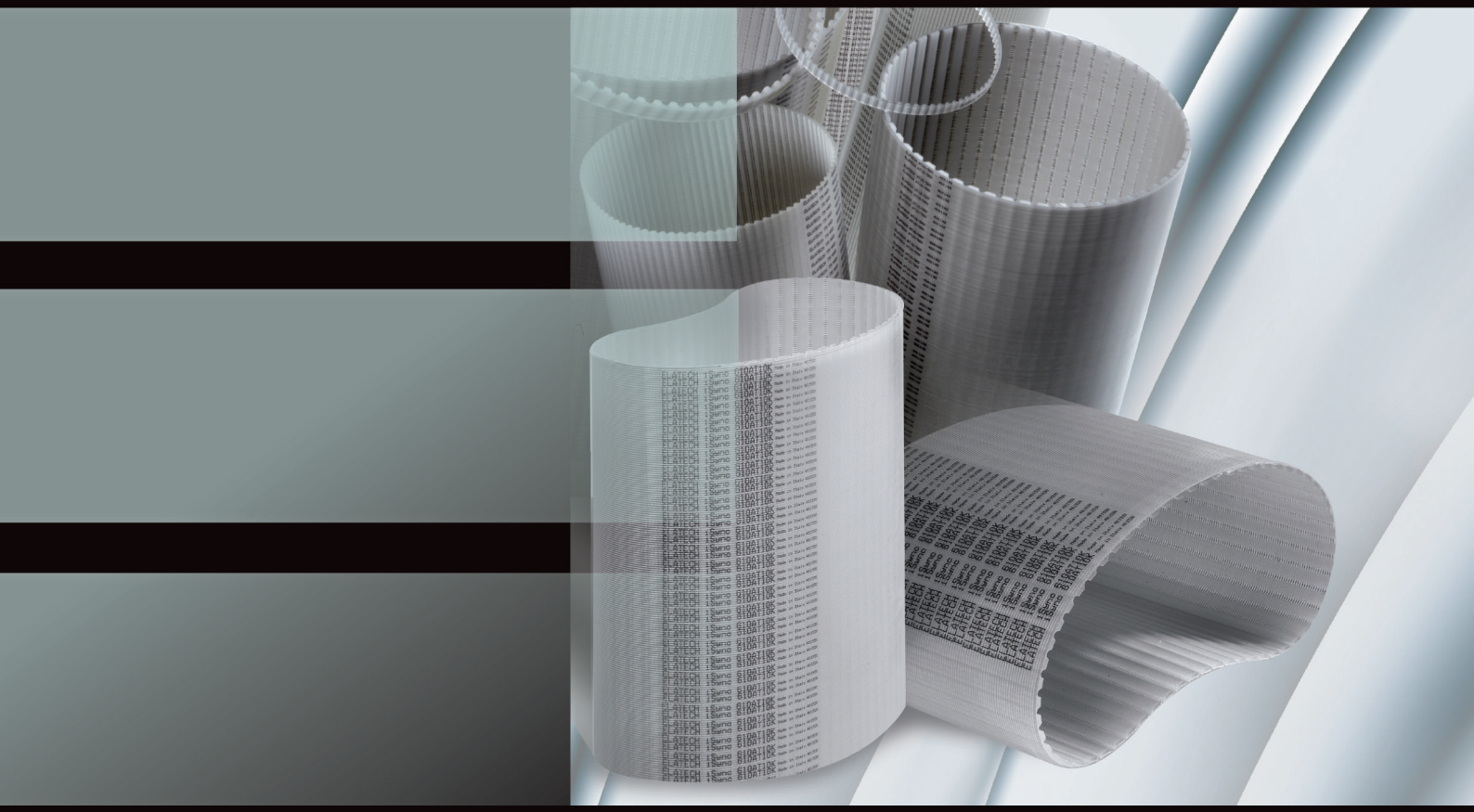
ELATECH® iSync®
high performance timing belts

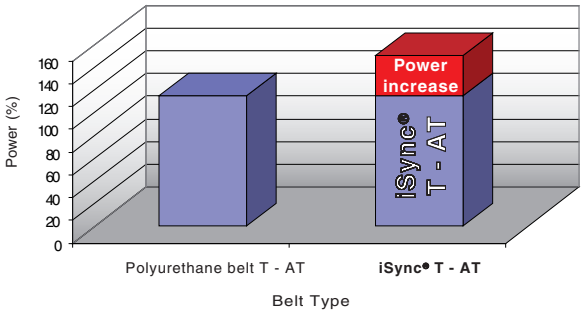


Elatech
Technology in Motion.

ELATECH® iSync®

In the spirit of continuos innovation, in order to answer to the increased need of industry in power transmission, **ELATECH®** has developed the **iSync®** range of belts. **iSync®** belts are made with special polyurethane compound and high resistance steel tension cords which are processed with a unique and highly sophisticated technology to get a superior polyurethane belt. **iSync®** belts offer optimal performances on all types of industrial applications.

iSync® belts are able to transmit up to 30% more than conventional T, AT type of belts in the same space or same power with a more compact drive.



