

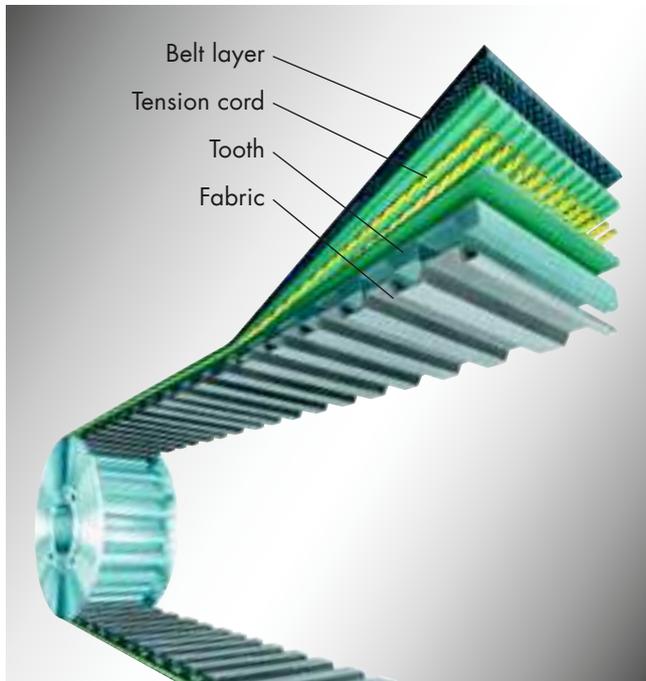
PRODUCT DESCRIPTION

optibelt ZR TIMING BELTS

ISO 5296



Structure



Top layer

A flexible belt backing embeds the tension element and supports it against the reverse idlers. The top layer consists of a flexible high quality chloroprene compound. This protects the tension cord from oil, humidity, friction and wear and tear.

This top layer has some inherent resistance to mineral oils, but not to vegetable oils and water soluble cooling and cutting oils.

Tension cord

The tension cord is a continuous, spirally wound glass fibre. This material has a high tensile strength and is extremely flexible. The low-stretch properties of the tension cord ensure that the pitch of the belt corresponds to the pitch of the pulley – even when under strain.

Teeth

The teeth are made of a shear and wear resistant rubber compound vulcanised to form a unit with the belt back. The shape and arrangement of the teeth are such that the pulley engages the belt teeth precisely and with minimum friction. As long as six teeth or more are in mesh on the small pulley, the complete capacity of the timing belt can be used without any deduction.

Fabric

In order to obtain a low level of wear on the running surfaces as well as achieving a high level of tooth shear strength, a tough, wear resistant fabric is applied to the outer tooth surface.

Tooth pitch, designations

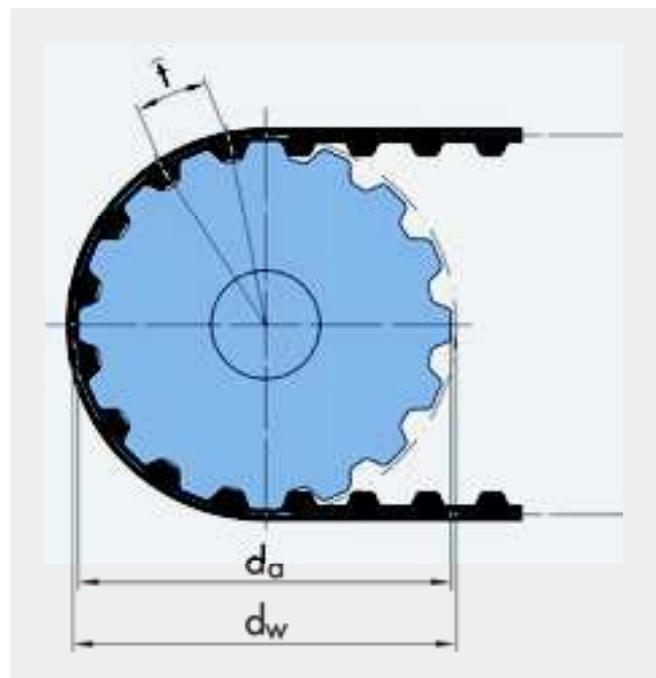
optibelt ZR timing belts are manufactured according to ISO 5296, timing belt pulleys according to ISO 5294. Both come in six standard profiles.

