—	—	—	17.0	50.0	2.8	4.75	0.65	0.20	—	—	—	% Tensile Strength, min		PSI 150,000	MPa 1034	
		Max 0.08	0.35	0.35	.015	.015	21.0	55.0	3.30	5.50	1.15	0.80	1.00	.006	0.30	% Yield Strength (0.2% offset), min		120,000	825	
X-750	Solution Annealed & Precipitation Treated (Aged)	C	Mn	Si	P	S	Cr	Co	Nb+Ta	Ti	Al	Fe	Cu	Ni			ASTM B637 UNS N07750			
		Min 0.80	—	—	—	—	14.0	—	0.70	2.25	0.40	5.0	—	70.0	% Tensile Strength, min	PSI 125,000		MPa 861		
		Max —	1.00	0.50	0.01	17.0	1.00	1.20	2.75	1.00	9.00	0.50			% Yield Strength (0.2% offset), min	85,000		586		
A-286	Solution Annealed & Precipitation Treated (Aged)	C	Mn	Si	P	S	Cr	Ni	Mo	Ti	Al	V	B	Fe			ASTM B638 Grade 660 Type 2 *Meets the Requirements of ASTM A453 Grade 660B UNS K66286			
		Min 0.08	2.00	1.00	.040	.030	13.5	24.0	1.00	1.90	0.35	0.10	0.50	.010	% Tensile Strength, min	PSI 145,000		MPa 1000		
		Max —	—	—	—	—	16.0	27.0	1.50	2.35	—	—	—	—	% Yield Strength (0.2% offset), min	105,000		724		
C-276	Solution Annealed	Mo	Cr	Fe	W	C	Si	Mn	V	P	S						ASTM B574 UNS N10276 W Nr 2.4602			
		Min 15.0	14.5	4.0	3.0	—	—	—	—	—	—	—	—	—	% Tensile Strength, min	PSI 100,000		MPa 690		
		Max 17.0	16.5	7.0	4.5	2.5	.010	0.08	1.0	0.35	0.04	0.03			% Yield Strength (0.2% offset), min	41,000		283		
80A	Solution Annealed & Precipitation Treated (Aged)	C	Si	Mn	S	Ag	Al	B	Bi	Co	Cr	Cu	Fe	Pb	Ti	Ni	BS 3076 NA20 BS 2HR1 ASTM B637 UNS N07080 W Nr 2.4952			
		Min .040	—	—	—	—	1.0	—	—	—	18.0	—	—	—	1.8	% Tensile Strength, min		PSI 142,000	MPa 980	
		Max 0.10	1.0	1.0	.015	.0005	1.8	.008	.0001	2.0	21.0	0.2	1.5	.002	2.7	% Yield Strength (0.2% offset), min		86,000	590	
90	Solution Annealed & Precipitation Treated (Aged)	C	Si	Mn	S	Ag	Al	B	Bi	Co	Cr	Cu	Fe	Pb	Ti	Zr	Ni	BS 2HR2		
		Min —	—	—	—	—	1.0	—	—	—	15.0	18.0	—	—	2.0	—	% Tensile Strength, min		PSI 156,600	MPa 1080
		Max 0.13	1.0	1.0	.015	.0005	2.0	.020	.0001	21.0	21.0	0.2	1.5	.002	3.0	0.15	% Yield Strength (0.2% offset), min		100,775	695
20	Annealed	C	Mn	P	S	Si	Ni	Cr	Mo	Cu	Cb+Ta	Fe					ASTM B473 UNS N080820 W Nr 2.4660			
		Min 0.07	2.00	.045	.035	1.00	32.0	19.0	2.0	3.0	4.00	1.00	% Tensile Strength, min	PSI 80,000	MPa 551					
		Max 0.07	—	—	—	—	38.0	21.0	3.00	4.00	1.00		% Yield Strength (0.2% offset), min	35,000	241					
Stainless Duplex 2205	Annealed	C	Mn	P	S	Si	Ni	Cr	Mo	N	Fe						ASTM A182 (F51) UNS S31803 W Nr 1.4462 (PRE 35 MIN)			
		Min 0.03	1.80	0.03	0.01	0.80	5.0	22.0	3.0	0.15	0.18	% Tensile Strength, min	PSI 90,000							
		Max —	—	—	—	—	—	—	—	—	—	% Yield Strength, min	65,000							
Stainless 254 SMO	Solution Treated	C	Mn	P	S	Si	Ni	Cr	Mo								ASTM A182 (F44) UNS S31254			
		Min 0.02	1.00	0.03	0.01	0.80	—	18.5	—	—	—	% Tensile Strength, min	PSI 94,000							
		Max —	—	—	—	—	—	17.5	19.5	6.00		% Yield Strength, min	44,000							