Features
- High power transmission capabilities
- Maintenance free
- Superior length stability
- Clean power transmission with no dust dispersion
- No contamination of object in contact
- Very high chemical resistance and particularly to oils, greases and gasoline
- Superior abrasion resistance
- High quality, thermo-set polyurethane designed specifically for timing belt applications
- Available with either steel or Kevlar® reinforcement
- Application temperature -10°C - +80 °C (standard)
- Up to +125 °C with special compound PU 53

Typical application fields

ELATECH® iSync® belts are suitable for power transmission drives where high precision is needed, cleanliness is critical and in difficult environment (presence of chemicals).
- Plotters
- Office automation
- Medical technology
- Packaging machines
- Swimming pool cleaning robots
- Banking machines
- Coin dispenser
- Vending machines
- Optical instruments
- Cameras
- Machine tools
- Robot arms
- Home appliances
- Vacuum systems
- Food processing machines
- Textile machines
- Gardening equipment and machines

Applications with special backing and cleats are specifically designed for special heavy duty conveying drives.

Available profile range

ELATECH® iSync® belts are available in a standard range in the following profile range:

T2,5, T5, T10, AT5, AT10, XL, L

As special the following profile can be manufactured on request **MXL, H, HTD5M, DD double sided executions.**

Tension cords

ELATECH® iSync® timing belts are manufactured with high tensile strength steel cords as standard. All technical data shown in the catalogue are valid for standard cords. Belt with special cords have different mechanical and chemical properties. Special type of tension member such as stainless steel, HFE high flexibility or aramid fiber (Kevlar®) are available on request for special applications.
Aramid (Kevlar®) tension cords are used where non-magnetic drives are requested.
Stainless steel is used where high corrosion resistance is required.
Fiberglass and polyester are used where high flexibility and water restistance are required.

FDA - Approved Belts

ELATECH® has developed a special formulation for iSync® moulded belts for application in:

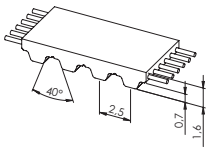
- packing
- conveying
- processing

of dairy, meat and food products which complies to the U.S. Food and Drugs Administration (FDA) law and regulations.

Please contact our Sales Department.

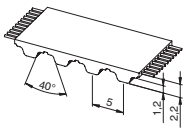
Standard belt sizes - Single toothing

T2,5



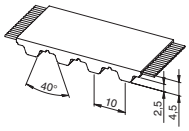
Length [mm] z	Length [mm]
48	120
58	145
64	160
71	177,5
72	180
74	185
80	200
84	210
92	230
98	245
106	265
111	277,5
114	285
116	290
122	305
127	317,5
132	330
137	342,5
152	380
168	420
192	480
200	500
216	540
240	600
260	650
312	780
366	915
380	950
590	1475

T5



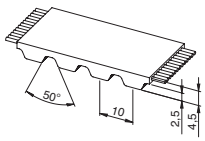
Number of teeth z	Length [mm]	Number of teeth z	Length [mm]
33	165	**112**	560
36	180	**115**	575
37	185	**118**	590
40	200	**120**	600
42	210	**122**	610
43	215	**124**	620
44	220	**125**	625
45	225	**126**	630
49	245	**128**	640
50	250	**130**	650
51	255	**132**	660
52	260	**135**	675
54	270	**138**	690
55	275	**140**	700
56	280	**144**	720
59	295	**145**	725
60	300	**150**	750
61	305	**153**	765
64	320	**156**	780
65	325	**160**	800
66	330	**163**	815
68	340	**166**	830
70	350	**168**	840
71	355	**170**	850
72	360	**172**	860
73	365	**180**	900
75	375	**188**	940
78	390	**198**	990
80	400	**200**	1000
82	410	**215**	1075
84	420	**220**	1100
85	425	**223**	1115
86	430	**228**	1140
88	440	**240**	1200
89	445	**243**	1215
90	450	**253**	1265
91	455	**255**	1275
92	460	**256**	1280
95	475	**263**	1315
96	480	**270**	1350
100	500	**271**	1355
102	510	**276**	1380
105	525	**288**	1440
109	545	**391**	1955
110	550	**-**	-

T10



Number of teeth z	Length [mm]	Number of teeth z	Length [mm]
26	260	**96**	960
32	320	**97**	970
35	350	**98**	980
37	370	**100**	1000
40	400	**101**	1010
41	410	**105**	1050
44	440	**108**	1080
45	450	**110**	1100
48	480	**111**	1110
50	500	**114**	1140
53	530	**115**	1150
55	550	**120**	1200
56	560	**121**	1210
60	600	**124**	1240
61	610	**125**	1250
63	630	**130**	1300
65	650	**132**	1320
66	660	**135**	1350
68	680	**139**	1390
69	690	**140**	1400
70	700	**142**	1420
72	720	**144**	1440
73	730	**145**	1450
75	750	**146**	1460
76	760	**150**	1500
78	780	**156**	1560
80	800	**160**	1600
81	810	**161**	1610
84	840	**170**	1700
85	850	**175**	1750
88	880	**178**	1780
89	890	**180**	1800
90	900	**188**	1880
91	910	**196**	1960
92	920	**225**	2250
95	950	**-**	-

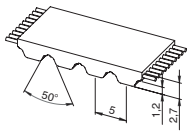
VACUUM - T10



Number of teeth z	Length [mm]
60	600
63	630
72	720
80	800
92	920

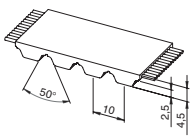
Order example
ELATECH® iSync® Timing Belt U 420 T5 / 16

AT5



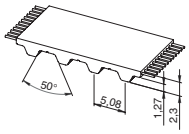
Number of teeth z	Length [mm]
45	225
51	255
56	280
60	300
68	340
75	375
78	390
84	420
90	450
91	455
100	500
109	545
120	600
122	610
132	660
142	710
144	720
150	750
156	780
165	825
172	860
195	975
210	1050
225	1125
257	1285
300	1500

