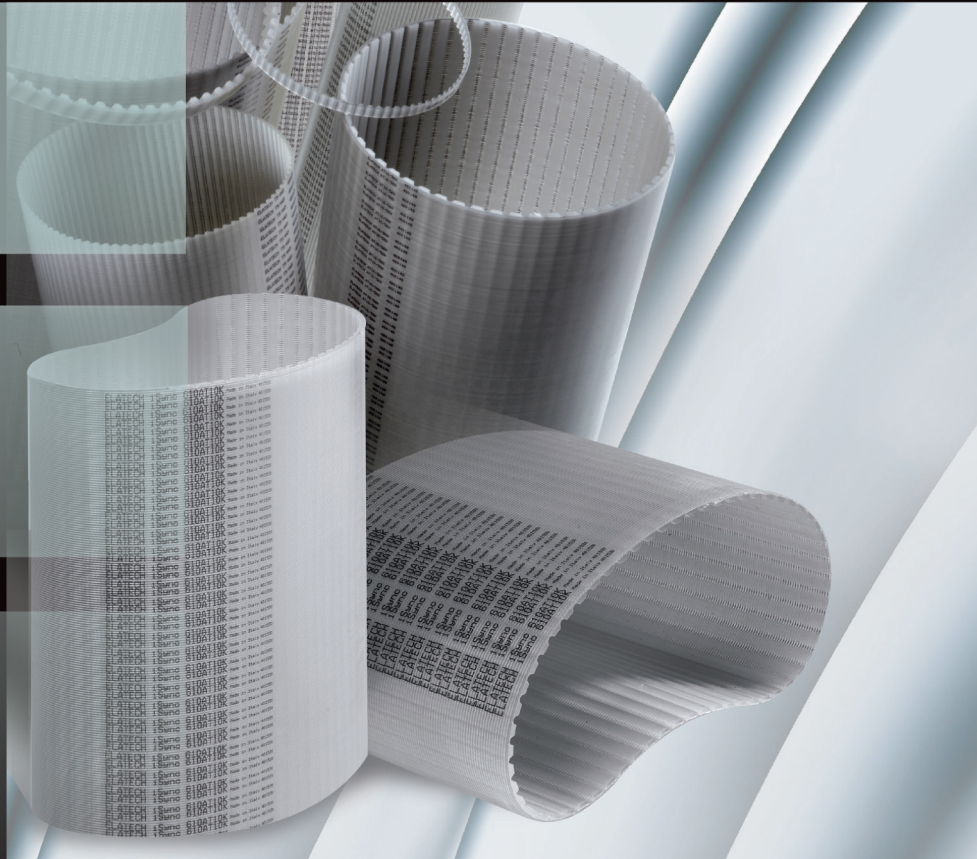
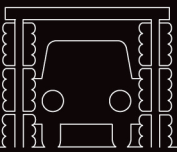


# ELATECH® iSync® high performance timing belts

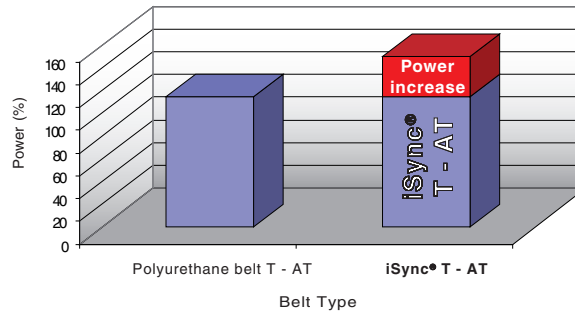


**Elatech**  
Technology in Motion.

# ELATECH® iSync®

In the spirit of continuous 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 resistance 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 tothing

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 tothing

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

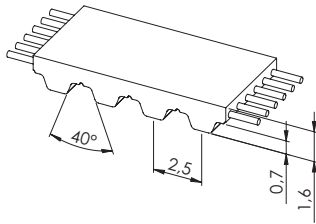
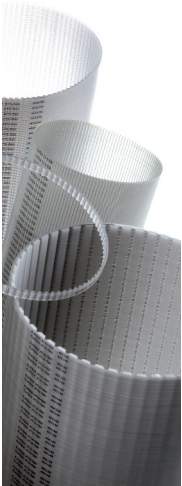
## Special belts

