



Castle Metals®

Carbon, Alloy and Stainless Steel Plate *Quik Guide*



The Castle Advantage

Castle Metals® is one of the industry's largest distributors of processed carbon, alloy and stainless steel plate products. Our extensive inventory of specialized grades and sizes covers a wide range of end use applications.

Our substantial position in value-added processing equipment allows you to tap our vast expertise and capabilities and select the best process to meet your specific needs.

Shape Cutting

- Multi-torch Oxy-fuel
- Oxygen & Nitrogen Plasma
- Hy-Definition Plasma
- Abrasive Waterjet
- Laser
- Beveling: CNC Plasma & Flame
- Shearing / Edge Conditioning

Saw Cutting

- Conventional Cold Saws
- Precision Cold Saws
- Abrasive Saws
- Vertical Bandsaws

Thermal Treating

- Plate Preheat
- Stress Relieve
- Anneal
- Normalize
- Normalize & Temper
- Quench & Temper

Surface Finishing

- Descaling (Shotblasting)
- Rotary Grinding
- Double Disc Grinding
- Surface Grinding
- Planer Milling
- Press Flattening

Supplemental Services

- Ultrasonic Testing
- Mechanical Testing
 - Impacts (Charpy V-Notch)
 - Tensile / Hardness
- Forming, Drilling & Machining

Our advanced programming and materials management system ensures optimal inventory utilization and supports electronic file transfers in multiple formats.

All of our North American locations are ISO 9002 certified and our suppliers comply with those criteria. We stock 100% prime plate, with full mill certifications for complete traceability.



Carbon Steel Plate

APPLICATION	GRADE	DESCRIPTION	THICKNESS STOCKED
GENERAL PURPOSE AISI GRADES	1020	Low carbon steel produced to chemistry range only. Economical, machinable, weldable and formable. Fully killed over 1-1/2" for better internal soundness.	1" – 10"
	1045	Medium carbon steel produced to chemistry range only. Good machinability but not readily weldable or formable. Moderately priced alternative to higher strength/heat treating grades.	3/16" – 14"
FREE MACHINING	Clean cut [®] (1) 20	Low carbon, free machining steel. Lower sulfur levels provide improved internal quality.	1/2" – 8"
	Clean cut [®] (1) 45	Medium carbon, free machining steel. Higher carbon level improves strength and heat treat response.	3/4" – 5"
STRUCTURAL	A36	Widely used low carbon steel produced to meet 36 ksi minimum yield to 8" thick. Weldable and formable.	3/16" – 20"
	A572 Gr 50	Low carbon, HSLA steel. Micro alloy additions and controlled rolling practice imparts 50 ksi minimum yield strength. Easily welded and formed.	3/16" – 4"
	A572 Gr 42	A572 features, with 42 ksi minimum yield.	>4" – 6"
	A588 Gr A	Low carbon, HSLA steel with 50 ksi minimum yield strength to 4". Copper additions provide corrosion resistance 4 times greater than regular carbon steel	3/16" – 6"
PRESSURE VESSEL	A/SA 516 Gr 70	Fully killed, fine grain steel for use in low to intermediate temperature applications requiring improved notch toughness	3/16" – 8"

CHEMISTRY							MECHANICAL PROPERTIES								
C	Mn	P	S	Si	Cr	OTHER	TENSILE KSI	YIELD KSI	ELONG % (a) (b) (c)		THICKNESS				
									8"	2"					
.17/.23	.30/.60	0.035	0.04	—	—	> 1-1/2" .15/.40 Si or .020 Min Al	—	—	—	—	1" – 10"				
.42/.50	.60/.90	0.035	0.04	.15/.40	—	—	—	—	—	—	3/16" – 14"				
.14/.22	1.20/1.50	0.04	.06/.12	.10/.40	—	—	—	—	—	—	1/2" – 8"				
.40/.50	1.00/1.30	0.04	.24/.33	.10/.40	—	—	—	—	—	—	3/4" – 5"				
0.25	—	0.04	0.05	.40 Max	—	.20 Minimum Cu when Specified	58 to 80	36 Y.P. Min to 8"; 32 Y.P. Min > 8"	18	21	3/16" – 3/4"				
0.25	.80/1.20			>3/4" – 1-1/2"											
0.26				>1-1/2" – 2-1/2"											
0.27				> 2-1/2" – 4"											
0.29				.15/.40							>4" – 20"				
0.23	1.35	0.04	0.05	.40 Max to 1-1/2"	—	Cb .005/.05 or V .01/.15	65 Min.	50 Y.P. Min	16	19	3/16" – 4"				
0.21				.15/.40 > 1-1/2"							60 Min.	42 Y.P. Min.	18	22	>4" – 6"
0.19	.80/1.25	0.04	0.05	.30/.65	.40/.65	Cu .25/.40 Ni .40 V .02/.10	70 Min	50 Y.P. Min	16	19	3/16" – 4"				
											67 Min	46 Y.P. Min	—	19	>4" – 5"
											63 Min	42 Y.P. Min	—	19	>5" – 6"
0.27	.85/1.20	0.035	0.035	.15/.40	—	—	70 to 90	38 Min	17	21	3/16" – 1/2"				
0.28											>1/2" – 2"				
0.30											>2" – 4"				
0.31											>4" – 8"				

