

# CHEMICAL COMPOSITION OF CORROSION RESISTANT STAINLESS STEELS

INCREASING CORROSION RESISTANCE → → → → → →						
	17-4 SST	17-7 SST	304 SST	316 SST	NITRONIC 50	HASTELLOY C
<b>CARBON (*)</b>	0.07%	0.09%	0.08%	0.08%	0.06%	0.01%
<b>MANGANESE</b>	1.0%	1.0%	2.0%	2.0%	4 - 6%	1.0%
<b>PHOSPHORUS</b>	0.04%	0.04%	0.05%	0.05%	0.04%	
<b>SULFUR</b>	0.03%	0.04%	0.03%	0.03%	0.03%	
<b>SILICON</b>	1.0%	1.0%	1.0%	1.0%	1.0%	0.1%
<b>CHROMIUM (**)</b>	15.5-17.5%	16 - 18%	18 - 20%	16 - 18%	20.5 - 23.5%	15.5%
<b>NICKEL (**)</b>	3 - 5%	6.5 - 7.75%	8 - 10.5%	10 - 14%	11.5 - 13.5%	57.0%
<b>MOLYBDENUM (**)</b>				2 - 3%	1.5 - 3%	16.0%
<b>TOTOL Cr+Ni+Mo</b>	18.5-22.5%	22.5-25.75%	26 - 30.5%	28 - 35%	33.5 - 40%	88.5%
<b>NITROGEN</b>					.2 - .4%	
<b>COPPER</b>	3/5%					
<b>ALUMINUM</b>		.75/1.5%				
<b>COBALT</b>						2.5%
<b>COLUMBIUM &amp; TANTALUM</b>	.15/.45%				.1 - .3%	
<b>TUNGSTEN</b>						3.7%
<b>VANADIUM</b>					.1 - .3%	0.3%
<b>IRON (*)</b>	74.9%	70.6%	66.3%	61.8%	56.9%	5.5%

**Note:** percentage values reference only. Most are either maximums or ranges. Iron typically a calculated minimum, based on maximums of other elements.

(\*): lower percentages of carbon and iron yield higher corrosion resistance.

(\*\*): higher total percentage of chromium + nickel + molybdenum yields higher corrosion resistance.