AT10



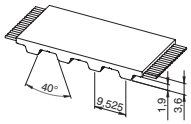
Number of teeth z	Length [mm]
50	500
53	530
56	560
58	580
60	600
61	610
66	660
70	700
73	730
78	780
80	800
81	810
84	840
88	880
89	890
92	920
96	960
98	980
100	1000
101	1010
105	1050
108	1080
110	1100
115	1150
120	1200
121	1210
123	1230
125	1250
128	1280
130	1300
132	1320
135	1350
136	1360
140	1400
142	1420
148	1480
150	1500
160	1600
170	1700
172	1720
180	1800
186	1860
194	1940

XL



Number of teeth z	Length [mm]	Length [inch]
30	152,4	6
35	177,8	7
40	203,2	8
45	228,6	9
50	254,0	10
55	279,4	11
60	304,8	12
65	330,2	13
70	355,6	14
75	381,0	15
80	406,4	16
85	431,8	17
90	457,2	18
95	482,6	19
100	508,6	20
105	533,4	21
110	558,8	22
115	584,2	23
120	609,6	24

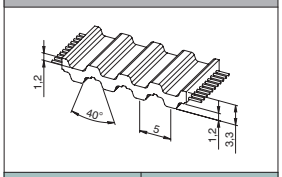
L

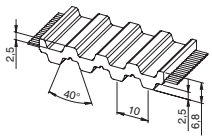


Number of teeth z	Length [inch]
33	12,38
40	15
44	16,5
46	17,3
50	18,75
54	20,25
56	21
60	22,5
64	24
68	25,5
72	27
76	28,5
80	30
86	32,5
92	34,5
98	36,7
104	39
112	42
136	51
144	54

Order example				
ELATECH® iSync® Timing Belt	U	450	AT5 / 16
ELATECH® iSync® Timing Belt	U	225	L / 100

Standard belt sizes - Dual toothing

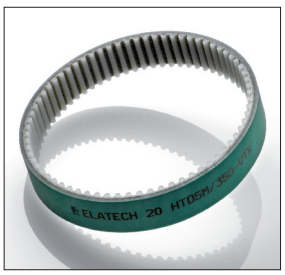
DT5	
	
Number of teeth z	Length [mm]
82	410
92	460
118	590
124	620
125	625
150	750
160	800
163	815
168	840
172	860
188	940
220	1100

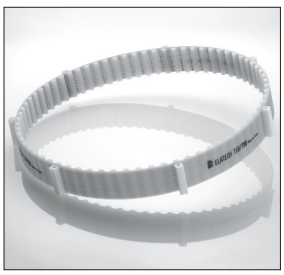
DT10	
	
Number of teeth z	Length [mm]
26	260
53	530
63	630
66	660
72	720
81	810
84	840
92	920
98	980
110	1100
121	1210
124	1240
125	1250
132	1320
135	1350
142	1420
161	1610
188	1880

Order example
ELATECH® iSync® Timing Belt U 620 DT5 / 16

Special belts

Special belts with cleats, backing and with special moulded shape are designed and manufactured to maximize application performance.

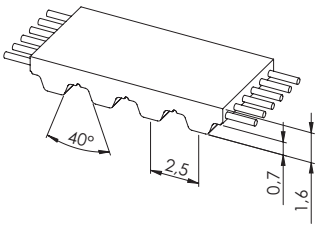




ELATECH® iSync® high performance endless timing belt technical data

iSync®

T 2,5



Belt characteristics

- Truly endless polyurethane timing belt with steel tension cords
- Tooth profile according to ISO 17396
- Metric pitch 2,5 mm
- Ideal for drives where high belt flexibility is required
- Allows the use of small diameter pulleys
- Transmissible power up to 5 kW
- Rpm up to 10.000 [1/min]

- Width tolerance: ±0,3 [mm]
- Thickness tolerance: ±0,15 [mm]

Technical Data

Belt width [mm]	4	6	8	10	12	16	25	32
Allowable tensile load [N]	45	81	108	135	162	225	351	459
Weight [g/m]	6	9	12	15	18	24	37	48

Other widths are available on request.

Tooth shear strength

rpm [min⁻¹]	M_{spez} [Ncm/cm]	P_{spez} [W/cm]	rpm [min⁻¹]	M_{spez} [Ncm/cm]	P_{spez} [W/cm]	rpm [min⁻¹]	M_{spez} [Ncm/cm]	P_{spez} [W/cm]
0	0,471	0,000	**1200**	0,287	0,361	**3400**	0,228	0,810
20	0,454	0,010	**1300**	0,283	0,385	**3600**	0,224	0,845
40	0,44	0,018	**1400**	0,278	0,408	**3800**	0,221	0,880
60	0,429	0,027	**1440**	0,277	0,417	**4000**	0,218	0,914
80	0,421	0,035	**1500**	0,274	0,431	**4500**	0,211	0,996
100	0,414	0,043	**1600**	0,271	0,454	**5000**	0,205	1,074
200	0,382	0,080	**1700**	0,267	0,476	**5500**	0,200	1,150
300	0,362	0,114	**1800**	0,264	0,498	**6000**	0,195	1,223
400	0,347	0,145	**1900**	0,261	0,519	**6500**	0,19	1,293
500	0,335	0,175	**2000**	0,258	0,541	**7000**	0,186	1,360
600	0,325	0,204	**2200**	0,253	0,582	**7500**	0,182	1,426
700	0,317	0,232	**2400**	0,248	0,622	**8000**	0,178	1,489
800	0,31	0,259	**2600**	0,243	0,662	**8500**	0,174	1,551
900	0,303	0,286	**2800**	0,239	0,700	**9000**	0,171	1,611
1000	0,297	0,311	**3000**	0,235	0,715	**9500**	0,168	1,668
1100	0,292	0,336	**3200**	0,231	0,738	**10000**	0,165	1,725