(1) CleanCut is a registered trademark of ISG.

NOTE: Single values are maximums unless otherwise noted. Ranges depict minimum/maximum.

(a) values shown apply to plates tested in the transverse direction

(b) values shown apply to plates greater than 24" wide

(c) adjustments in elongation requirements may apply depending on thickness of plate



Alloy Steel Plate

APPLICATION	GRADE	DESCRIPTION	AMC THICKNESS STOCKED
GENERAL PURPOSE AISI GRADES	8620	Cr-Ni-Mo alloy steel that will develop high strength with good toughness after heat treat. Vacuum degassed and calcium treated for improved machining.	1/4" – 6"
	4140/4142 (dual certified)	Economical Cr-Mo alloy steel that will develop high hardness and strength after heat treat. Calcium treated for improved machining characteristics.	1/4" – 14"
	4142 PREHARD	4142 steel, stocked in the Normalized & Tempered condition. 262/321 BHN to 3", 241/321 over 3" to 6".	1/2" – 6"
	4130	Cr-Mo alloy steel. Lower carbon content provides improved weldability over 4140.	1/4" – 6"
	4130 PREHARD	4130 steel, stocked in the Quench & Tempered condition. 262/321 to 3".	1/2" – 3"
	4130 AQ Condition N AMS 6345	Aircraft quality version of 4130 with improved cleanliness for more critical applications. Typically Normalized to 3/4" Quench & Tempered >3/4" to 2"	3/16" – 2"
	E4340	Cr-Ni-Mo alloy steel with superior thru hardening capabilities.	3/4" – 8-1/8"
	4340 AQ Annealed AMS 6359	Aircraft quality version of 4340 with improved cleanliness for more critical applications. Annealed to Rc25 max.	3/8" – 1-3/4"
STRUCTURAL	A514 Gr B	Low carbon alloy steel with vanadium, titanium and boron additions. Quenched and tempered to 100 ksi minimum yield. Good weldability and toughness (similar to T-1A ⁽³⁾).	3/16" – 1-1/4"
	A514 Gr H	Modified chemistry, designed to maintain base mechanical properties (similar to T-1B ⁽³⁾).	>1-1/4" – 2"
	A514 Gr F	Modified chemistry, designed to maintain base mechanical properties (similar to T-1 ⁽³⁾).	>2" – 2-1/2"
	A514 Gr Q	Heavy alloy additions ensure toughness and mechanical properties. 90 ksi minimum yield strength (similar to T-1C ⁽³⁾).	>2-1/2" – 6"
ABRASION RESISTANT	T-1 ⁽³⁾ 321 Min BHN	Cr-Mo chemistry similar to A514, quench and tempered to achieve minimum hardness only. Good resistance to sliding and impact abrasion with good toughness. Weldable and formable.	3/8" – 2"
	Formable 400 ⁽²⁾	Cr-Ni-Mo alloy steel, quench and tempered to a 400 nominal BHN (360/450 range). Superior combination formability, toughness and weldability.	1/4" – 1-1/2"

