



LINEAR BELT SPECIFICATIONS

Pitch (Imperial and Metric)			XL	L	H	XH	T5	AT5	ATL5	T10	AT10	ATL10	T20	AT20	ATL20	HTD5	HTD8	HTDL8	HTD14	HTDL14	STD5	STD8	HPL3	HPL5	HPL8	
			.200"	.375"	.500"	.875"	5 mm	5 mm	5 mm	10 mm	10 mm	10 mm	20 mm	20 mm	20 mm	5 mm	8 mm	8 mm	14 mm	14 mm	5 mm	8 mm	3 mm	5 mm	8 mm	
Ultimate Tensile Strength	Steel	N/25 mm lbf/in	3375 760	6555 1475	7140 1605	14250 3205	3375 76	7125 160	10540 2370	7140 1605	14250 3205	24220 5445	14250 3205	24220 5445	32500 7309	10540 2370	14250 3205	24220 5445	20760 4667	34909 7848	10540 2370	14250 3205	7125 1600	12975 2915	24220 5445	
	Aramid	N/25 mm lbf/in	5448 1225	7682 1725	8085 1820	16185 3640	7209 162	8350 1875	N/A N/A	8085 1820	16185 3640	N/A N/A	16185 3640	21798 4900	N/A N/A	8085 1820	16185 3640	21798 4900	18684 4200	N/A N/A	8085 1820	16185 3640	N/A N/A	N/A N/A	N/A N/A	
	High Flex	N/25 mm lbf/in	N/A N/A	N/A N/A	10540 2370	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	10540 2370	12975 2915	26950 6060	12975 2915	N/A N/A	N/A N/A	12975 2915	26950 6060	26950 5860	N/A N/A	N/A N/A	12975 2915	N/A N/A	N/A N/A	26950 6060	
	Stainless Steel	N/25 mm lbf/in	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	10688 2405	N/A N/A	10688 2405	N/A N/A	N/A N/A	10688 2405	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A
Max. Allowable Belt Tension	Steel	Open Ended	N/25 mm lbf/in	853 192	1652 371	1939 436	3801 855	840 189	1761 39	2340 526	1909 429	3741 841	5860 1317	3741 841	5860 1317	7114 1581	2340 526	3741 841	5860 1317	5860 1317	7641 1718	2340 526	3741 841	1761 396	3456 777	5860 1317
		Welded	N/25 mm lbf/in	427 96	826 186	970 218	1900 427	420 94	880 198	880 198	954 214	2104 473	N/A N/A	2104 473	2930 659	N/A N/A	1170 263	1871 421	N/A N/A	2930 659	N/A N/A	2930 659	1170 263	1871 421	N/A N/A	N/A N/A
	Aramid	Open Ended	N/25 mm lbf/in	930 209	1229 276	1081 243	1778 400	916 206	1210 272	N/A N/A	1064 239	1675 377	N/A N/A	1675 376	1989 447	N/A N/A	1064 239	1675 376	1989 447	1705 383	N/A N/A	1064 239	1750 393	N/A N/A	N/A N/A	N/A N/A
		Welded	N/25 mm lbf/in	698 157	922 207	810 182	1134 255	687 154	908 204	N/A N/A	798 179	1256 282	N/A N/A	1256 282	1492 335	N/A N/A	798 179	1256 282	N/A N/A	1279 288	N/A N/A	798 179	1313 295	N/A N/A	N/A N/A	N/A N/A
	High Flex	Open Ended	N/25 mm lbf/in	N/A N/A	N/A N/A	2377 534	N/A N/A	N/A N/A	N/A N/A	N/A N/A	2340 526	3240 728	5079 1142	2806 631	N/A N/A	N/A N/A	N/A N/A	3456 777	5079 1142	5079 1142	N/A N/A	N/A N/A	3456 777	N/A N/A	N/A N/A	5079 1142
		Welded	N/25 mm lbf/in	N/A N/A	N/A N/A	1189 267	N/A N/A	N/A N/A	N/A N/A	N/A N/A	1170 263	1620 364	N/A N/A	1728 388	N/A N/A	N/A N/A	N/A N/A	1728 388	N/A N/A	2540 571	N/A N/A	N/A N/A	1728 388	N/A N/A	N/A N/A	N/A N/A
	Stainless Steel	Open Ended	N/25 mm lbf/in	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	2806 631	N/A N/A	2806 631	N/A N/A	N/A N/A	N/A N/A	2806 631	N/A N/A	N/A N/A	N/A N/A	N/A N/A	2806 631	N/A N/A	N/A N/A	N/A N/A
		Welded	N/25 mm lbf/in	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	1403 315	N/A N/A	1403 315	N/A N/A	N/A N/A	N/A N/A	1403 315	N/A N/A	N/A N/A	N/A N/A	N/A N/A	1403 315	N/A N/A	N/A N/A	N/A N/A
Allowable Effective Tension <small>12 or more teeth in mesh</small>		N/25 mm lb/ft/in	627 141	1347 303	1650 371	3804 855	625 141	1210 270	1290 290	1423 320	2580 580	2580 580	3075 970	5450 1225	5950 1225	1125 253	2325 523	2325 523	4313 970	4313 970	1025 230	2200 425	700 157	1138 256	2375 534	
Specific Belt Weight	Steel	kg/m/25 mm lb/ft/in	0.06 0.05	0.09 0.06	0.10 0.07	0.27 0.18	0.06 0.04	0.08 0.06	0.036 0.062	0.11 0.07	0.14 0.10	0.17 0.11	0.19 0.13	0.24 0.16	0.27 0.18	0.12 0.08	0.17 0.12	0.20 0.13	0.27 0.18	0.31 0.21	0.09 0.06	0.17 0.12	0.07 0.05	0.12 0.08	0.2 0.13	
