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Stainless Steel Pipe Weight Chart & Dimensions

Reference guide for ASME/ANSI B36.19 sizes, schedules and weights — updated August 2026

This chart covers standard stainless steel pipe sizes from 1/8" to 24" NB across Schedule 5S to XXS, for grades including ASTM A312 TP304, TP304L, TP316, TP316L, TP321, TP347 and the wider 200, 300 and 400 series. Use it to estimate pipe weight for freight planning, or to cross-check wall thickness against a pressure rating before ordering. The full size-by-size table follows on the next page; a formula for calculating weight by hand is included further in this document.

Weight Comparison: Stainless Steel vs. Specialty Alloys

Oshwin Overseas manufactures and stocks pipe not only in stainless steel but also in nickel alloys (Inconel, Monel, Hastelloy) and duplex/super duplex stainless. Because these materials are denser than standard 304/316 stainless steel, the same pipe size weighs more. Use the multipliers below with the stainless steel weight chart on the next page to estimate weight in these alloys:

Material	Density (g/cm³)	Approx. Weight Multiplier vs. SS 304
SS 304 / 316 (reference)	8.00	1.00x
Duplex 2205 (UNS S32205)	7.80	0.98x
Super Duplex S32750 / S32760	7.80	0.98x
Monel 400	8.80	1.10x
Inconel 625	8.44	1.06x
Hastelloy C276	8.89	1.11x
Copper Nickel 90/10	8.94	1.12x

Multipliers are approximate, based on published material densities, and intended for early-stage estimation only — confirm exact weight against the specific grade and wall thickness before ordering. For an exact weight calculation in any of these alloys, contact Oshwin Overseas with your size and schedule.

The complete ASME/ANSI B36.19 stainless steel weight table, square pipe & tubing dimensions, elliptical tube sizes, and ASTM specification tolerance tables follow on the pages below.

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STAINLESS STEEL PIPE WEIGHT CHART AND DIMENSIONS

SS Pipe Dimensions

SS pipe weight chart is used to calculate the weight of different graded stainless steel pipe weights. The weight is calculated by the multiplication of the volume of the stainless steel material by the density of the particular material. The chart is useful in calculating the weight of an application system before building up the system.

These dimensions are applicable for all SS Pipe grades including ASTM A312 TP304L, TP316, TP316L, TP321, TP321H, TP347H, TP347, TP310S, TP304H, SS 202, SS 410, SS 317L, SS 310, SS 316H and other 200, 300 & 400 series seamless pipes & tubes.

The **ss pipe size chart** shows the different sizes of different pipe materials and standards. There are lengths, outer diameters and wall thicknesses of various specifications, standards and grades of stainless steel pipes. The **ss pipe sizes** range from standard to standard. For example, the ASME B16.5 standard covers the pipes from ½ inches to 24 inches in outer diameter. The ASME B16.9 covers the outer diameters ranging from 26 inches to 60 inches, but these are for flanges. The **ss pipe sizes in mm** can be converted to inches by dividing the length value by 25.4 and it could be converted from inches to mm vice versa.