CHEMISTRY									MECHANICAL PROPERTIES			
C	Mn	P	S	Si	Cr	Ni	Mo	OTHER	TENSILE KSI	YIELD KSI	ELONG % (d)(e)	
											8"	2"
.17/.23	.60/.90	0.035	.015/.040	.15/.40	.35/.60	.40/.70	.15/.25	—	—	—	—	—
.38/.44	.70/1.00	0.035	.015/.040	.15/.40	.80/1.15	—	.15/.25	—	—	—	—	—
.38/.46	.70/1.00	0.035	.015/.040	.15/.40	.80/1.15	—	.15/.25	V .03	—	—	—	—
.27/.34	.35/.60	0.035	0.04	.15/.40	.80/1.15	—	.15/.25	—	—	—	—	—
.27/.33	.90/1.30	0.035	0.04	.15/.40	.60/.90	—	.15/.25	V .02	—	—	—	—
.28/.33	.40/.60	0.025	0.025	.20/.35	.80/1.10	0.25	.15/.25	—	90 Min	70 Min	—	18
.37/.44	.60/.85	0.025	0.025	.15/.40	.65/.90	1.65/2.00	.20/.30	—	—	—	—	—
.38/.43	.60/.85	0.025	0.025	.15/.35	.70/.90	1.65/2.00	.20/.30	Cu .35	—	—	—	—
.12/.21	.70/1.00	0.035	0.035	.20/.35	.40/.65	—	.15/.25	V .03/.08 Ti .01/.03 B .0005/.005	110/130	100 Min	—	16
.12/.21	.95/1.30	0.035	0.035	.20/.35	.40/.65	.30/.70	.20/.30	V .03/.08 B .0005/.005	110/130	100 Min	—	16
.10/.20	.60/1.00	0.035	0.035	.15/.35	.40/.65	.70/1.00	.40/.60	V .03/.08 Cu .15/.50 B .0005/.006	110/130	100 Min	—	16
.14/.21	.95/1.30	0.035	0.035	.15/.35	1.00/1.50	1.20/1.50	.40/.60	V .03/.08	100/130	90 Min	—	14
Chemistry varies according to thickness; provided on request.												
.12/.16	1.55	0.025	0.005	.35/.55	0.55	1.00	0.55	B .0005/.005	—	—	—	—

(2) Formable 400 are registered trademarks of A. M. Castle & Co.

(3) T-1, T-1A, T-1B, T-1C are registered trade marks of USS Division of USX Co.

NOTE: Single values are maximums unless otherwise noted. Ranges depict min/max

(d) values shown apply to plates tested in the transverse direction

(e) adjustments in elongation requirements may apply depending on plate thickness





Stainless Steel Plate

QUALITY	GRADE (UNS Designation)	DESCRIPTION	THICKNESS STOCKED
AUSTENITIC STAINLESS STEEL	303 (S30300)	Chromium/Nickel Stainless steel to which elements have been added to improve machinability.	3/16" – 1-1/8"
	304 (S30400)	Relatively low carbon content and somewhat higher chromium and nickel than AISI types 301 and 302. Well suited for welding and where the finished product must resist the more severe forms of corrosion.	3/16" – 4-1/2"
	304L (S30403)	A very low carbon austenitic chromium nickel steel with corrosion similar to type 304 but with superior resistance to intergranular carbide precipitation during welding or stress relieving.	3/16" – 4-1/2"
	316 (S31600)	Molybdenum is added to this grade and gives this material the greater resistance to pit type corrosion than the general purpose austenitic stainless steels.	3/16" – 6"
	316L (S31603)	A low carbon variation of type 316 designed to prevent excessive inter-granular precipitation of chromium carbides during stress relieving in the range of 800 to 1500° or in the heat affected zone during welding.	3/16" – 6"
	304/304L Free Machining	A special quality of stainless steel plate produced for optimal machinability in code quality plate. It is designed to give lower cost machine parts with better final surface and tolerance.	3/16" – 3"
	316/316L Free Machining	A special quality of stainless steel plate produced for optimal machinability in code quality plate. It is designed to give lower cost machine parts with better final surface and tolerance.	3/16"–3"
	317L (S31703)	With higher Ni, Cr and Mo content than 316L, this grade offers better corrosion resistance.	3/16" – 2"
	309S (S30908)	A heat resisting grade that can resist scaling at temperatures up to 2000°. It also has good tensile and creep strength properties at elevated temperatures.	3/16" – 1"
	321 (S32100)	A titanium bearing stainless steel stabilized against carbide precipitation and designed for operation with the 900° - 1600°F temperature range.	3/16" – 2"
347 (S34700)	An austenitic chromium nickel steel containing columbium. Like 321, stabilized against carbide precipitation and intergranular corrosion.	3/16" – 1"	
FERRITIC	410S (S41008)	A general purpose corrosion and heat resisting chromium steel. Good corrosion and heat resisting chromium steel with fair machining. 410S has lower hardenability than 410.	1/4" – 3/4"
PH GRADE	17-4 (S17400)	A precipitation hardening grade offering an outstanding combination of high strength, toughness and corrosion resistance.	3/16" – 2"
DUPLEX STAINLESS	2205 (S31803 + S32205)	A duplex stainless which is 50% austenitic and 50% ferritic. Provides superior resistance to pitting and crevice corrosion, good resistance to stress corrosion cracking, and high strength.	3/16" – 2"