	Aramid	kg/m/25 mm lb/ft/in	0.05 0.03	0.09 0.06	0.08 0.05	0.23 0.15	0.05 0.034	0.07 0.05	N/A N/A	0.09 0.06	0.11 0.07	N/A N/A	0.18 0.12	0.18 0.12	N/A N/A	0.07 0.05	0.12 0.08	0.11 0.08	0.21 0.14	N/A N/A	0.029 0.07	0.12 0.08	N/A N/A	N/A N/A	N/A N/A	
	High Flex	kg/m/25 mm lb/ft/in	N/A N/A	N/A N/A	0.11 0.7	N/A N/A	N/A N/A	N/A N/A	N/A N/A	0.046 0.079	0.14 0.09	0.21 0.14	0.15 0.10	N/A N/A	N/A N/A	N/A N/A	0.17 0.11	0.21 0.14	0.28 0.19	N/A N/A	N/A N/A	0.17 0.11	N/A N/A	N/A N/A	0.21 0.14	
	Stainless Steel	kg/m/25 mm lb/ft/in	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	0.17 0.11	N/A N/A	0.19 0.13	N/A N/A	N/A N/A	N/A N/A	0.17 0.11	N/A N/A	N/A N/A	N/A N/A	N/A N/A	0.17 0.11	N/A N/A	N/A N/A	N/A N/A	
Specific Belt Stiffness (Open Ended)	Steel	N/25 mm lbf/in	213360 47968	412877 92823	484759 108984	950214 213627	210000 47212	440125 98949	23400 133600	477125 107267	1052156 236546	1465000 329362	1052156 236546	1465000 329362	1778498 399842	585000 131520	935250 210263	1465000 329362	1289000 289793	1910330 429481	585000 131520	935250 210263	440125 98949	864000 194245	1465000 329362	
	Aramid	N/25 mm lbf/in	232537 52279	307340 69096	270129 60730	444500 99933	228875 51456	302500 6800	N/A N/A	265875 59774	418650 94121	N/A N/A	418650 94121	497210 111783	N/A N/A	265875 59774	437500 98359	497210 111783	433283 97411	N/A N/A	265875 59774	437500 98359	N/A N/A	N/A N/A	N/A N/A	
	High Flex	N/mm lbf/in	N/A N/A	N/A N/A	23400 133600	N/A N/A	N/A N/A	N/A N/A	N/A N/A	585000 131520	810000 182104	1269750 285465	864000 246043	N/A N/A	N/A N/A	N/A N/A	864000 194245	997661 224294	1117380 251210	N/A N/A	N/A N/A	864000 194245	N/A N/A	N/A N/A	1269750 385465	
	Stainless Steel	N/mm lbf/in	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	701438 157697	N/A N/A	701438 157697	N/A N/A	N/A N/A	N/A N/A	701438 157697	N/A N/A	N/A N/A	N/A N/A	N/A N/A	701438 157697	N/A N/A	N/A N/A	N/A N/A	
Min. No. of Pulley Teeth	Steel and Aramid		10	10	14	18	10	15	15	14	15	25	15	18	25	14	18	31	28	36	14	18	25	24	32	
	High Flex		N/A	N/A	12	N/A	N/A	N/A	N/A	12	12	20	12	N/A	N/A	N/A	16	25	23	N/A	N/A	25	N/A	N/A	25	
	Stainless Steel		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	25	N/A	20	N/A	N/A	N/A	25	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Min. Pulley Diameter (Inch or mm)	Steel and Aramid	inch or mm	.64"	1.19"	2.23	5.01	16 mm	24 mm	24 mm	45 mm	48 mm	80 mm	95 mm	115 mm	159 mm	22 mm	46 mm	80 mm	18 mm	160 mm	22 mm	46 mm	24 mm	39 mm	81 mm	
	High Flex	inch or mm	N/A	N/A	1.91	N/A	N/A	N/A	N/A	38 mm	38mm	64 mm	76mm	N/A	N/A	N/A	41 mm	64 mm	102 mm	N/A	N/A	41 mm	N/A	N/A	64 mm	
	Stainless Steel	mm	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	80 mm	N/A	127 mm	N/A	N/A	N/A	64 mm	N/A	N/A	N/A	N/A	64 mm	N/A	N/A	N/A	
Min. Diameter of Tensioning Idler Running on Back of Belt	Steel and Aramid	in/mm	1.18"/30 mm	2.36"/60 mm	3.15"/80mm	7.09"/180mm	1.18"/30 mm	2.375"/60mm	2.36"/60mm	2.36"/60mm	4.72"/120mm	5.91"/150mm	4.72"/120mm	7.09"/180mm	9.84"/250mm	2.36"/60mm	4.72"/120mm	5.91"/150mm	7.09"/180mm	9.84"/250mm	2.36"/60mm	4.72"/120mm	2.36"/60mm	3.94"/100mm	2.51"/64mm	
	High Flex	in/mm	N/A	N/A	2.6"/60mm	N/A	N/A	N/A	N/A	1.96"/50mm	3.94"/100mm	5.12"/130mm	3.94"/100mm	N/A	N/A	N/A	3.94"/100mm	5.12"/130mm	6.30"/160mm	N/A	N/A	3.94"/100mm	N/A	N/A	5.12"/130mm	
	Stainless Steel	in/mm	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.91"/150mm	N/A	6.30"/160mm	N/A	N/A	N/A	5.91"/150mm	N/A	N/A	N/A	N/A	5.91"/150mm	N/A	N/A	N/A	
Available in FDA Compliant Construction (85 Shore A Urethane)			Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	HTD8	No	Yes	No	No	No	No	No	No	
Standard Colors (N=Natural, W=White)			N	N	N	N	N	W	W	N	W	W	N	W	W	W	W	W	W	W	W	W	W	W	W	

