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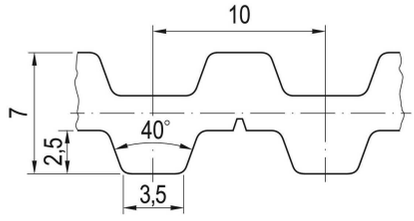
Technical Data Sheet
optibelt ALPHA TORQUE DT10 - ST
Double-Sided Timing Belt, Cast Polyurethane, Endless

Dimensions, Tolerances

Profile:	T10
Tooth pitch t:	10 mm
Total thickness:	7.0 mm
Tooth height:	2.5 mm
Tooth tip width:	3.5 mm
Tooth flank angle:	40°
Length tolerance:	See table
Width tolerance, b ≤ 50 mm:	± 0.5 mm
Thickness tolerance:	± 0.3 mm

Construction

Polyurethane: Thermoset, 84 +/-4 Shore A, transparent
Tension cord: Steel, Ø 0.6 mm



Specific nominal power transmittable per tooth

Speed, small pulley n_k [1/min]	Specific nom. power $P_{N\,spez}$ [W/mm]	Speed, small pulley n_k [1/min]	Specific nom. power $P_{N\,spez}$ [W/mm]	Speed, small pulley n_K [1/min]	Specific nom. power $P_{N\,spez}$ [W/mm]
0 [1]	0.000	1200	0.585	3600	1.222
20	0.017	1300	0.620	3800	1.262
40 [2]	0.033	1400	0.654	4000	1.300
60	0.048	1500	0.687	4500	1.390
80 [3]	0.062	1600 [7]	0.719	5000	1.472
100	0.076	1700	0.750	5500	1.546
200 [4]	0.140	1800	0.780	6000	1.615
300	0.197	1900	0.810	6500	1.678
400 [5]	0.249	2000	0.839	7000	1.735
500	0.299	2200	0.894	7500	1.787
600	0.345	2400	0.948	8000	1.835
700	0.389	2600	0.998	8500	1.877
800 [6]	0.432	2800	1.047	9000	1.917
900	0.472	3000	1.093	9500	1.952
1000	0.511	3200 [8]	1.138	10000	1.983
1100	0.548	3400	1.181	v_{max} = 60 m/s	

[1] $F_{N\,spez}$ [N/mm] 5.200 [2] 4.879 [3] 4.646 [4] 4.189 [5] 3.742 [6] 3.237 [7] 2.695 [8] 2.134

Nominal power P_N

$$P_N = P_{N\,spez} \cdot z_k \cdot z_{eB} \cdot b / 10^3 \quad [kW]$$

$P_{N\,spez}$ Specific nominal power transmittable per tooth [W/mm]
z_k Number of teeth, small pulley
z_{eB} Number of teeth in mesh, small pulley, limited to $z_{eB\,max}$
$z_{eB\,max}$ 12, maximum allowable no. of teeth
b Belt width [mm]

Nominal torque M_N

$$M_N = P_N \cdot 9.55 \cdot 10^3 / n_k \quad [Nm]$$

n_k Speed, small pulley [1/min]

Nominal tensile force F_N

$$F_N = F_{N\,spez} \cdot z_{eB} \cdot b \quad [N]$$

$$F_{N\,spez} = P_{N\,spez} \cdot 6 \cdot 10^4 / (n_k \cdot t) \quad [N/mm]$$

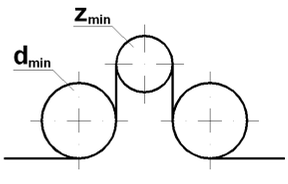
$F_{N\,spez}$ Specific nominal tensile force transmittable per tooth [N/mm]
t Tooth pitch [mm]

Cord tensile forces, belt weight

Belt width [1] b [mm]	10	12	16	20	25	32	50	75	100
Breaking strength F_{Br} [N]	3360	4200	5900	7600	9700	12600	20200	30700	41200
Allowable tensile force [2] F_{zul} [N]	840	1050	1475	1900	2425	3150	5050	7675	10300
Weight per metre [kg/m]	0.059	0.071	0.094	0.118	0.148	0.189	0.295	0.443	0.590

[1] Other and intermediate widths possible [2] Allowable tensile force F_{zul} equivalent to 25% breaking strength F_{Br} of the cords

Timing belt pulleys, idlers



No. of teeth: z_{min} = 12
Pitch-Ø: $d_{w\,min}$ = 38.20 mm
Plane, cylindrical idler, Ø
Idler: d_{min} = 55 mm

Length tolerances, shown as centre distance tolerances

Length L_w [mm]		Tolerance a_{LTol} [mm]	Length L_w [mm]		Tolerance a_{LTol} [mm]
	≤ 305	± 0.14	> 780	≤ 990	± 0.28
> 305	≤ 390	± 0.16	> 990	≤ 1250	± 0.32
> 390	≤ 525	± 0.18	> 1250	≤ 1560	± 0.38
> 525	≤ 630	± 0.21	> 1560	≤ 1960	± 0.44
> 630	≤ 780	± 0.24	> 1960	≤ 2350	± 0.52

We would be pleased to offer advice about technical characteristics and drive design as well as special requirements. Further information can be found in OPTIBELT documentation. © OPTIBELT GmbH 09/2015. Subject to technical modification and change, errors and omissions excepted.