The total power "P" and the total torque "M" transmitted by the belt, are calculated with the following formulas:

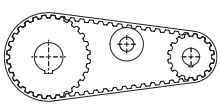
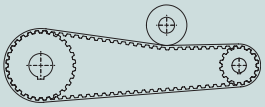
P [kW] = P_{spez} • z_e • z_k • b / 1000

M [Nm] = M_{spez} • z_e • z_k • b / 100

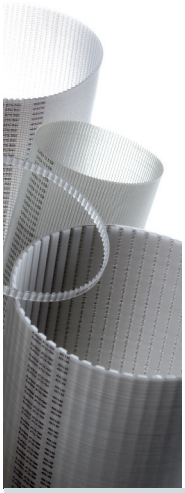
$$z_e = \frac{Z_k}{180} \cdot \arccos \cdot \left[\frac{t \cdot (z_g - z_k)}{2 \cdot \pi \cdot A} \right]$$

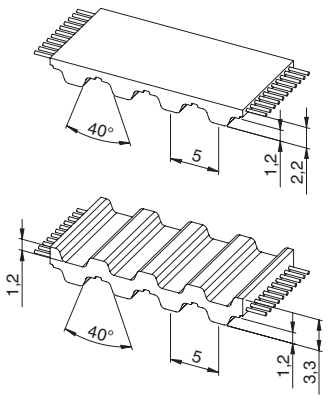
P = power in kW
M = torque in Nm
P_{spez} = specific power
M_{spez} = specific torque
z_e = number of teeth in mesh of the small pulley
z_{emax} = 12
z_k = number of teeth of the small pulley
b = belt width in cm
A = centre distance [mm]
t = pitch

Flexibility

Minimum pulley number of teeth and minimum idler diameter			
Drive without reverse bending		Timing pulley z_{min}	10
		Flat idler running on belt teeth d_{min}	15 mm
Drive with reverse bending		Timing pulley z_{min}	18
		Flat idler running on belt back d_{min}	15 mm

T 5 / T 5 Dual





Belt characteristic

- Truly endless polyurethane timing belt with steel tension cords
- Tooth profile according to ISO 17396
- Metric pitch 5 mm
- Ideal for drives where high belt flexibility is required
- Allows the use of small diameter pulleys
- Rpm up to 10.000 [1/min]

- Width tolerance: ±0,5 [mm]
- Thickness tolerance: ±0,15 [mm]

Technical Data

Belt width [mm]	10	12	16	25	32	50	75	100
Allowable tensile load [N]	430	520	690	1090	1380	2170	3290	4160
Weight [g/m]	24	28	38	60	77	120	180	240
Weight DT5 [g/m]	27	32	43	68	97	138	210	270

Other widths are available on request.

Tooth shear strength

rpm [min⁻¹]	M_{spez} [Ncm/cm]	P_{spez} [W/cm]	rpm [min⁻¹]	M_{spez} [Ncm/cm]	P_{spez} [W/cm]	rpm [min⁻¹]	M_{spez} [Ncm/cm]	P_{spez} [W/cm]
0	2,523	0,000	**1200**	1,607	2,019	**3400**	1,248	4,444
20	2,458	0,051	**1300**	1,580	2,151	**3600**	1,229	4,632
40	2,403	0,101	**1400**	1,555	2,279	**3800**	1,209	4,812
60	2,354	0,148	**1440**	1,545	2,330	**4000**	1,191	4,988
80	2,312	0,194	**1500**	1,532	2,406	**4500**	1,149	5,414
100	2,276	0,238	**1600**	1,510	2,529	**5000**	1,111	5,818
200	2,135	0,447	**1700**	1,489	2,651	**5500**	1,078	6,206
300	2,032	0,638	**1800**	1,470	2,770	**6000**	1,046	6,571
400	1,951	0,817	**1900**	1,451	2,888	**6500**	1,017	6,924
500	1,884	0,987	**2000**	1,433	3,001	**7000**	0,991	7,262
600	1,829	1,149	**2200**	1,400	3,226	**7500**	0,966	7,588
700	1,781	1,306	**2400**	1,371	3,445	**8000**	0,943	7,897
800	1,738	1,456	**2600**	1,342	3,654	**8500**	0,920	8,191
900	1,701	1,603	**2800**	1,317	3,860	**9000**	0,900	8,480
1000	1,667	1,745	**3000**	1,306	3,940	**9500**	0,880	8,758
1100	1,635	1,884	**3200**	1,292	4,059	**10000**	0,862	9,027

The total power "P" and the total torque "M" transmitted by the belt, are calculated with the following formulas:

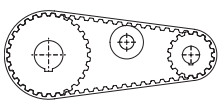
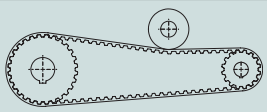
P [kW] = P_{spez} • z_e • z_k • b / 1000