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:  $\pm 0,3$  [mm]
- Thickness tolerance:  $\pm 0,15$  [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 <sup>-1</sup> ]	M <sub>spez</sub> [Ncm/cm]	P <sub>spez</sub> [W/cm]	rpm [min <sup>-1</sup> ]	M <sub>spez</sub> [Ncm/cm]	P <sub>spez</sub> [W/cm]	rpm [min <sup>-1</sup> ]	M <sub>spez</sub> [Ncm/cm]	P <sub>spez</sub> [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:

$$P \text{ [kW]} = P_{\text{spez}} \cdot Z_e \cdot Z_k \cdot b / 1000$$

$$M \text{ [Nm]} = M_{\text{spez}} \cdot Z_e \cdot Z_k \cdot b / 100$$

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

P = power in kW

M = torque in Nm

P<sub>spez</sub> = specific power

M<sub>spez</sub> = specific torque

Z<sub>e</sub> = number of teeth in mesh of the small pulley

Z<sub>emax</sub> = 12

Z<sub>k</sub> = number of teeth of the small pulley

b = belt width in cm

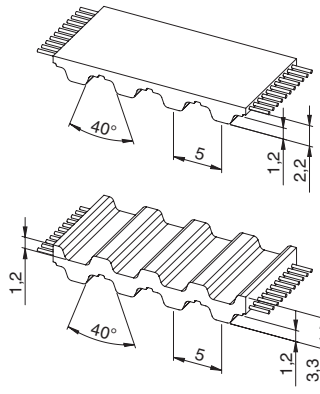
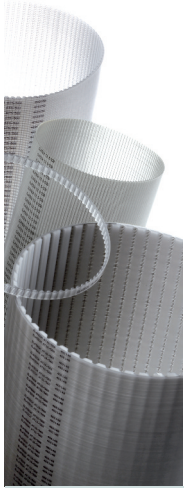
A = centre distance [mm]

t = pitch

### Flexibility

Minimum pulley number of teeth and minimum idler diameter			
Drive without reverse bending		Timing pulley Z <sub>min</sub>	10
		Flat idler running on belt teeth d <sub>min</sub>	15 mm
Drive with reverse bending		Timing pulley Z <sub>min</sub>	18
		Flat idler running on belt back d <sub>min</sub>	15 mm

# iSync® 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:  $\pm 0,5$  [mm]
- Thickness tolerance:  $\pm 0,15$  [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 <sup>-1</sup> ]	M <sub>spez</sub> [Ncm/cm]	P <sub>spez</sub> [W/cm]	rpm [min <sup>-1</sup> ]	M <sub>spez</sub> [Ncm/cm]	P <sub>spez</sub> [W/cm]	rpm [min <sup>-1</sup> ]	M <sub>spez</sub> [Ncm/cm]	P <sub>spez</sub> [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:

$$P \text{ [kW]} = P_{\text{spez}} \cdot Z_e \cdot Z_k \cdot b / 1000$$

$$M \text{ [Nm]} = M_{\text{spez}} \cdot Z_e \cdot Z_k \cdot b / 100$$

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

P = power in kW

M = torque in Nm

P<sub>spez</sub> = specific power

M<sub>spez</sub> = specific torque

Z<sub>e</sub> = number of teeth in mesh of the small pulley

Z<sub>emax</sub> = 12

Z<sub>k</sub> = number of teeth of the small pulley

b = belt width in cm

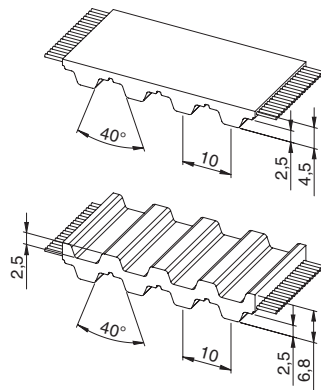
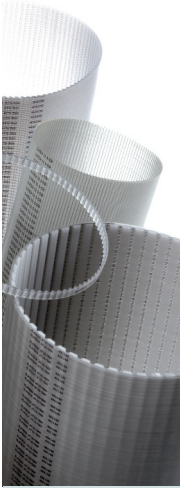
A = centre distance [mm]

t = pitch

### Flexibility

Minimum pulley number of teeth and minimum idler diameter			
Drive without reverse bending		Timing pulley Z <sub>min</sub>	10
		Flat idler running on belt teeth d <sub>min</sub>	30 mm
Drive with reverse bending		Timing pulley Z <sub>min</sub>	15
		Flat idler running on belt back d <sub>min</sub>	30 mm