ASA/ ASME/ ANSI B36.19 Stainless Steel Pipe Dimensions and Weight Chart

Nominal Bore Chart		Outside Diameter (O.D)	Schedule 5S		Schedule 10S		Schedule 40S		Schedule 80S		Schedule 160S		Schedule XXS	
mm	inches	mm	Wt mm	Weight (Kg. /mt)	Wt mm	Weight (Kg. /mt)	Wt mm	Weight (Kg. /mt)	Wt mm	Weight (Kg. /mt)	Wt mm	Weight (Kg. /mt)	Wt mm	Weight (Kg. /mt)
3	1/8	10.3	1.24	00.276	1.24	00.28	1.73	00.37	2.41	00.47	-	-	-	-
6	1/4	13.7	1.24	00.390	1.65	00.49	2.24	00.631	3.02	00.80	-	-	-	-
10	3/8	17.1	1.24	00.490	1.65	00.63	2.31	00.845	3.20	1.10	-	-	-	-
15	1/2	21.3	1.65	00.800	2.11	1.00	2.77	1.27	3.75	1.62	4.75	1.94	7.47	2.55
20	3/4	26.7	1.65	1.03	2.11	1.28	2.87	1.68	3.91	2.20	5.54	2.89	7.82	3.63
25	1	33.4	1.65	1.30	2.77	2.09	3.38	2.50	4.55	3.24	6.35	4.24	9.09	5.45
32	1 1/4	42.2	1.65	1.65	2.77	2.70	3.56	3.38	4.85	4.47	6.35	5.61	9.70	7.77
40	1 1/2	48.3	1.65	1.91	2.77	3.11	3.68	4.05	5.08	5.41	7.14	7.25	10.16	9.54
50	2	60.3	1.65	2.40	2.77	3.93	3.91	5.44	5.54	7.48	8.74	11.1	11.07	13.44
65	2 1/2	73.00	2.11	3.69	3.05	5.26	5.16	8.63	7.01	11.4	9.53	14.9	14.2	20.39
80	3	88.9	2.11	4.51	3.05	6.45	5.49	11.30	7.62	15.2	11.1	21.3	15.24	27.65
100	4	114.3	2.11	5.84	3.05	8.36	6.02	16.07	8.56	22.3	13.49	33.54	17.12	41.03
125	5	141.3	2.77	9.47	3.40	11.57	6.55	21.8	9.53	31.97	15.88	49.11	19.05	57.43
150	6	168.3	2.77	11.32	3.40	13.84	7.11	28.3	10.97	42.7	18.2	67.56	21.95	79.22
200	8	219.1	2.77	14.79	3.76	19.96	8.18	42.6	12.7	64.6	23.0	111.2	22.23	107.8
250	10	273.1	3.40	22.63	4.19	27.78	9.27	60.5	12.7	96.0	28.6	172.4	25.40	155.15
300	12	323.9	3.96	31.25	4.57	36.00	9.52	73.88	12.7	132.0	33.32	238.76	25.40	186.97
350	14	355.6	3.96	34.36	4.78	41.3	11.13	94.59	19.05	158.08	35.71	281.70	-	-
400	16	406.4	4.19	41.56	4.78	47.29	12.7	123.30	21.41	203.33	40.46	365.11	-	-
450	18	457.2	4.19	46.80	4.78	53.42	14.27	155.80	23.8	254.36	45.71	466.40	-	-
500	20	508.0	4.78	59.25	5.54	68.71	15.09	183.42	26.19	311.2	49.99	564.68	-	-
600	24	609.6	5.54	82.47	6.35	94.45	17.48	255.41	30.96	442.08	59.54	808.22	-	-

What is so essential regarding stainless-steel pipe weight chart?

The **stainless pipe sizes schedules** are there to give a combination of wall thicknesses and pipe outer diameters so that the coordination provides a degree of pressure capacity. The **stainless steel pipe dimensions** correspond to the pressure capacities. The pressure capacities are governed by the pressure classes such as 150, 300, 600, 2500 and by the PN6, up to PN64 pressure classes etc. The pressure classes help to determine which grade and dimensions of pipes are to be applied in specific applications. You can check our **stainless steel pipe weight chart** to know how heavy your applications would be or how heavy the pipes would weigh.

The calculation involves calculating the volume of stainless steel in a pipe. This can be done manually by taking the thickness of the pipe, the perimeter of the pipe diameter and then the length of the pipe and multiplying all these values by the density of the stainless steel material. Each grade of stainless steel has a different density. The weight chart makes it easy and provides you with accurate calculations. The **ss erw pipe pressure rating** depends on the wall thickness, diameter and the grade of stainless steel as well. Our **ss seamless pipe weight** chart will help you to understand the different weights caused by the different material and dimensions of pipes. This information is much useful for transportation of the stainless steel pipes. Please check the tables below for the charts.

