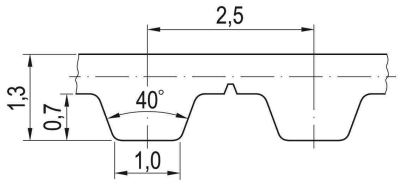
Technical Data Sheet
optibelt ALPHA POWER T2.5 - ST
PU Timing Belt, Cast Polyurethane, Endless

Dimensions, Tolerances

Profile:	T2.5
Tooth pitch t:	2.5 mm
Total thickness:	1.3 mm
Tooth height:	0.7 mm
Tooth tip width:	1.0 mm
Tooth flank angle:	40°
Length tolerance:	See table
Width tolerance, b ≤ 12 mm:	± 0.3 mm
Thickness tolerance:	± 0.15 mm

Construction

Polyurethane: Thermoset, 86 +/-4 Shore A, grey
Tension cord: Steel, Ø 0.24 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	0.0000	1200	0.0369	3600	0.0850
20	0.0008	1300	0.0394	3800	0.0888
40	0.0016	1400	0.0417	4000	0.0923
60	0.0022	1500	0.0439	4500	0.1005
80	0.0030	1600	0.0462	5000	0.1082
100	0.0038	1700	0.0484	6000	0.1218
200	0.0074	1800	0.0504	7000	0.1335
300	0.0108	1900	0.0524	8000	0.1438
400	0.0142	2000	0.0545	9000	0.1526
500	0.0174	2200	0.0584	10000	0.1606
600	0.0205	2400	0.0621	11000	0.1678
700	0.0235	2600	0.0659	12000	0.1749
800	0.0264	2800	0.0696	13000	0.1819
900	0.0291	3000	0.0733	14000	0.1892
1000	0.0319	3200	0.0771	15000	0.1971
1100	0.0345	3400	0.0810	v_{max} = 80 m/s	

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

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

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

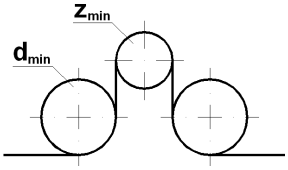
$F_{N\,spez}$	Specific nominal tensile force transmittable per tooth [N/mm]
t	Tooth pitch [mm]

Cord tensile forces, belt weight

Belt width [1] b [mm]	4	6	10	12	16	20	25	32	50
Breaking strength F_{Br} [N]	340	540	1000	1200	1680	2080	2680	3400	5400
Allowable tensile force [2] F_{zul} [N]	85	135	250	300	420	520	670	850	1350
Weight per metre [kg/m]	0.006	0.008	0.014	0.017	0.022	0.028	0.035	0.045	0.070

[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, inside and outside idlers



No. of teeth: z_{min} = 10
Pitch-Ø: $d_{w\,min}$ = 7.96 mm
Plane, cylindrical idlers, Ø
Inside idler: d_{min} = 13 mm
Outside idler: d_{min} = 15 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.