# iSync® 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 <sup>-1</sup> ]	M <sub>spez</sub> [Ncm/cm]	P <sub>spez</sub> [W/cm]	rpm [min <sup>-1</sup> ]	M <sub>spez</sub> [Ncm/cm]	P <sub>spez</sub> [W/cm]	rpm [min <sup>-1</sup> ]	M <sub>spez</sub> [Ncm/cm]	P <sub>spez</sub> [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:

$$P \text{ [kW]} = P_{\text{spez}} \cdot Z_e \cdot Z_k \cdot b / 1000$$

$$M \text{ [Nm]} = M_{\text{spez}} \cdot Z_e \cdot Z_k \cdot b / 100$$

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

P = power in kW

M = torque in Nm

P<sub>spez</sub> = specific power

M<sub>spez</sub> = specific torque

Z<sub>e</sub> = number of teeth in mesh of the small pulley

Z<sub>emax</sub> = 12

Z<sub>k</sub> = number of teeth of the small pulley

b = belt width in cm

A = centre distance [mm]

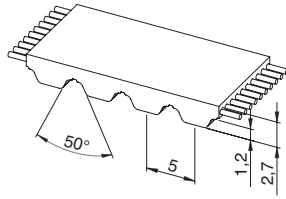
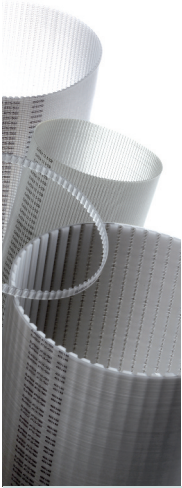
t = pitch

### Flexibility

Minimum pulley number of teeth and minimum idler diameter			
Drive without reverse bending		Timing pulley Z <sub>min</sub>	12
		Flat idler running on belt teeth d <sub>min</sub>	60 mm
Drive with reverse bending		Timing pulley Z <sub>min</sub>	20
		Flat idler running on belt back d <sub>min</sub>	60 mm



# iSync® AT 5



### Belt characteristics

- Truly endless polyurethane timing belt with steel tension 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 <sup>-1</sup> ]	M <sub>spez</sub> [Ncm/cm]	P <sub>spez</sub> [W/cm]	rpm [min <sup>-1</sup> ]	M <sub>spez</sub> [Ncm/cm]	P <sub>spez</sub> [W/cm]	rpm [min <sup>-1</sup> ]	M <sub>spez</sub> [Ncm/cm]	P <sub>spez</sub> [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:

$$P \text{ [kW]} = P_{\text{spez}} \cdot Z_e \cdot Z_k \cdot b / 1000$$

$$M \text{ [Nm]} = M_{\text{spez}} \cdot Z_e \cdot Z_k \cdot b / 100$$

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

P = power in kW

M = torque in Nm

P<sub>spez</sub> = specific power

M<sub>spez</sub> = specific torque

Z<sub>e</sub> = number of teeth in mesh of the small pulley

Z<sub>emax</sub> = 12

Z<sub>k</sub> = number of teeth of the small pulley

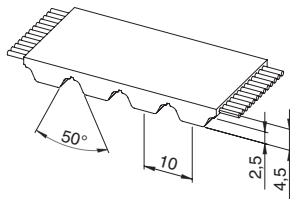
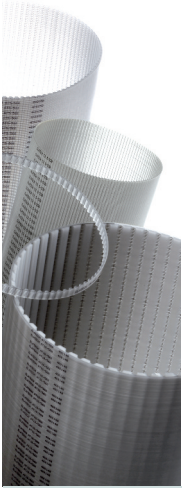
b = belt width in cm

A = centre distance [mm]

t = pitch

### Flexibility

Minimum pulley number of teeth and minimum idler diameter			
Drive without reverse bending		Timing pulley Z <sub>min</sub>	15
		Flat idler running on belt teeth d <sub>min</sub>	25 mm
Drive with reverse bending		Timing pulley Z <sub>min</sub>	20
		Flat idler running on belt back d <sub>min</sub>	60 mm