Stainless Steel Pipe and Tubing ASTM Specification & Tolerances

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Specification	Allowable Outside Diameter Variation in mm			Allowable Wall Thickness Variation		Exact Length Tolerance in mm		Testing
	Nominal Diameter	Over	Under	%Over	%Under	Over	Under	
ASTM A213/ ASME SA 213 Seamless Boiler Superheater and Heat Exchanger Tubes	Under 25.4	.1016	.1016	+20	-0	3.175	0	Flattening Test
	25.4-38.1 incl.	.1524	.1524	+22	-0	3.175	0	Tension Test
	38.1-50.8 excl.	.2032	.2032	+22	-0	3.176	0	Flare Test
	50.8-63.5 excl.	.254	.254	+2	-0	4.46	0	Hardness Test
	63.5-76.2 excl.	.3048	.3048	+22	-0	4.76	0	100% Hydrostatic test
	76.2-101.6 incl.	.381	.381	+22	-0	4.76	0	Refer to ASTM A450/ SA 450
ASTM A249/ ASME SA 249 Welded Boiler Superheater, Heat Exchanger And Condenser Tubes	Under 25.4	.1016	.1016	+10	-10	3.175	0	Tension Test
	25.4-38.1 incl.	.1524	.1524	+10	-10	3.175	0	Flattening Test
	38.1-50.8 excl.	.2032	.2032	+10	-10	3.175	0	Flange Test
	50.0-63.5 excl.	.254	.254	+10	-10	4.762	0	Reverse Bend Test
	63.5-76.2 excl.	.3848	.3848	+10	-10	4.762	0	Hardness Test
	76.2-101.6 incl.	.381	.381	+10	-10	4.762	0	100% Hydrostatic Test Refer to ASTM A450/ SA 450
				Minimum Wall tubes +18% 0 available On request				
ASTM A269/ ASME SA 269 Seamless & Welded Tubing for General Service	Untp12.7	.13	.13	+15	-15	3.2	0	Flare Test (Seamless Only)
	12.7-38.1 excl.	.13	.13	+10	-10	3.2	0	Flange Test (Welded Only)
	38.1-88.9 excl.	.25	.25	+10	-10	4.8	0	Hardness Test
	88.9-139.7 excl.	.38	.38	+10	-10	4.8	0	Reverse Flattening Test
	139.7-203.2 excl.	.76	.76	+10	-10	4.8	0	(Welded only) 100% Hydrostatic Test Refer to ASTM A269/ SA 269
ASTM A270/ ASME SA 270 Seamless & Welded Sanitary Tubing	25.4	.05	.20	+10.0	-10.0	3.2	0	Reverse flattening Test
	38.1	.05	.20	+10.0	-10.0	3.2	0	100% Hydrostatic Test
	50.8	.05	.28	+10.0	-10.0	3.2	0	External' polish on all tubes
	60.5	.05	.28	+10.0	-10.0	3.2	0	Refer to ASTM A270/ SA 270
	76.2	.08	.30	+10.0	-10.0	3.2	0	
	101.6	.08	.38	+10.0	-10.0	3.2	0	
ASTM A312/ ASME SA 312 Seamless & Welded pipes	3.175-38.1 incl.	.4	.79	Minimum Wall 12.5% under nominal wall Specified		6.4 0	0	Tension Test
	38.1-1016 incl.	.79	.79			6.4 0	0	Flattening Test
	101.6-203.2 incl.	1.59	.79			6.4 0	0	100% Hydrostatic Test
						(Normally Random Lengths ordered		Refer to ASTM A530/ SA 530
ASTM A358/ ASME SA 358 Welded pipes	219.08-750mm or 0.01 inch	+0.5%		-0.3		6.0		Refer to ASTM A530/ SA 530

Stainless Steel Square Pipe & Tubing dimensions and weight chart

Size Range	Thickness	Weight Kg / Metre
20 X 20	2	1.11
25 X 25	2	1.43
25 X 25	2.5	1.74
25 X 25	3	2.04
30 X 30	2	1.74
30 X 30	2.5	2.14s
30 X 30	3	2.51s
30 X 30	3.2	2.65s
40 X 40	2	2.37s
40 X 40	2.5	2.92s
40 X 40	3	3.45s
40 X 40	4	4.46s
40 X 40	5	5.40s
50 X 50	2	3.00s
50 X 50	2.5	3.71s
50 X 50	3	4.39s
50 X 50	4	5.72s
50 X 50	5	6.97
50 X 50	6	8.20s