M [Nm] = M_{spez} • z_e • z_k • b / 100

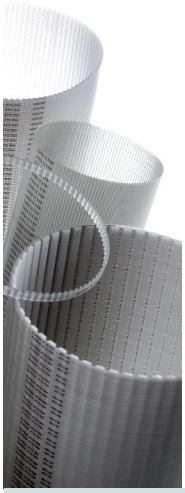
$$z_e = \frac{Z_k}{180} \cdot \arccos \cdot \left[\frac{t \cdot (z_g - z_k)}{2 \cdot \pi \cdot A} \right]$$

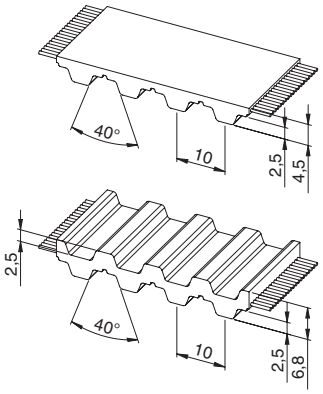
P = power in kW
M = torque in Nm
P_{spez} = specific power
M_{spez} = specific torque
z_e = number of teeth in mesh of the small pulley
z_{emax} = 12
z_k = number of teeth of the small pulley
b = belt width in cm
A = centre distance [mm]
t = pitch

Flexibility

Minimum pulley number of teeth and minimum idler diameter			
Drive without reverse bending		Timing pulley z_{min}	10
		Flat idler running on belt teeth d_{min}	30 mm
Drive with reverse bending		Timing pulley z_{min}	15
		Flat idler running on belt back d_{min}	30 mm

T 10 / T 10 Dual





Belt characteristics

- Truly endless polyurethane timing belt with steel tension cords
- Tooth profile according to ISO 17396
- Metric pitch 10 mm
- Ideal for drives where high belt flexibility is required
- Allows the use of small diameter pulleys
- Rpm up to 10.000 [1/min]

- Width tolerance: ±0,5 [mm]
- Thickness tolerance: ±0,2 [mm]

Technical Data

Belt width [mm]	10	16	25	32	50	75	100	150
Allowable tensile load [N]	890	1520	2280	3040	4680	7080	9490	14170
Weight [g/m]	50	77	120	155	240	365	480	725
Weight DT10 [g/m]	62	92	145	190	290	430	570	900

Other widths are available on request.

Tooth shear strength

rpm [min⁻¹]	M_{spez} [Ncm/cm]	P_{spez} [W/cm]	rpm [min⁻¹]	M_{spez} [Ncm/cm]	P_{spez} [W/cm]	rpm [min⁻¹]	M_{spez} [Ncm/cm]	P_{spez} [W/cm]
0	10,717	0	**1200**	6,25	7,854	**3400**	4,499	16,017
20	10,412	0,218	**1300**	6,119	8,330	**3600**	4,400	16,587
40	10,147	0,425	**1400**	5,998	8,792	**3800**	4,307	17,136
60	9,916	0,623	**1440**	5,951	8,974	**4000**	4,218	17,666
80	9,715	0,814	**1500**	5,884	9,242	**4500**	4,013	18,910
100	9,541	0,999	**1600**	5,777	9,678	**5000**	3,829	20,049
200	8,846	1,853	**1700**	5,676	10,104	**5500**	3,663	21,094
300	8,334	2,618	**1800**	5,58	10,518	**6000**	3,510	22,054
400	7,938	3,325	**1900**	5,49	10,922	**6500**	3,370	22,935
500	7,615	3,987	**2000**	5,404	11,316	**7000**	3,239	23,743
600	7,342	4,613	**2200**	5,243	12,077	**7500**	3,118	24,484
700	7,106	5,209	**2400**	5,095	12,805	**8000**	3,004	25,162
800	6,899	5,779	**2600**	4,959	13,501	**8500**	2,897	25,781
900	6,713	6,326	**2800**	4,832	14,168	**9000**	2,795	26,345
1000	6,545	6,853	**3000**	4,714	14,809	**9500**	2,700	26,855
1100	6,391	7,362	**3200**	4,603	15,424	**10000**	2,609	27,317

The total power "P" and the total torque "M" transmitted by the belt, are calculated with the following formulas:

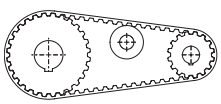
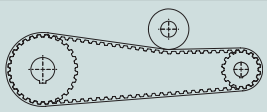
P [kW] = P_{spez} • z_e • z_k • b / 1000

M [Nm] = M_{spez} • z_e • z_k • b / 100

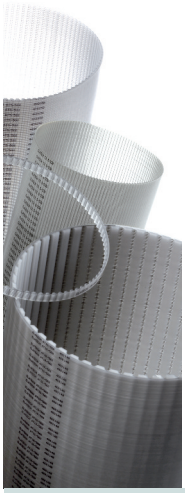
$$z_e = \frac{Z_k}{180} \cdot \arccos \cdot \left[\frac{t \cdot (z_g - z_k)}{2 \cdot \pi \cdot A} \right]$$

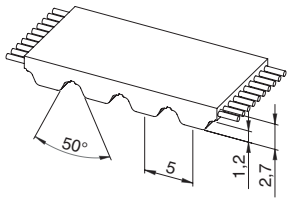
P = power in kW
M = torque in Nm
P_{spez} = specific power
M_{spez} = specific torque
z_e = number of teeth in mesh of the small pulley
z_{emax} = 12
z_k = number of teeth of the small pulley
b = belt width in cm
A = centre distance [mm]
t = pitch

Flexibility

Minimum pulley number of teeth and minimum idler diameter			
Drive without reverse bending		Timing pulley z_{min}	12
		Flat idler running on belt teeth d_{min}	60 mm
Drive with reverse bending		Timing pulley z_{min}	20
		Flat idler running on belt back d_{min}	60 mm