PERMISSIBLE VARIATIONS FROM FLATNESS IN ANNEALED STAINLESS STEEL PLATES (FROM ASTM A480)

SPECIFIED THICKNESS INCHES	FLATNESS TOLERANCE FOR SPECIFIED WIDTH, INCHES								
	48 OR UNDER	OVER 48 TO 60, EXCL.	60 TO 72, EXCL.	72 TO 84, EXCL.	84 TO 96, EXCL.	96 TO 108, EXCL.	108 TO 120, EXCL.	120 TO 144, EXCL.	144 AND OVER
3/16 to 1/4, excl.	3/4	1-1/16	1-1/4	1-3/8	1-5/8	1-5/8	1-7/8	2	—
1/4 to 3/8, excl.	11/16	3/4	15/16	1-1/8	1-3/8	1-7/16	1-9/16	1-7/8	—
3/8 to 1/2, excl.	1/2	9/16	11/16	3/4	15/16	1-1/8	1-1/4	1-7/16	1-3/4
1/2 to 3/4, excl.	1/2	9/16	5/8	5/8	13/16	1-1/8	1-1/8	1-1/8	1-3/8
3/4 to 1, excl.	1/2	9/16	5/8	5/8	3/4	13/16	15/16	1	1-1/8
1 to 1-1/2, excl.	1/2	9/16	9/16	9/16	11/16	11/16	11/16	3/4	1
1-1/2 to 4, excl.	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1	1
4 to 6, excl.	3/8	7/16	9/16	5/8	3/4	15/16	1-1/8	1-1/4	1-1/4

Tolerances in the table apply to plates up to 15 ft. in length, or to any 15 ft., of longer plates.

If plate length is under 36 in., out-of-flat may not exceed 1/4".

For plates with specified minimum yield strengths of 35 ksi or more, the permissible variations are increased to 1-1/2 times the amounts shown above.

CHEMISTRY									MECHANICAL PROPERTIES			
C	Mn	P	S	Si	Cr	Ni	Mo	OTHER	TENSILE KSI	YIELD KSI	ELONG %	
											8"	2"
0.15	2.00	0.20	0.15 Min	1.00	17.00/19.00	8.00/10.00	—	—	—	—	—	—
0.08	2.00	0.045	0.03	0.75	18.00/20.00	8.00/10.50	—	N .10 Max	75 Min	30 Min	—	40
0.03	2.00	0.045	0.03	0.75	18.00/20.00	8.00/12.00	—	N .10 Max	70 Min	25 Min	—	40
0.08	2.00	0.045	0.03	0.75	16.00/18.00	10.00/14.00	2.00/3.00	N .10 Max	75 Min	30 Min	—	40
0.03	2.00	0.045	0.03	0.75	16.00/18.00	10.00/14.00	2.00/3.00	N .10 Max	70 Min	25 Min	—	40
0.03	2.00	0.040	0.03	0.75	18.00/20.00	8.00/10.50	—	N .10 Max	75 Min	30 Min	—	40
0.03	2.00	0.045	0.03	0.75	16.00/18.00	10.00/14.00	2.00/3.00	N .10 Max	75 Min	30 Min	—	40
0.03	2.00	0.045	0.03	0.75	18.00/20.00	11.00/15.00	3.00/4.00	N .10 Max	75 Min	30 Min	—	40
0.08	2.00	0.045	0.03	0.75	22.00/24.00	12.00/15.00	—	—	75 Min	30 Min	—	40
0.08	2.00	0.045	0.03	0.75	17.00/19.00	9.00/12.00	—	N .10 Max Ti = 5x (C+N) Min 0.70 Max.	75 Min	30 Min	—	40
0.08	2.00	0.045	0.03	0.75	17.00/19.00	9.00/13.00	—	Cb = 10 x C Min 1.00 Max	75 Min	30 Min	—	40
0.08	1.00	0.04	0.03	1.00	11.50/13.50	0.60	—	—	60 Min	30 Min	—	22
0.07	1.00	0.04	0.03	1.00	15.00/17.50	3.00/5.00	—	Cu 3.00/5.00 Cb + Ta = .15/.45	185 Min	160 Min	—	3
0.03	2.00	0.03	0.02	1.00	22.00/23.00	4.50/6.50	3.00/3.50	N .15/.20	90 Min	65 Min	—	25

