



Mitesh Industries

TOTAL ENGINEERING SOLUTIONS...

**Chemical
Compositions &
Physical Properties**

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CHEMICAL COMPOSITION & PHYSICAL PROPERTIES

CHEMICAL COMPOSITION %

AISI ASTM	C Max	Mn Max	P Max	S Max	SI Max	Cr	NI	Mo	Other Element	Nearest Equivalent spec.	
										IS	En
201	0.15	5.50/7.50	0.06	0.030	1.0	16.0/18.0	3.6/5.5	-	N-25Max	10Cr-17Mn6Ni4	-
202	0.15	7.50/10.0	0.06	0.030	1.0	17.0/19.0	4.0/6.0	-	N-25Max	-	-
301	0.15	2.0Max	0.045	0.040	1.0	16.0/18.0	6.0/8.0	-	-	10Cr17Ni17	-
302	0.15	2.0	0.045	0.030	1.0	17.0/19.0	8.0/10.0	-	-	07Cr18Ni19	En-58a
303	0.15	2.0	0.045	-	1.0	17.0/19.0	8.0/10.0	-	-	15Cr18Ni19	En-58M
304	JJ.08	2.0	-	0.030	1.0	18.0/20.0	8.0/10.0	-	-	04Cr18Ni10	En-58B
304L	0.030	2.0	0.045	0.030	1.0	18.0/20.0	8.0/10.0	-	-	02Cr25Ni11	-
308	0.08	2.0	0.045	0.030	1.0	10.0/21.0	10.0/12.0	-	-	-	-
309	0.20	2.0Max	0.045	0.030	1.0	22.0/24.0	12.0/15.0	-	-	20Cr24Ni12	-
309S	0.08	2.0	0.045	0.030	1.0	22.0/24.0	12.0/15.0	-	-	-	-
310	0.25	2.0	0.045	0.030	1.50	24.0/26.0	19.0/22.0	-	-	10Cr17Ni12	-
310S	0.08	2.0	0.045	0.030	1.50	24.0/26.0	19.0/22.0	-	-	-	-
314	0.25	2.0	0.045	0.030	1.5to3	25.0/26.0	19.0/22.0	-	-	-	-
316	0.08	2.0	0.045	0.030	1.0	16.0/18.0	10.0/14.0	2.0/3.0	-	04Cr17Ni12Mo2	En-58H
316L	0.030	2.0	0.045	0.030	1.0	16.0/18.0	10.0/14.0	2.0/3.0	-	03Cr18Ni12Mo2	-
317	0.08	2.0	0.045	0.030	1.0	18.0/20.0	11.0/15.0	3.0/4.0	-	-	-
317L	0.030	2.0	0.045	0.030	1.0	18.0/20.0	11.0/15.0	3.0/4.0	-	Ti5cmin	-
316T1	0.080	2.0	0.045	0.030	1.0	16.0/18.0	10.0/14.0	2.0/3.0	Ti5xCmin	-	-
321	0.08	2.0	0.045	0.030	1.0	17.0/19.0	9.0/12.0	-	Ti5xCmin	04Cr18Ni10T120	En-58C
430	0.12	1.00	0.040	0.030	0.75	14.0/18.0	0.60	-	-	07Cr17	En-60
446	0.20	1.50Max	0.040	0.030	1.0	23.0/27.0	0.60Max	-	N-25max	-	-
403	0.15	1.00	0.040	0.030	0.50	11.5/13.0	0.60	-	-	-	-
410	0.15	1.00	0.040	0.030	1.00	11.5/13.5	0.60	-	-	12Cr13	En-58A
410	0.08	1.0	0.040	0.030	1.0	11.5/13.5	0.60Max	-	-	-	-
414	0.15	1.0Max	0.040	0.030	1.0	12.0/14.0	1.25/2.50	-	-	-	-
420	Over0.15	1.0	0.040	0.030	1.00	12.0/14.0	0.60	-	-	22Cr13	En-56CEtD
431	0.20	1.0Max	0.040	0.030	1.0	15.0/17.0	1.25/2.50	0.75Max	-	15Cr16Ni12	En-57
440A	0.60/0.70	1.0	0.040	0.030	1.0	16/18	-	-	-	-	-
440B	0.75	1.0	0.040	0.030	1.0	16.0/18.0	-	0.75Mx	-	-	-
	0.95	-	-	-	-	-	-	-	-	-	-
440C	0.95	1.0	0.040	0.030	1.0	16/18	0.75max	-	-	-	-
	1.2	-	-	-	-	-	-	-	-	-	-
446	0.20	1.50	0.040	0.030	1.0	23.0/210	-	-	-	No.25Max	-

PHYSICAL PROPERTIES

Grade	Tensile Strength KSI(Mpa)	Yield Strength KSI (Mpa)	Elongation in 2 inches %min	Max. Hardness		Thermal Conductivity Col/sec.cm c At Temp Range 20-500 c	Co-efficient of expansion X 10-6cm/ cm/ c at Temp. Range 20-870 c
				Brinell (HBW)	Rockwell (HRB)		
TP301	(75)515	(30)205	35	192	90	0.051	19.8
TP 304	(75)515	(30)205	35	192	90	0.051	19.9
TP 304L	(70)485	(25)170	35	192	90	0.051	19.8
TP304N	(80)505	(35)240	35	192	90	0.051	19.9
TP 304LN	(75)515	(30)205	35	192	90	0.051	19.8
TP 309	(75)515	(30)205	35	192	90	0.45	19.9
TP 310	(75)515	(30)205	35	192	90	0.044	18.8
TP 316	(75)515	(30)205	35	192	90	0.042	19.3
TP 316L	(70)485	(25)170	35	192	90	0.042	19.3
TP 316T1	(75)515	(30)205	35	192	90	0.042	19.3
TP 316N	(80)505	(35)240	35	192	90	0.038	19.3
TP 316LN	(75)515	(30)205	35	192	90	0.42	19.3
TP 317L	(75)515	(30)205	35	192	90	0.49	17.5
TP 321	(75)515	(30)205	35	192	90	0.051	19.8
TP 347	(75)515	(30)205	35	192	90	0.53	19.9
TP 405	(60)415	(30)205	20	207	95	0.064	10.8
TP 410	(60)415	(30)205	20	207	95	0.059	9.9
TP 429	(60)415	(35)240	20	190	90	0.061	10.3
TP 430	(60)415	(35)240	20	190	90	0.062	10.5
TP 430T1	(60)415	(35)240	20	190	90	0.62	10.5
TP 439	(60)415	(30)205	20	190	90	0.057	11.5
UNS 531803	(90)620	(65)450	25	290	30 hrc	0.041	16.9
UNS 532205	(95)655	(70)485	25	290	30 hrc	0.041	16.9
UNS 532750	(116)800	(80)550	15	300	32hrc	0.04	14.2
UNS 532760	(109)750	(80)550	25	300	-	0.035	13.8