Due to the American origin of the timing belt profile, the length unit is "in" for inch. The width/length codes have thus been derived from the imperial (inch) measurements of widths and lengths.

Table 1: Belt profiles and tooth pitch

Profile	Tooth pitch t	
	[mm]	[inches]
MXL	2.032	0.080 or $\frac{2}{25}$
XL	5.080	0.200 or $\frac{1}{5}$
L	9.525	0.375 or $\frac{3}{8}$
H	12.700	0.500 or $\frac{1}{2}$
XH	22.225	0.875 or $\frac{7}{8}$
XXH	31.750	1.250 or $1\frac{1}{4}$

Tooth pitch is the distance from the centre of one tooth to the centre of the next measured at the pitch line, which corresponds with the level of the tension cord. The pitch or datum diameter of the pulley is a theoretical dimension which lies outside the outer diameter.



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Nominal size

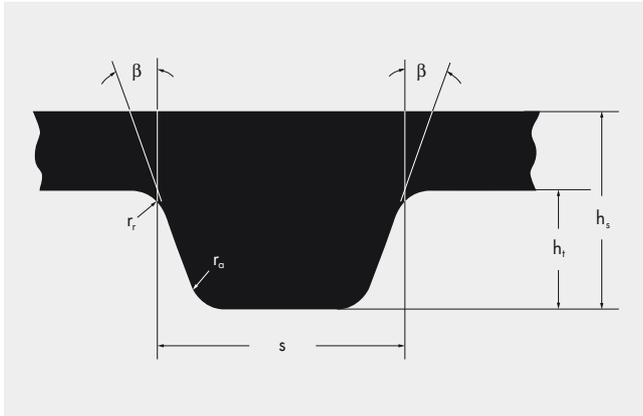


Table 2: Profile dimensions

Profile	MXL	XL	L	H	XH	XXH
Tooth angle 2β [°]	40	50	40	40	40	40
Tooth height h_t [mm]	0.51	1.27	1.91	2.29	6.35	9.53
Foot radius r_f [mm]	0.13	0.38	0.51	1.02	1.57	2.29
Head radius r_a [mm]	0.13	0.38	0.51	1.02	1.19	1.52
Tooth width s [mm]	1.14	2.57	4.65	6.12	12.57	19.05
Overall belt thickness h_s [mm]	1.2	2.3	3.6	4.0	11.2	15.7

Table 3: Width tolerances for optibelt ZR timing belts according to ISO 5296

Profile	Standard width		Allowed deviation of width for belt pitch lengths		
	Dimension [mm]	Width code	Up to 838.20 mm	Over 838.20 mm up to 1676.40 mm	Over 1676.40 mm
			[mm]	[mm]	[mm]
MXL	3.2	012	+ 0.5 - 0.8	-	-
	4.8	019			
	6.4	025			
XL	6.4	025	+ 0.5 - 0.8	+ 0.5 - 0.8	-
	7.9	031			
	9.5	037			
L	12.7	050	+ 0.8 - 0.8	+ 0.8 - 1.3	+ 0.8 - 1.2
	19.1	075			
	25.4	100			
H	19.1	075	+ 0.8 - 0.8	+ 0.8 - 1.3	+ 0.8 - 1.3
	25.4	100			
	38.1	150			
H	50.8	200	+ 0.8 - 1.3	+ 1.3 - 1.3	+ 1.3 - 1.5
	76.2	300			
XH	50.8	200	+ 4.8 - 4.8	+ 4.8 - 4.8	+ 4.8 - 4.8
	76.2	300			
	101.6	400			
XXH	50.8	200	+ 4.8 - 4.8	+ 4.8 - 4.8	+ 4.8 - 4.8
	76.2	300			
	101.6	400			
	127.0	500			

Weight per metre

Profile	MXL	XL	L	H	XH	XXH
kg/m per 1 mm width	0.0012	0,0021	0.0035	0.0041	0.0110	0.0147

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STANDARD PRODUCT RANGE



Profile	MXL	XL	L	H	XH	XXH
h_s [mm]	1.2	2.3	3.6	4.3	11.2	15.7
t [mm]	2.032	5.08	9.525	12.7	22.225	31.75