50 X 50	8	10.50s
60 X 60	3	5.34
60 X 60	3.2	5.67s
60 X 60	3.6	6.34
60 X 60	4	6.97
60 X 60	5	8.54
70 X 70	2.5	5.28
70 X 70	3	6.28
70 X 70	3.5	7.25
70 X 70	3.6	7.46
70 X 70	4	8.23
70 X 70	5	10.10
70 X 70	8	15.29
70 X 70	10	19.13
80 X 80	3	7.22
80 X 80	3.5	8.35
80 X 80	3.6	8.59
80 X 80	4	9.48
80 X 80	5	11.70
80 X 80	6	13.80
80 X 80	6.3	14.40
80 X 80	8	17.83
80 X 80	10	21.88
90 X 90	3	8.16
90 X 90	3.5	9.45
90 X 90	3.6	9.72
90 X 90	4	10.70
90 X 90	5	13.30
90 X 90	6	15.70
90 X 90	6.3	16.40
90 X 90	8	20.32
90 X 90	10	25.53
100 X 100	3	9.10
100 X 100	4	12.00
100 X 100	5	14.80
100 X 100	6	17.60
100 X 100	6.3	18.40
100 X 100	8	22.90
100 X 100	10	27.86
100 X 100	12	33.44
120 X 120	4	14.50
120 X 120	5	18.00
120 X 120	6	21.30
120 X 120	6.3	22.30
120 X 120	8	27.90
120 X 120	10	34.13
120 X 120	12	39.94
120 X 120	16	54.64
140 X 140	6	25.97
140 X 140	8	32.89
140 X 140	10	41.15
150 X 150	4	18.30
150 X 150	5	22.70
150 X 150	6	27.00
150 X 150	6.3	28.30
150 X 150	8	35.40
150 X 150	10	43.47
150 X 150	12	53.48
150 X 150	16	65.05
160 X 160	6	27.39
160 X 160	8	36.90
160 X 160	10	46.88
180 X 180	5	27.97
180 X 180	6	33.26
180 X 180	8	43.00
180 X 180	10	53.00
180 X 180	12	61.01
180 X 180	12.5	65.20
180 X 180	16	81.30
200 X 200	5	31.18
200 X 200	6	37.09
200 X 200	8	48.00

200 X 200	10	59.30
200 X 200	12	68.84
200 X 200	12.5	73.00
200 X 200	16	90.91
250 X 250	6	46.83
250 X 250	8	60.50
250 X 250	10	75.00
250 X 250	12	88.45
250 X 250	12.5	92.70
250 X 250	16	111.48
300 X 300	6	55.30
300 X 300	8	74.18
300 X 300	10	90.70
300 X 300	12	108.68
300 X 300	12.5	112.00
300 X 300	16	141.84
350 X 350	10	105.93
350 X 350	12	126.74
350 X 350	16	166.94
400 X 400	8	97.56
400 X 400	10	121.95
400 X 400	12	151.97
400 X 400	16	191.94

Stainless Steel Elliptical and oval tube sizes

Sizes	**S/S Grade 304**			**S/S Grade 316**		
	Wall thickness			**Wall thickness**		
	1.5mm	**2.0mm**	**3.0mm**	**1.5mm**	**2.0mm**	**3.0mm**
21 x 16	✓			✓		
32 x 16	✓	✓		✓	✓	
49 x 24.5	✓	✓		✓		
50 x 38		✓			✓	
65 x 32						
65 x 33		✓			✓	
70 x 35						
72 x 26.5	✓			✓		
75 x 25						
78 x 39	✓	✓		✓	✓	
90 x 45		✓			✓	
90 x 60			✓			✓
98 x 50						
103 x 51						
129 x 70		✓	✓			
130 x 66						
146 x 76		✓			✓	
162 x 83						
164 x 87		✓			✓	
197 x 103		✓			✓	

How to calculate weight of schedule 40 stainless steel pipe per Meter?

There are two ways for calculating the weight of Schedule 40 stainless steel- either by comparing the parameters based on the weight chart or by using the weight formula. The formula is:

$P= t(D-t)*C$

Here, D is the external diameter specified according to the pipe chosen and is measured in inches. t represents the wall thickness of the tube and is expressed usually in mm or inches. C has a static value of 0.02466 as per the SI units and 10.69 according to USC units. The weight of the Schedule 40 stainless steel is expressed in kg/m and lb/ft based on the measurement class being used.

