

## Stainless Steel for Implants

ALLOY UNS No.	Werkstoffe	Chemical Analysis %										Density		Temper	Tensile Rm (min)		Yield Rp 0.2% (min)		Elong. % min	Hardness HV	Application
		C	Mn	Ni	Cr	Fe	Mo	Ti	Nb	N	Other	g/cm <sup>3</sup>	lb/in <sup>3</sup>		ksi	MPa	ksi	MPa			
316LVM S31673	1.4441	0.030 max	2.0 max	11.0-14.0	17.0-19.0	bal	2.0-3.0					7.93	0.286	ANN	70	485	25	170	35	200 max	Vacuum remelt or ESR to achieve highest microcleanliness levels and structural homogeneity.
Rex 734 S31675		0.080 max	2.0-4.3	9.0-11.0	19.5-22.0	bal	2.0-3.0			0.25-0.50	Cu 0.25 max	7.89	0.285	ANN	107	740	62	430	35	300 max	Medical implant grade.
N50 S20910	1.3964	0.060 max	4.0-6.0	11.5-13.5	20.5-23.5	bal	1.5-3.0			0.1-0.3	V 0.1-0.3	7.880	0.285	ANN	100	690	55	380	35	285 max	Nitrogen strengthened austenitic grade with exceptional strength in the cold worked condition.
MP35N R30035		0.03 max	0.2 max	33.0-37.0	19.0-21.0	1.0 max	9.0-10.5	1.0 max			Co bal	8.43	0.304	HT	220	1514	200	1380	10	528 max	Nickel cobalt alloy with very high strength, toughness and outstanding corrosion resistance.

## Stainless Steel for Surgical Instruments

ALLOY UNS No.	Werkstoffe	Chemical Analysis %								Density		Temper	Tensile Rm (min)		Yield Rp 0.2% (min)		Elong. % min	Hardness HV	Application		
		C	Mn	Ni	Cr	Fe	Mo	Nb	Other	g/cm <sup>3</sup>	lb/in <sup>3</sup>		ksi	MPa	ksi	MPa					
304L S30403	1.4306	0.035 max	2.0 max	8.0-11.0	18.0-20.0	bal						7.93	0.286	ANN	70	485	25	170	35	200 max	Lower carbon of 304 with good weldability.
316L S31603	1.4404	0.035 max	2.0 max	10.0-13.0	16.0-18.0	bal	2.0-2.5					7.93	0.286	ANN	70	485	25	170	35	200 max	Standard AOD melt austenitic stainless steel grade.
	2.5-3																				
17/4PH S17400	1.4542	0.070 max	2.0 max	3.0-5.0	15.0-17.5	bal		0.15-0.45	Cu 3.0-5.0			7.9	0.286	HT	155	1070	145	1000	5	300 min	Capable of developing high mechanical properties by solution treatment & age hardening.
15/5PH S15500 630A	1.4545	0.070 max	1.0 max	3.50-5.5	14.5-15.5	bal		0.15-0.45	Cu 2.5-4.5			7.8	0.282	HT	155	1070	145	1000	12	331-401	Capable of developing high mechanical properties by solution treatment and age hardening.

## Titanium Alloys

ALLOY UNS No.	Werkstoffe	Chemical Analysis %						Density		Temper	Tensile Rm (min)		Yield Rp 0.2% (min)		Elong. % min	Application
		C	Fe	Ti	N	Al	Other	g/cm <sup>3</sup>	lb/in <sup>3</sup>		ksi	MPa	ksi	MPa		
CP Grade 2 R50400	3.7035	0.08 max	0.30 max	bal	0.03 max		0 0.25 max	4.51	0.163	ANN	50	345	40-65	275-450	20	Very high strength to weight ratio combined with excellent seawater corrosion resistance.
Ti 3Al/2.5V Grade 9 R56320	3.7194	0.08 max	0.25 max	bal	0.03 max	2.5-3.50	V 2.0-2.5	4.48	0.162	CWSR	125	860	105	725	10	High strength to weight ratio. Excellent corrosion resistance.
Ti 6Al/4V Grade 5 R56400	3.7165	0.10 max	0.40 max	bal	0.05 max	5.5-6.75	V 3.5-4.5	4.43	0.160	ANN	50	345	40	275	20	Very high strength to weight ratio.
Ti 6Al/4V Grade 5 ELI R56401	3.7165			bal		6.0	V 4.0	4.33	0.156	CWSR	159	1100	141	980	8	ELI grade, very high strength to weight ratio.
Ti 425 Ti 4Al/2.5V			1.5	bal		4.0	V 2.5			CWSR	146	1006	129	890	14	Very high strength to weight ratio with improved ductility.