Profile MXL									Profile XL		
Belt designation	Pitch length [mm]	Number of teeth	Belt designation	Pitch length [mm]	Number of teeth	Belt designation	Pitch length [mm]	Number of teeth	Belt designation	Pitch length [mm]	Number of teeth
264 MXL•	67.06	33	808 MXL•	205.23	101	1320 MXL•	335.28	165	60 XL	152.40	30
360 MXL	91.44	45	816 MXL•	207.26	102	1360 MXL•	345.44	170	70 XL	177.80	35
432 MXL•	109.73	54	824 MXL•	209.30	103	1400 MXL	355.60	175	80 XL	203.20	40
440 MXL	111.76	55	840 MXL•	213.36	105	1440 MXL•	365.76	180	86 XL•	218.44	43
448 MXL•	113.79	56	848 MXL•	215.39	106	1472 MXL•	373.89	184	88 XL	223.52	44
456 MXL•	115.82	57	856 MXL•	217.42	107	1520 MXL•	386.08	190	90 XL	228.60	45
464 MXL•	117.86	58	864 MXL•	219.46	108	1560 MXL•	396.24	195	92 XL•	233.68	46
480 MXL	121.92	60	880 MXL	223.52	110	1600 MXL•	406.40	200	94 XL•	238.76	47
488 MXL•	123.95	61	896 MXL•	227.58	112	1768 MXL•	449.07	221	96 XL•	243.84	48
536 MXL•	136.14	67	904 MXL•	229.62	113	1800 MXL•	457.20	225	98 XL•	248.92	49
544 MXL•	138.18	68	912 MXL•	231.65	114	1888 MXL•	479.55	236	100 XL	254.00	50
560 MXL•	142.24	70	920 MXL•	233.68	115	1984 MXL•	503.94	248	102 XL	259.08	51
568 MXL•	144.27	71	960 MXL•	243.84	120	1992 MXL•	505.97	249	106 XL	269.24	53
576 MXL•	146.30	72	976 MXL•	247.90	122	2008 MXL•	510.03	251	108 XL•	274.32	54
600 MXL•	152.40	75	984 MXL•	249.94	123	2048 MXL•	520.19	256	110 XL	279.40	55
608 MXL•	154.43	76	1000 MXL•	254.00	125	2144 MXL•	544.58	268	112 XL•	284.48	56
632 MXL•	160.53	79	1008 MXL•	256.03	126	2240 MXL•	568.96	280	116 XL	294.64	58
640 MXL	162.56	80	1040 MXL•	264.16	130	2384 MXL•	605.54	298	118 XL•	299.72	59
656 MXL•	166.62	82	1056 MXL•	268.22	132	2480 MXL•	629.92	310	120 XL	304.80	60
664 MXL•	168.66	83	1072 MXL•	272.29	134	2520 MXL•	640.08	315	124 XL•	314.96	62
672 MXL•	170.69	84	1080 MXL•	274.32	135	2680 MXL•	680.72	335	126 XL	320.04	63
680 MXL•	172.72	85	1112 MXL•	282.45	139	2776 MXL•	705.10	347	128 XL	325.12	64
704 MXL•	178.82	88	1120 MXL	284.48	140	2880 MXL•	731.52	360	130 XL	330.20	65
720 MXL•	182.88	90	1136 MXL•	288.54	142	2920 MXL•	741.68	365	134 XL	340.36	67
728 MXL•	184.91	91	1176 MXL•	298.70	147	3200 MXL•	812.80	400	136 XL	345.44	68
736 MXL•	186.94	92	1184 MXL•	300.74	148	3472 MXL•	881.89	434	138 XL•	350.52	69
752 MXL•	191.01	94	1200 MXL•	304.80	150	3624 MXL•	920.50	453	140 XL	355.60	70
760 MXL•	193.04	95	1224 MXL•	310.90	153	3704 MXL•	940.82	463	142 XL	360.68	71
776 MXL•	197.10	97	1272 MXL•	323.09	159	3984 MXL•	1011.94	498	148 XL•	375.92	74
800 MXL•	203.20	100	1280 MXL•	325.12	160	4040 MXL•	1026.16	505	150 XL▲	381.00	75

The sizes marked ▲ are also available as double-sided timing belts.
Profiles and dimensions see page 34.

Standard width	Width code	Standard width	Width code
3.2 mm	012	6.4 mm	025
4.8 mm	019	7.9 mm	031
6.4 mm	025	9.5 mm	037
		12.7 mm	050
		19.1 mm	075
		25.4 mm	100

• Not available ex stock Further sizes on request