NOTE: Single values are maximums unless otherwise noted.
Ranges depict min/max

PERMISSIBLE VARIATIONS IN THICKNESS FOR STAINLESS STEEL PLATES (FROM ASTM A480)

SPECIFIED THICKNESS INCHES	TOLERANCE OVER SPECIFIED THICKNESS FOR WIDTHS GIVEN, INCHES			
	TO 84, INCL.	OVER 84 TO 120, INCL.	OVER 120 TO 144, INCL.	OVER 144
3/16 to 3/8, excl.	0.045	0.050	—	—
3/8 to 3/4 excl.	0.055	0.060	0.075	0.090
3/4 to 1, excl.	0.060	0.065	0.085	0.100
1 to 2, excl.	0.070	0.075	0.095	0.115
2 to 3, excl.	0.125	0.150	0.175	0.200
3 to 4, excl.	0.175	0.210	0.245	0.280
4 to 6, excl.	0.250	0.300	0.350	0.400
6 to 8, excl.	0.350	0.420	0.490	0.560

Thickness is measured along the longitudinal edges of the plate at least 3/8 in., but not more than 3 in. from the edge.
Permissible variations under the specified thickness, 0.01 in.



Castle Metals®

Permissible Variations from Flatness for Carbon Steel Plates (From ASTM A6, A20)

For plates which have a specified minimum tensile strength of 60 ksi or more, or comparable chemical composition or hardness, the limits in the table are increased to 1-1/2 times the amounts shown below.

SPECIFIED THICKNESS, INCHES	PERMISSIBLE VARIATIONS FROM A FLAT SURFACE FOR SPECIFIED WIDTHS, INCHES										
	TO 36, EXCL	36 TO 48, EXCL	48 TO 60, EXCL	60 TO 72, EXCL	72 TO 84, EXCL	84 TO 96, EXCL	96 TO 108, EXCL	108 TO 120, EXCL	120 TO 144, EXCL	144 TO 168, EXCL	168 AND OVER
To 1/4, excl.	9/16	3/4	15/16	1-1/4	1-3/8	1-1/2	1-5/8	1-3/4	1-7/8	—	—
1/4 to 3/8, excl.	1/2	5/8	3/4	15/16	1-1/8	1-1/4	1-3/8	1-1/2	1-5/8	—	—
3/8 to 1/2, excl.	1/2	9/16	5/8	5/8	3/4	7/8	1	1-1/8	1-1/4	1-7/8	2-1/8
1/2 to 3/4, excl.	7/16	1/2	9/16	5/8	5/8	3/4	1	1	1-1/8	1-1/2	2
3/4 to 1, excl.	7/16	1/2	9/16	5/8	5/8	5/8	3/4	7/8	1	1-3/8	1-3/4
1 to 2, excl.	3/8	1/2	1/2	9/16	9/16	5/8	5/8	5/8	11/16	1-1/8	1-1/2
2 to 4, excl.	5/16	3/8	7/16	1/2	1/2	1/2	1/2	9/16	5/8	7/8	1-1/8
4 to 6, excl.	3/8	7/16	1/2	1/2	9/16	9/16	5/8	3/4	7/8	7/8	1
6 to 8, excl.	7/16	1/2	1/2	5/8	11/16	3/4	7/8	7/8	1	1	1
8 to 10, excl.	1/2	1/2	5/8	11/16	3/4	13/16	7/8	15/16	1	1	1
10 to 12, excl.	1/2	5/8	3/4	13/16	7/8	15/16	1	1	1	1	1
12 to 15, excl.	5/8	3/4	13/16	7/8	15/16	1	1	1	1	1	—

If length of plate less than 36", out-of-flat may not exceed 1/4". If length of plate 36" to 72", out-of-flat may not exceed 75% of values above. The permitted variations of flatness are the maximum allowable in plates up to 12' in length or in any 12' of longer plates. The flatness variations across the width should not exceed the tabular amount for the specified width.