### 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 <sup>-1</sup> ]	M <sub>spez</sub> [Ncm/cm]	P <sub>spez</sub> [W/cm]	rpm [min <sup>-1</sup> ]	M <sub>spez</sub> [Ncm/cm]	P <sub>spez</sub> [W/cm]	rpm [min <sup>-1</sup> ]	M <sub>spez</sub> [Ncm/cm]	P <sub>spez</sub> [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:

$$P \text{ [kW]} = P_{\text{spez}} \cdot Z_e \cdot Z_k \cdot b / 1000$$

$$M \text{ [Nm]} = M_{\text{spez}} \cdot Z_e \cdot Z_k \cdot b / 100$$

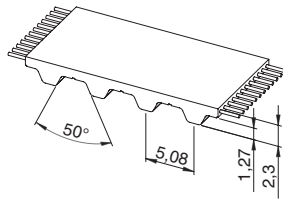
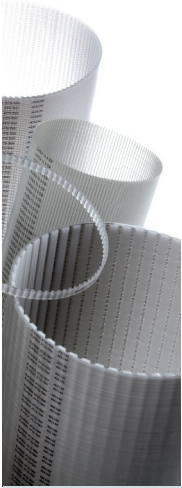
$$Z_e = \frac{Z_k}{180} \cdot \arccos \left[ \frac{t \cdot (z_g - z_k)}{2 \cdot \pi \cdot A} \right]$$

- P = power in kW
- M = torque in Nm
- P<sub>spez</sub> = specific power
- M<sub>spez</sub> = specific torque
- Z<sub>e</sub> = number of teeth in mesh of the small pulley
- Z<sub>emax</sub> = 12
- Z<sub>k</sub> = 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 <sub>min</sub>	15
		Flat idler running on belt teeth d <sub>min</sub>	50 mm
Drive with reverse bending		Timing pulley Z <sub>min</sub>	25
		Flat idler running on belt back d <sub>min</sub>	120 mm

# iSync® 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 <sup>-1</sup> ]	M <sub>spez</sub> [Ncm/cm]	P <sub>spez</sub> [W/cm]	rpm [min <sup>-1</sup> ]	M <sub>spez</sub> [Ncm/cm]	P <sub>spez</sub> [W/cm]	rpm [min <sup>-1</sup> ]	M <sub>spez</sub> [Ncm/cm]	P <sub>spez</sub> [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:

$$P \text{ [kW]} = P_{\text{spez}} \cdot Z_e \cdot Z_k \cdot b / 1000$$

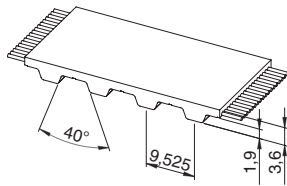
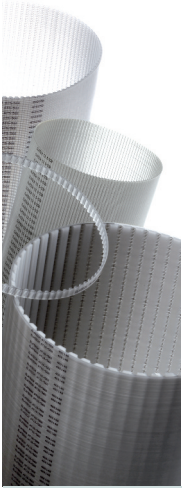
$$M \text{ [Nm]} = M_{\text{spez}} \cdot Z_e \cdot Z_k \cdot b / 100$$

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

- P = power in kW
- M = torque in Nm
- P<sub>spez</sub> = specific power
- M<sub>spez</sub> = specific torque
- Z<sub>e</sub> = number of teeth in mesh of the small pulley
- Z<sub>e</sub>max = 12
- Z<sub>k</sub> = 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 <sub>min</sub>	10
		Flat idler running on belt teeth d <sub>min</sub>	30 mm
Drive with reverse bending		Timing pulley Z <sub>min</sub>	15
		Flat idler running on belt back d <sub>min</sub>	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 <sup>-1</sup> ]	M <sub>spez</sub> [Ncm/cm]	P <sub>spez</sub> [W/cm]	rpm [min <sup>-1</sup> ]	M <sub>spez</sub> [Ncm/cm]	P <sub>spez</sub> [W/cm]	rpm [min <sup>-1</sup> ]	M <sub>spez</sub> [Ncm/cm]	P <sub>spez</sub> [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:

$$P \text{ [kW]} = P_{\text{spez}} \cdot Z_e \cdot Z_k \cdot b / 1000$$

$$M \text{ [Nm]} = M_{\text{spez}} \cdot Z_e \cdot Z_k \cdot b / 100$$

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

P = power in kW

M = torque in Nm

P<sub>spez</sub> = specific power

M<sub>spez</sub> = specific torque

Z<sub>e</sub> = number of teeth in mesh of the small pulley

Z<sub>emax</sub> = 12

Z<sub>k</sub> = 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 <sub>min</sub>	15
		Flat idler running on belt teeth d <sub>min</sub>	60 mm
Drive with reverse bending		Timing pulley Z <sub>min</sub>	20
		Flat idler running on belt back d <sub>min</sub>	60 mm