

PRODEC 316/316L is an improved version of standard 316L for improved machinability and outstanding uniformity. The consistency and optimal machinability of PRODEC permits machining at higher speeds and feeds, producing superior quality parts for the lowest total cost. It should be considered for automatic screw machines where extensive machining is required.

PRODEC 316/L provides good resistance to pitting and crevice corrosion in environments containing chlorides and other halides. Although improvements in machinability in the past have been associated with reduced corrosion resistance, PRODEC 316/316L provides corrosion resistance consistent with standard 316L stainless steel. Commonly, PRODEC 316/316L is dual certified as PRODEC 316L and PRODEC 316 because the material meets both the lower carbon limit of 316L and the slightly higher strength of 316.

PRODEC 316/316L is readily welded by a full range of conventional welding procedures except oxyacetylene. AWS E316L/ER316L and other low carbon filler metals with molybdenum content higher than that of the base metal should be used with PRODEC 316/316L stainless steel.

Chemical Composition, %	Cr		Ni	С	Mn	P	S	Si	Мо	N	Fe
	<b>MIN</b> 16	.0	10.0	-	_	_	0.015	_	2.0	_	_
	<b>MAX</b> 18	8.0	14.0	0.03	2.0	0.04	0.03	0.75	3.0	0.1	bala
ures	• Extende • Reduced	ed toolir d machi	ng life ning cost								
lications	• Chemicc • Food an	al proce 1d bevei	ess equipr rage indu	nent stry							
	• Fastene	ers									
sical Properties	• Fastene Density: 0. Thermal Co	ers .285 lb/ onductiv	∕in³ <b>Mod</b> ∕ity: 8.7 B <sup>r</sup>	l <b>ulus of Elas</b> tu/ft hr °F	ticity: 29 x Heat Capa	10 <sup>6</sup> psi <b>Lin</b> i <b>city:</b> 0.12 Bth	<b>ear Expansio</b> J/lb °F <b>Ele</b>	n 60-212°F ctrical Resis	: 9.4 x 10 <sup>-6</sup> tivity: 27.6	/°F Ω in x 10°	
sical Properties hanical Properties	• Fastene Density: 0. Thermal Ca Typical Re	ers .285 lb/ onductiv	∕in³ Mod rity: 8.7 B <sup>°</sup> ative Tens	lulus of Elas tu/ft hr °F sile Propert	ticity: 29 x Heat Capa	10 <sup>6</sup> psi <b>Lin</b> o c <b>ity:</b> 0.12 Bto	ear Expansio u/lb °F Ele	n 60-212°F ctrical Resis	: 9.4 x 10 <sup>∞</sup> , tivity: 27.6	∕°F Ω in x 10 <sup>4</sup>	
sical Properties hanical Properties	<ul> <li>Fastene</li> <li>Density: 0.</li> <li>Thermal Co</li> <li>Typical Re</li> <li>Tensile Street</li> </ul>	285 lb/ onductiv presenti ength, ks	/in <sup>3</sup> Mod ity: 8.7 B ative Tens	lulus of Elas tu/ft hr °F sile Propert	ticity: 29 x Heat Capa ies	10º psi <b>Lin</b> c <b>ity:</b> 0.12 Btı	<b>ear Expansio</b> J/Ib °F Ele	n 60-212°F ctrical Resis	: 9.4 x 10 <sup>.6</sup> tivity: 27.6	/°F Ω in x 10⁴	
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sical Properties hanical Properties	<ul> <li>Fastene</li> <li>Density: 0. Thermal Co</li> <li>Typical Re</li> <li>Tensile Stron</li> <li>Yield Stron</li> <li>% Elongati</li> <li>% Reduction</li> </ul>	285 lb/ onductiv present ength, ksi ion in 2 ir on of area	/in <sup>3</sup> Mod ity: 8.7 B <sup>-1</sup> ative Tens i nches a	lulus of Elas tu/ft hr °F sile Propert 85 44 56 69	ticity: 29 x Heat Capa ies	10 <sup>6</sup> psi <b>Lin</b> c <b>ity:</b> 0.12 Bt	ear Expansio u/lb °F Ele	n 60-212°F ctrical Resis	: 9.4 x 10 <sup>-6</sup> , tivity: 27.6	/°F Ω in x 10°	
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## Turning

Feed, in/rev		< 0.012	0.012 - 0.02	0.02 - 0.04
Cutting Depth, in		0.08	0.08 - 0.2	0.2 - 0.4
Cutting Speed, sfm	(7	780	-	-
	C6	620	560	295
	(5	-	460	260
HSS		95	80	50

## Drilling

## High Speed Steel Twist Drills

Drill Diameter, in	0.04	0.12	0.2	0.4	0.6	0.8	1.2
Speed, RPM	3200-3800	1600-1800	1080-1270	540-640	360-430	270-320	180-220
SFM	33-38	50-57	57-66	57-66	57-66	57-66	57-66
Feed, in/rev	0.002	0.004	0.008	0.012	0.014	0.016	0.018

Notes: 1. Cutting Fluid: Ample flow of 10% emulsion coolant., 2. With short NC drills, feeds can be increased about 40%., 3. When hole depth exceeds 4x diameter, clear chips from hole., 4. With TiN-Coated HSS drills, speed can be increased 10%.

## Milling

	Face Milling	Side Milling	End Milling	End Milling
Speed, sfm	490 - 820	590 - 790	490 - 720	165 - 330
Cemented Carbide Feed	0.006 - 0.012	0.01 - 0.012	0.004 - 0.008	0.002 - 0.008
Type of Carbide	C7 - C6	(7 - (6	C7 - C6	C5
HSS Tool, sfm	80 - 100	80 - 100	80 - 100	-
HSS Feed, in/tooth	0.005 - 0.008	0.005 - 0.008	0.001 - 0.006	-

