

STAINLESS STEEL

We supply stainless steel in most of the raw material forms: foil, sheet, plate, bar, tube, forging, wire and welding rod. In this section we will list the standard sizes available, but keep in mind that we can probably provide most any size by having standard material ground or chemically milled to the specific size and tolerance you need.

Steel producers have given various designations to the respective grades of stainless steel. In order to establish a uniform system, however, the American Iron and Steel Institute (AISI) has assigned type numbers for most grades which are regarded as the standard for the industry. In this traditional three digit system, the first digit indicates the series or group and the last two digits indicate the specific type. Modifications of types are indicated by suffix letters. The series designations identify the following groups:

Series Designation	Groups
2xx	CHROMIUM-NICKEL-MANGANESE: non-hardenable, austenitic and non-magnetic
3xx	CHROMIUM-NICKEL STEELS: non-hardenable, austenitic and non-magnetic
4xx	CHROMIUM STEELS: non-hardenable, ferritic and magnetic
5xx	CHROMIUM STEELS: low chromium heat resisting

Another widely used designation system is the United Numbering System (UNS) which had its origin in a cooperative effort of the American Society for Testing and Materials (ASTM) and the Society of Automotive Engineers (SAE) to develop a means by which each metal and alloy could be assigned a unique designator to preclude any multiplicity of metals or alloys having the same identifier. All stainless steels are identified under this system with the letter "S" followed by five digits.

The majority of the most common types are non-magnetic and cannot be hardened by heat treatment. Stainless steel is generally supplied in the annealed condition unless otherwise specified.

There are three general classification specifications that cover all common stainless steel grades in sheet and plate. They are ASTM-A-240, ASME-SA-240 and QQ-S-766. Additionally, the appropriate military and AMS specifications are listed below.

ALLOY/FORM	AMS
SHEET	
301, Flat	5517/5518
302/304, Flat, Coil A240	5513/5516
304L, Flat, Coil	5511
316, Flat, Coil	5524
316L, Flat, Coil	5507
321, Flat, Coil	5510
347, Flat, Coil	5521
410, Flat	5504
430, Flat	5503
17-4PH, Flat	5604
17-7PH, Flat, Coil	5528
PLATE	
304	5513
304L	5511
316	5524
316L	5507
321	5510
347	5512
410	5504
17-4PH	5604
17-7PH	5528

STAINLESS STEEL SHEETS							
Thickness	Width and Length	Est. Wt. Lbs.		Thickness	Width and Length	Est. Wt. Lbs.	
		per Sq. Foot	per Sheet			per Sq. Foot	per Sheet
.012" (30 Ga.)	36 x 120	.504	15.1	.063" (16 Ga.)	36 x 120	2.646	79.4
.016" (28 Ga.)	36 x 120	.672	20.2		48 x 120	2.646	105.8
.0161" (27 Ga.)	36 x 120	.676	20.3	.080" (14 Ga.)	36 x 120	3.360	100.8
.020" (25 Ga.)	36 x 120	.840	25.2		48 x 120	3.360	134.4
	48 x 120	.840	33.6	.090" (13 Ga.)	36 x 120	3.780	113.4
.025" (24 Ga.)	36 x 120	1.050	31.5		48 x 120	3.780	151.2
	48 x 120	1.344	40.3	.109" (12 Ga.)	36 x 120	4.578	137.3
.032" (22 Ga.)	36 x 120	1.344	53.8		48 x 120	5.250	157.5
	48 x 120	1.512	45.4	.125" (11 Ga.)	36 x 120	5.250	210.0
.038" (20 Ga.)	36 x 120	1.680	50.4	.140" (10 Ga.)	36 x 120	5.880	176.4
.040" (20 Ga.)	36 x 120	1.890	56.7		48 x 120	5.880	235.2
.045" (19 Ga.)	36 x 120	2.100	63.0	.156" (9 Ga.)	36 x 120	6.552	196.6
.050" (18 Ga.)	48 x 120	2.100	84.0				

The most commonly available size of stainless steel sheets is 36" x 120", although 48" x 120" is available in some types and thicknesses. Also note that the requirements of 1000 pounds or more may be leveled from coil and therefore cut to the exact length needed to best produce the finished parts. Listed above are the standard thicknesses and their estimated weights.

STAINLESS STEEL PLATES							
Thickness in Inches		Pounds per Sq. Foot	Pounds per Sq. Inch	Thickness in Inches		Pounds per Sq. Foot	Pounds per Sq. Inch
Fraction	Decimal			Fraction	Decimal		
$\frac{3}{16}$	.1875	8.579	.0596	$\frac{15}{16}$	.9375	39.875	.2769
$\frac{1}{4}$	.2500	11.162	.0775	1	1.000	42.665	.2963
$\frac{5}{16}$	.3125	13.746	.0955	$1\frac{1}{8}$	1.125	47.833	.3322
$\frac{3}{8}$	.3750	16.496	.1146	$1\frac{1}{4}$	1.250	53.001	.3681
$\frac{7}{16}$	.4375	19.080	.1325	$1\frac{3}{8}$	1.375	58.176	.4040
$\frac{1}{2}$	.5000	21.663	.1504	$1\frac{1}{2}$	1.500	63.337	.4398
$\frac{9}{16}$	.5625	24.247	.1684	$1\frac{3}{4}$	1.750	73.672	.5116
$\frac{5}{8}$	.6250	26.831	.1863	2	2.000	84.008	.5834
$\frac{11}{16}$	.6875	29.415	.2043	$2\frac{1}{4}$	2.250	94.778	.6582
$\frac{3}{4}$	.7500	32.123	.2231	$2\frac{1}{2}$	2.500	105.113	.7300
$\frac{13}{16}$	.8125	34.707	.2410	$2\frac{3}{4}$	2.750	115.449	.8017
$\frac{7}{8}$	.8750	37.291	.2500	3	3.000	126.301	.8771
				4	4.000	163.264	1.1685

Stainless steel plates are produced by the mills in widths of 48", 72", and 96", and in lengths of 120", 144" and 240". These stock sized plates are then sheared or plasma-cut to your desired size. Plasma cutting can be used to cut circles and intricate shapes as well as rectangles. Listed above are the common thicknesses and their approximate weights.