Permissible Variations from Flatness for High-Strength Low-Alloy and Alloy Steel Plates, Hot Rolled or Thermally Treated (From ASTM A6, A20)

SPECIFIED THICKNESS, INCHES	FLATNESS TOLERANCES FOR SPECIFIED WIDTHS, INCHES										
	TO 36, EXCL	36 TO 48, EXCL	48 TO 60, EXCL	60 TO 72, EXCL	72 TO 84, EXCL	84 TO 96, EXCL	96 TO 108, EXCL	108 TO 120, EXCL	120 TO 144, EXCL	144 TO 168, EXCL	168 AND OVER
To 1/4, excl.	13/16	1-1/8	1-3/8	1-7/8	2	2-1/4	2-3/8	2-5/8	2-3/4	—	—
1/4 to 3/8, excl.	3/4	15/16	1-1/8	1-3/8	1-3/4	1-7/8	2	2-1/4	2-3/8	—	—
3/8 to 1/2, excl.	3/4	7/8	15/16	15/16	1-1/8	1-5/16	1-1/2	1-5/8	1-7/8	2-3/4	3-1/8
1/2 to 3/4, excl.	5/8	3/4	13/16	7/8	1	1-1/8	1-1/4	1-3/8	1-5/8	2-1/4	3
3/4 to 1, excl.	5/8	3/4	7/8	7/8	15/16	1	1-1/8	1-5/16	1-1/2	2	2-5/8
1 to 2, excl.	9/16	5/8	3/4	13/16	7/8	15/16	1	1	1	1-5/8	2-1/4
2 to 4, excl.	1/2	9/16	11/16	3/4	3/4	3/4	3/4	7/8	1	1-1/4	1-5/8
4 to 6, excl.	9/16	11/16	3/4	3/4	7/8	7/8	15/16	1-1/8	1-1/4	1-1/4	1-1/2
6 to 8, excl.	5/8	3/4	3/4	15/16	1	1-1/8	1-1/4	1-5/16	1-1/2	1-1/2	1-1/2
8 to 10, excl.	3/4	13/16	15/16	1	1-1/8	1-1/4	1-5/16	1-3/8	1-1/2	1-1/2	1-1/2
10 to 12, excl.	3/4	15/16	1-1/8	1-1/4	1-5/16	1-3/8	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2
12 to 15, incl.	7/8	1	1-3/16	1-5/16	1-3/8	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2

If length of plate less than 36", out-of-flat may not exceed 3/8". If length of plate 36" to 72", out-of-flat may not exceed 75% of values above. The permitted variations of flatness are the maximum allowable in plates up to 12' in length or in any 12' of longer plates. The flatness variations across the width should not exceed the tabular amount for the specified width.

Permissible Variations in Thickness for Rectangular Carbon, High-Strength Low-Alloy, and Alloy-Steel Plates, 15 in. and under in Thickness when ordered to Thickness (From ASTM A6, A20)

SPECIFIED THICKNESS, INCHES	TOLERANCE OVER SPECIFIED THICKNESS FOR WIDTHS GIVEN, INCHES											
	48 AND UNDER	48 TO 60, EXCL	60 TO 72, EXCL	72 TO 84, EXCL	84 TO 96, EXCL	96 TO 108, EXCL	108 TO 120, EXCL	120 TO 132, EXCL	132 TO 144, EXCL	144 TO 168, EXCL	168 TO 182, EXCL	182 AND UP
To 1/4, excl.	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.04	—	—	—
1/4 to 5/16, excl.	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.04	—	—	—
5/16 to 3/8, excl.	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.04	0.05	—	—
3/8 to 7/16, excl.	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.04	0.05	0.06	0.06	—
7/16 to 1/2, excl.	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.04	0.05	0.06	0.06	—
1/2 to 5/8 excl.	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.04	0.05	0.06	0.07	—
5/8 to 3/4 excl.	0.03	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.05	0.06	0.07	0.07
3/4 to 1, excl.	0.03	0.03	0.03	0.03	0.04	0.04	0.05	0.05	0.06	0.07	0.08	0.09
1 to 2, excl.	0.06	0.06	0.06	0.06	0.06	0.07	0.08	0.10	0.10	0.11	0.13	0.16
2 to 3, excl.	0.09	0.09	0.09	0.10	0.10	0.11	0.12	0.13	0.14	0.15	0.15	—
3 to 4, excl.	0.11	0.11	0.11	0.11	0.11	0.13	0.14	0.14	0.14	0.15	0.17	—
4 to 6, excl.	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.20	0.20	—
6 to 10, excl.	0.23	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.27	0.28	—
10 to 12, excl.	0.29	0.29	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.35	—
12 to 15, incl.	0.29	0.29	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	—

Permissible variations under specified thickness, 0.01 in. Thickness to be measured at 3/8 to 3/4 in. from the longitudinal edge. For thickness measured at any location other than the longitudinal edge, the permissible maximum over tolerance shall be increased by 75%, rounded to the nearest 0.01 in.

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