AT 5





Belt characteristics

- Truly endless polyurethane timing belt with steel ension cords
- Tooth profile according to ISO 17396
- Metric pitch 5 mm
- Tooth profile and dimension are optimised to guarantee uniform load distribution and minimum deformation under load
- High resistance and low stretch steel cords to guarantee high stability and low elongation
- Reduced polygonal effect with reduced drive vibration and noise
- Rpm up to 10.000 [1/min]

- Width tolerance: ±0,5 [mm]
- Thickness tolerance: ±0,15 [mm]

Technical Data

Belt width [mm]	6	10	16	25	32	50	75	100
Allowable tensile load [N]	430	790	1350	2200	2950	4700	7100	9500
Weight [g/m]	21	34	54	86	110	175	260	350

Other widths are available on request.

Tooth shear strength

rpm [min⁻¹]	M_{spez} [Ncm/cm]	P_{spez} [W/cm]	rpm [min⁻¹]	M_{spez} [Ncm/cm]	P_{spez} [W/cm]	rpm [min⁻¹]	M_{spez} [Ncm/cm]	P_{spez} [W/cm]
0	3,813	0,000	**1200**	2,668	3,352	**3400**	1,993	7,096
20	3,758	0,079	**1300**	2,620	3,566	**3600**	1,954	7,368
40	3,708	0,155	**1400**	2,574	3,773	**3800**	1,917	7,627
60	3,663	0,230	**1440**	2,557	3,855	**4000**	1,881	7,879
80	3,623	0,304	**1500**	2,531	3,975	**4500**	1,799	8,479
100	3,586	0,376	**1600**	2,491	4,173	**5000**	1,725	9,032
200	3,448	0,722	**1700**	2,452	4,365	**5500**	1,658	9,549
300	3,343	1,050	**1800**	2,416	4,554	**6000**	1,596	10,029
400	3,235	1,355	**1900**	2,381	4,737	**6500**	1,539	10,473
500	3,137	1,642	**2000**	2,348	4,918	**7000**	1,485	10,887
600	3,050	1,916	**2200**	2,285	5,265	**7500**	1,436	11,278
700	2,972	2,178	**2400**	2,229	5,601	**8000**	1,389	11,635
800	2,900	2,430	**2600**	2,175	5,923	**8500**	1,346	11,980
900	2,834	2,671	**2800**	2,125	6,231	**9000**	1,304	12,289
1000	2,775	2,905	**3000**	2,106	6,352	**9500**	1,264	12,576
1100	2,719	3,132	**3200**	2,079	6,531	**10000**	1,228	12,854

The total power "P" and the total torque "M" transmitted by the belt, are calculated with the following formulas:

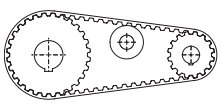
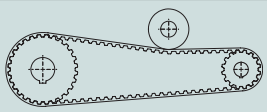
P [kW] = P_{spez} • z_e • z_k • b / 1000

M [Nm] = M_{spez} • z_e • z_k • b / 100

$$z_e = \frac{Z_k}{180} \cdot \arccos \cdot \left[\frac{t \cdot (z_g - z_k)}{2 \cdot \pi \cdot A} \right]$$

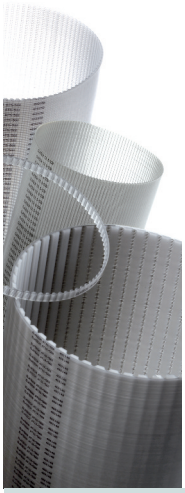
P = power in kW
M = torque in Nm
P_{spez} = specific power
M_{spez} = specific torque
z_e = number of teeth in mesh of the small pulley
z_{emax} = 12
z_k = number of teeth of the small pulley
b = belt width in cm
A = centre distance [mm]
t = pitch

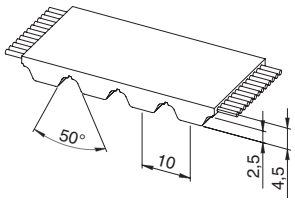
Flexibility

Minimum pulley number of teeth and minimum idler diameter			
Drive without reverse bending		Timing pulley z_{min}	15
		Flat idler running on belt teeth d_{min}	25 mm
Drive with reverse bending		Timing pulley z_{min}	20
		Flat idler running on belt back d_{min}	60 mm

iSync®

AT 10





Belt characteristics

- Truly endless polyurethane timing belt with steel tension cords
- Tooth profile according to ISO 17396
- Metric pitch 10 mm
- Tooth profile and dimension are optimised to guarantee uniform load distribution and minimum deformation under load
- High resistance and low stretch steel cords to guarantee high stability and low elongation
- Reduced polygonal effect with reduced drive vibration and noise
- Rpm up to 10.000 [1/min]

- Width tolerance: ±0,5 [mm]
- Thickness tolerance: ±0,2 [mm]

Technical Data

Belt width [mm]	16	25	32	50	75	100	150
Allowable tensile load [N]	3150	5450	7100	11000	17200	23000	34600
Weight [g/m]	101	158	200	316	475	630	950

Other widths are available on request.