Calculating Belt Weight

Imperial Units

Belt Weight = (Specific Belt Wt. lbf/ft/in) x (Belt Length, ft) x (Belt Width, in)
 e.g. 200 ft of H600, Steel Cord
 Belt Weight = 84 lbs = (0.07 lbf/ft/in) x (200 ft) x (6 in)

Metric Units

Belt Weight = (Specific Belt Wt. kgf/m/25 mm) x (Belt Length, m) x (Belt Width, 25 mm)
 e.g. 100 meters of 150T10, Steel Cord
 Belt Weight = 66 kg = (0.11kgf/m/cm) x (100 m) x (150mm/25mm)

Service Temperature Range

-5° C to 70° C (23° F to 158° F)

Hardness

92 Shore A - Standard PU, 85 Shore A - FDA Compliant PU

Coefficient of Friction

Urethane vs. UHMWPE (dry)	
Urethane vs. Steel (dry)	0.5 to 0.7
Urethane vs. Aluminum (dry)	0.5 to 0.6
Urethane vs. UHMWPE (dry)	0.2 to 0.4
Nylon vs. Steel (dry)	0.2 to 0.4
Nylon vs. UHMWPE (dry)	0.1 to 0.3

- Most belts are available with Nylon Fabric on either or both sides.

- For Nylon on the tooth side, specify "NT"
- For Nylon on the back side, specify "NB"
- For Nylon on both sides, specify "NTB"

Note: Nylon on tooth side is NOT available on HTD5 Steel or Kevlar in widths greater than 50 mm.

- Additional cord options may be available. See product catalog for all options and details.
- Belting produced to specific length tolerance is available upon request.
- Many linear positioning applications require belts of a specific length tolerance, or a "minus pitch tolerance." Gates TPU can produce belts to specific minus tolerances. Consult a Gates TPU Applications Engineer to determine the proper length tolerance calculation.

The specifications listed are based on Gates TPU's experience. However, our specifications and data do NOT cover all possible belt drive conditions. It is the responsibility of the belt drive system designer to ensure Gates TPU's belts are appropriate for a given system and application. The provided data is representative of our in-house experience and does not necessarily match product performance in industrial use. Gates TPU cannot assume any liability concerning the suitability and process ability of our products. We also cannot assume liability for process results, damages or consequential damages associated with the use of our products. Note, ultimate tensile strengths are listed for reference purposes only. Ultimate tensile strength values listed above are a theoretical calculation based on average cord strength and may not represent actual tensile test results.