Difference between Schedule 10, SCH 20 and SCH 40 pipe

The schedule of pipes determines the extent of their wall thickness. Therefore, Schedule 10, 20, and 40 pipes can be differentiated based on how thick the pipe wall is. SCH 10 pipes are much thinner in comparison to SCH 20 and SCH 40 pipes. The exact wall thickness will vary from one pipe to another, even though the chosen products have SCH 40 or SCH 20 rating. Therefore, it is imperative for you to verify the actual thickness and then decide which schedule value will be suitable for you. Another factor that has an impact of the pipe schedule is the length like 1” pipe with SCH 40 will have different wall thickness as compared to a 2” SCH 40 pipe.

Stainless Steel pipe standard sizes and thickness

The stainless steel pipes are usually rated based on the ANSI or ASME 36.19M standards. The sizes of these pipes vary between 1/8 inches and 12 inches. As for the wall thickness, the values are divided as per the Schedule being chose. For example, SCH 10 pipes have thickness range from 1.25 mm to 4.58 mm. Similarly, if the SCH 40 pipes are considered, their wall thickness will vary between 1.73 mm to 9 53 mm. Hence, the application of the pipes is based on the SCH it has been rated for and hence, it's important to consider size and thickness both as per the ASME chart.

What is ANSI B36.19?

ANSI B36.19is a standard used to define pipes made from stainless steel by using both welded and seamless method. Using this standard, several attributes of the pipes can be determined like the size measured in inches, the Schedule No, the length of the outside diameter. Another two most important factors that can be determined using the chart provided under this ANSI standard are the wall thickness and the internal diameter. Also, under this standard compliances and regulations, four wall thickness grades are determined namely the SCH 5, SCH 10, SCH 40, and SCH 80.

What is Nominal Bore and outside Diameter in Stainless Steel Pipes and Tubes?

At the time of rating the pipes or determining the dependent attributes like tolerance level, pressure levels, and so on, the two most important factor that one needs to consider are the nominal bore and the outside diameter. The outside diameter or OD is represented in mm or inches and expresses the entire diameter measured in accordance with the external circumference of the cross sectional area. As for the nominal bore, it determines the inner diameter of the stainless steel pipes and tubes. It is also measured in mm or inches and depends of the thickness of the walls.

What is the meaning of stainless steel pipe gauge?

Stainless steel pipe gauge is used for determining the wall thickness. This particular attribute is represented in normal numbers like 5, 10, 20, 40, and more. Based on these numbers, the wall thickness of the pipes and tubes are measured. For example, a pipe with gauge number of 40 may have a wall thickness of 1.67 mm or 1.97 mm depending on the external and internal diameters. Higher the gauge number, less will be the wall thickness and more will be the bore or OD.Also, lower gauge pipes are stronger and more durable as compared to pipes with high gauge rating.

Od tolerance for stainless steel pipe

The stainless steel pipes are usually rated based on the ANSI or ASME 36.19M standards. The sizes of these pipes vary between between 1/8 inches and 12 inches. As for the wall thickness, the values are divided as per the Schedule being chose. For example, SCH 10 pipes have thickness range from 1.25 mm to 4.58 mm. Similarly, if the SCH 40 pipes are considered, their wall thickness will vary between 1.73 mm to 9 53 mm. Hence, the application of the pipes is based on the SCH it has been rated for and hence, it's important to consider size and thickness both as per the ASME chart.

Standard pipe size tolerance

The ASME standard 999 is considered for calculating the tolerance level of the pipes. According to this, the stainless steel pipes usually have an under tolerance of -0.031" for all OD measurements. However, when the over tolerance is considered, the value will increase with the external diameter of the pipes.

Pipe thickness tolerance as per ASME

It is very difficult to determine what could be the actual thickness of the stainless steel pipes based on the bore and external diameter. Hence, it is important to consider both these parameters together and compare them with the standard ASME 999 chart for having the exact knowledge about the thickness. Furthermore, if we consider the seamless pipes, their actual thickness deviates from the set value by 12.5%.

ASTM standard for steel tube

For ensuring that all the steel tube manufacturers are on the same ground, eight compliance and regulatory standards have been introduced in the ASTM category. Based on these categorisation, one can understand the physical and chemical attributes of the concerned steel tube with ease.