Tooth shear strength

rpm [min⁻¹]	M_{spez} [Ncm/cm]	P_{spez} [W/cm]	rpm [min⁻¹]	M_{spez} [Ncm/cm]	P_{spez} [W/cm]	rpm [min⁻¹]	M_{spez} [Ncm/cm]	P_{spez} [W/cm]
0	15,903	0,000	**1200**	10,174	12,785	**3400**	7,019	24,989
20	15,670	0,328	**1300**	9,945	13,538	**3600**	6,838	25,778
40	15,452	0,647	**1400**	9,731	14,266	**3800**	6,664	26,516
60	15,246	0,958	**1440**	9,649	14,550	**4000**	6,500	27,225
80	15,053	1,261	**1500**	9,529	14,968	**4500**	6,120	28,837
100	14,870	1,557	**1600**	9,340	15,649	**5000**	5,777	30,248
200	14,103	2,954	**1700**	9,160	16,305	**5500**	5,464	31,470
300	13,483	4,236	**1800**	8,990	16,944	**6000**	5,179	32,536
400	12,927	5,414	**1900**	8,828	17,563	**6500**	4,916	33,460
500	12,439	6,513	**2000**	8,672	18,162	**7000**	4,670	34,232
600	12,008	7,545	**2200**	8,380	19,305	**7500**	4,441	34,878
700	11,626	8,522	**2400**	8,113	20,390	**8000**	4,227	35,409
800	11,282	9,451	**2600**	7,866	21,414	**8500**	4,023	35,808
900	10,969	10,337	**2800**	7,632	22,378	**9000**	3,832	36,113
1000	10,683	11,186	**3000**	7,544	22,751	**9500**	3,651	36,322
1100	10,418	12,000	**3200**	7,416	23,296	**10000**	3,479	36,429

The total power "P" and the total torque "M" transmitted by the belt, are calculated with the following formulas:

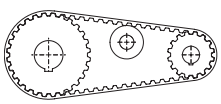
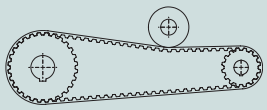
P [kW] = P_{spez} • z_e • z_k • b / 1000

M [Nm] = M_{spez} • z_e • z_k • b / 100

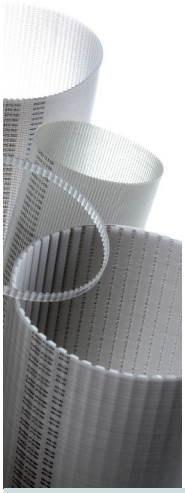
$$z_e = \frac{Z_k}{180} \cdot \arccos \cdot \left[\frac{t \cdot (z_g - z_k)}{2 \cdot \pi \cdot A} \right]$$

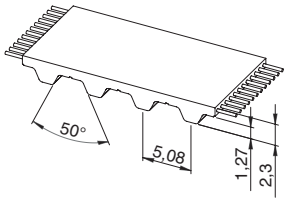
P = power in kW
M = torque in Nm
P_{spez} = specific power
M_{spez} = specific torque
z_e = number of teeth in mesh of the small pulley
z_{emax} = 12
z_k = number of teeth of the small pulley
b = belt width in cm
A = centre distance [mm]
t = pitch

Flexibility

Minimum pulley number of teeth and minimum idler diameter			
Drive without reverse bending		Timing pulley z_{min}	15
		Flat idler running on belt teeth d_{min}	50 mm
Drive with reverse bending		Timing pulley z_{min}	25
		Flat idler running on belt back d_{min}	120 mm

XL





Belt characteristics

- Truly endless polyurethane timing belt with steel tension cords and trapezoidal tooth profile according to UNI/ISO 5296
- Imperial pitch 1/5" = 5,08 mm
- Mainly used in applications where inch pitch is an advantage
- Transmissible power up to 5 kW
- Rpm up to 10.000 [1/min]

- Width tolerance: ±0,5 [mm]
- Thickness tolerance: ±0,2 [mm]

Technical Data

Belt width [inch]	**0,25**	**0,31**	**0,37**	**0,50**
Allowable tensile load [N]	224	320	384	512
Weight [g/m]	12	16	19	22

Other widths are available on request.

Tooth shear strength

rpm [min^{-1}]	M_{spez} [Ncm/cm]	P_{spez} [W/cm]	**rpm** [min^{-1}]	M_{spez} [Ncm/cm]	P_{spez} [W/cm]	**rpm** [min^{-1}]	M_{spez} [Ncm/cm]	P_{spez} [W/cm]
0	2,638	0	**1200**	1,682	2,114	**3400**	1,308	4,655
20	2,571	0,054	**1300**	1,654	2,252	**3600**	1,287	4,850
40	2,512	0,105	**1400**	1,628	2,387	**3800**	1,266	5,039
60	2,462	0,155	**1440**	1,618	2,44	**4000**	1,247	5,225
80	2,417	0,202	**1500**	1,604	2,519	**4500**	1,204	5,671
100	2,379	0,249	**1600**	1,581	2,649	**5000**	1,164	6,095
200	2,233	0,468	**1700**	1,560	2,776	**5500**	1,129	6,499
300	2,125	0,668	**1800**	1,539	2,901	**6000**	1,096	6,885
400	2,041	0,855	**1900**	1,520	3,024	**6500**	1,066	7,253
500	1,973	1,033	**2000**	1,501	3,144	**7000**	1,038	7,606
600	1,915	1,203	**2200**	1,467	3,379	**7500**	1,012	7,945
700	1,865	1,367	**2400**	1,435	3,607	**8000**	0,987	8,270
800	1,821	1,525	**2600**	1,406	3,828	**8500**	0,964	8,582
900	1,781	1,678	**2800**	1,379	4,043	**9000**	0,943	8,883
1000	1,745	1,827	**3000**	1,354	4,253	**9500**	0,922	9,172
1100	1,712	1,972	**3200**	1,330	4,457	**10000**	0,903	9,450

The total power "P" and the total torque "M" transmitted by the belt, are calculated with the following formulas:

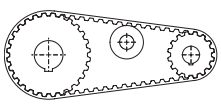
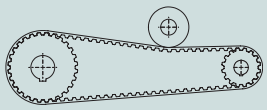
P [kW] = P_{spez} • z_e • z_k • b / 1000

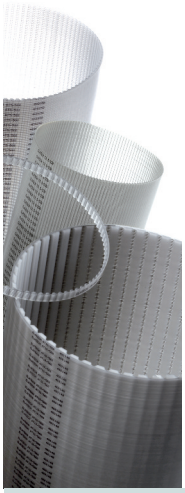
M [Nm] = M_{spez} • z_e • z_k • b / 100

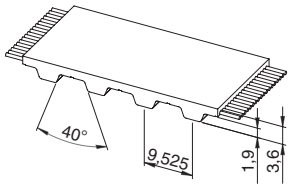
$$z_e = \frac{Z_k}{180} \cdot \arccos \cdot \left[\frac{t \cdot (z_g - z_k)}{2 \cdot \pi \cdot A} \right]$$

P = power in kW
M = torque in Nm
P_{spez} = specific power
M_{spez} = specific torque
z_e = number of teeth in mesh of the small pulley
z_{emax} = 12
z_k = number of teeth of the small pulley
b = belt width in cm
A = centre distance [mm]
t = pitch

Flexibility

Minimum pulley number of teeth and minimum idler diameter			
Drive without reverse bending		Timing pulley z_{min}	10
		Flat idler running on belt teeth d_{min}	30 mm
Drive with reverse bending		Timing pulley z_{min}	15
		Flat idler running on belt back d_{min}	30 mm





Belt characteristics

- Truly endless polyurethane timing belt with steel tension cords and trapezoidal tooth profile according to UNI/ISO 5296
- Imperial pitch 3/8" = 9,525 mm
- Mainly used in applications where inch pitch is an advantage
- Transmissible power up to 20 kW
- Rpm up to 10.000 [1/min]

- Width tolerance: ±0,5 [mm]
- Thickness tolerance: ±0,2 [mm]

Technical Data

Belt width [inch]	**0,50**	**0,75**	**1,00**	**1,50**	**2,00**	**3,00**	**4,00**
Allowable tensile load [N]	1150	1725	2300	3565	4715	7245	9660
Weight [g/m]	50	80	100	150	200	300	400

Other widths are available on request.

Tooth shear strength

rpm [min^{-1}]	M_{spez} [Ncm/cm]	P_{spez} [W/cm]	**rpm** [min^{-1}]	M_{spez} [Ncm/cm]	P_{spez} [W/cm]	**rpm** [min^{-1}]	M_{spez} [Ncm/cm]	P_{spez} [W/cm]
0	7,607	0	**1200**	4,411	5,543	**3400**	3,174	11,299
20	7,375	0,154	**1300**	4,319	5,879	**3600**	3,104	11,701
40	7,174	0,300	**1400**	4,233	6,205	**3800**	3,038	12,087
60	6,999	0,440	**1440**	4,200	6,333	**4000**	2,975	12,46
80	6,847	0,574	**1500**	4,153	6,522	**4500**	2,830	13,335
100	6,714	0,703	**1600**	4,077	6,831	**5000**	2,700	14,135
200	6,225	1,304	**1700**	4,006	7,131	**5500**	2,582	14,869
300	5,872	1,844	**1800**	3,938	7,423	**6000**	2,474	15,542
400	5,596	2,344	**1900**	3,874	7,708	**6500**	2,374	16,159
500	5,370	2,811	**2000**	3,813	7,986	**7000**	2,282	16,725
600	5,179	3,254	**2200**	3,700	8,523	**7500**	2,196	17,243
700	5,013	3,675	**2400**	3,596	9,036	**8000**	2,115	17,716
800	4,867	4,077	**2600**	3,499	9,527	**8500**	2,039	18,148
900	4,737	4,464	**2800**	3,410	9,997	**9000**	1,967	18,540
1000	4,618	4,836	**3000**	3,326	10,448	**9500**	1,899	18,894
1100	4,510	5,195	**3200**	3,248	10,882	**10000**	1,835	19,214

The total power "P" and the total torque "M" transmitted by the belt, are calculated with the following formulas:

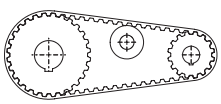
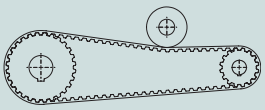
P [kW] = P_{spez} • z_e • z_k • b / 1000

M [Nm] = M_{spez} • z_e • z_k • b / 100

$$z_e = \frac{Z_k}{180} \cdot \arccos \cdot \left[\frac{t \cdot (z_g - z_k)}{2 \cdot \pi \cdot A} \right]$$

P = power in kW
M = torque in Nm
P_{spez} = specific power
M_{spez} = specific torque
z_e = number of teeth in mesh of the small pulley
z_{emax} = 12
z_k = number of teeth of the small pulley
b = belt width in cm
A = centre distance [mm]
t = pitch

Flexibility

Minimum pulley number of teeth and minimum idler diameter			
Drive without reverse bending		Timing pulley z_{min}	15
		Flat idler running on belt teeth d_{min}	60 mm
Drive with reverse bending		Timing pulley z_{min}	20
		Flat idler running on belt back d_{min}	60 mm