The eight main ASTM standards are as follows:

- ASTM A213 tubes have 1/8 inches thick walls with maximum inner diameter being 5 inches and OD being 0.5 inches.
- ASTM A249 steel tubes are welded and usually used in boilers, heaters, conductors, and more.
- ASTM A269 tubes can be subjected to different temperature classifications with ease since they have a wall thickness of ¼ inches
- ASTM A270 is used to denote both seamless and welded steel tubes with a grade of TP 304, 316L, and the 316 grades.
- ASTM A312 is used in food and dairy industry with tubes being made from both welding and seamless method.

- ASTM A511 tubes are specifically made to tolerate high and extreme temperatures with ease. One can find both hot and cold finishing.
- ASTM A554 determines the welded stainless steel tubes that are used for mechanical and structural purposes.
- ASTM A778 tubes are made from welding the alloy without any annealing. They have an outside diameter of about 4 inches.

304 stainless steel pipe specifications

The stainless steel pipes with the 304 rating is one of the most used materials in different market. Commercially, it is known as the 18/8 stainless steel which means that the nickel percentage present in this alloy is approximately 80%. Following are the main specifications of the tubes having the ASTN 304 grade:

- They have a tensile strength of approximately 515 MPa
- The yield strength is roughly about 205 Mpa
- It can be elongated by 35% minimum
- The hardness of the 304 stainless steel pipes is about 90 HRB in the Rockwell category
- For Brinell system, the hardness of these pipes is around 192 HB maximum.
- The EN numbers for this grade of stainless steel is 1.4306 and 1.4301
- DIN standards are rated for X 2 CrNi 19 11*, and X 5 CrNi 18 10*
- Density of the 304 stainless steel is 7.93 kg/dm^3
- The thermal conductivity of this stainless steel grade is approximately around 16.2 W/m K measured at 100-degrees while for 500-degrees, the conductivity increases to 21.5 W/m.K.
- It also has electrical resistivity around 720 nW.m

Due to all these amazing specifications, the stainless steel is used for several applications, starting from heat exchangers, petrochemical equipment pieces, nuclear power machinery, and so on.

What is the difference in sizes of stainless steel seamless and welded pipes?

In the seamless tubes, a single material sheet is rolled up to form the long cylinder while in the welded tubes, you will find that their lengths are joined together and hence, there will be a lot of seams throughout the total length of the pipes. Due to the differences in construction processes and physical and chemical attributes, the seamless and welded stainless steel pipes have different sizes. For example, the seamless pipes will come with the external diameter of 20 inches while that of the welded one will be approximately about 16 inches.

Major difference in dimensions of ASTM A312 stainless Steel Pipes and asme sa312 tube dimensions

If stainless steel pipes having the 312 gauge rating is considered, there are two different ASTM standards- the A312 and SA312. Due to the differences in the standards, the dimensions of stainless pipes will also differ. The tensile strength of the A312 pipes is about 485 MPa and yield strength is about 170 MPa minimum. As for the elongation, it is rated at 35% minimum. It will further vary in accordance with the welded and seamless tubes because of the differences in the manufacturing, the presence of seams, and wall thickness.

din standard for stainless steel pipes

For making sure that the dimensions of the stainless steel pipes are intact and universal, irrespective of the manufacturer, ISO has introduced the DIN EN ISO 1127 standard. This particular standard consists of all dimension specifications mentioned in the DIN 2462 describing seamless pipes and DIN 2463 determining the welded stainless steel tubes. Under this DIN 1127, the three main factors which are defined properly are the total length of the tubes, other sizing dimensions, and also the limit allowances.

When the outer diameter is concerned, there are four D-group classifications like:

- D1 with a tolerance of +/- 1.5% and a minimum diameter of +/- 0.75mm
- D1 with a tolerance of +/- 1% and a minimum diameter of +/- 0.5mm
- D1 with a tolerance of +/- 0.75% and a minimum diameter of +/- 0.3mm
- D1 with a tolerance of +/- 0.5% and a minimum diameter of +/- 0.1mm

As far as the wall thickness is considered, there are five standard values which are as follows:

- T1 with +/- 15% tolerance and a minimum value of +/- 0.6mm
- T1 with +/- 12.5% tolerance and a minimum value of +/- 0.4mm
- T1 with +/- 10% tolerance and a minimum value of +/- 0.2mm
- T1 with +/- 7.5% tolerance and a minimum value of +/- 0.15mm
- T1 with +/- 5% tolerance and a minimum value of +/- 0.1mm