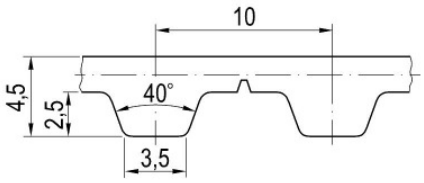
Technical Data Sheet
optibelt ALPHA FLEX T10 - HF
PU Timing Belt, Optionally With Fabric PAZ, Endless

Dimensions, Tolerances

Profile:	T10
Tooth pitch t:	10 mm
Total thickness:	4.5 mm
Tooth height:	2.5 mm
Tooth tip width:	3.5 mm
Tooth flank angle:	40°
Length tolerance:	±0.5 mm/m
Width tolerance:	±0.5 mm
Thickness tolerance:	±0.3 mm

Construction

Polyurethane:	Thermoplastic, 92 Shore A, white
Tension cord:	Steel, high flexible, Ø 0.6 mm
Fabric, optional:	Polyamide, tooth (PAZ), green, PAZ from 1500 mm production length



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

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

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

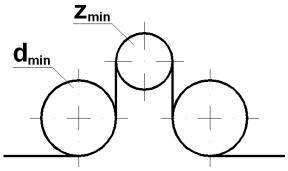
$F_{N\,spez}$	Specific nominal tensile force transmittable per tooth [N/mm]
t	Tooth pitch [mm]

Cord tensile forces, belt weight

Belt width [1] b [mm]	12	16	20	25	32	50	75	100	150
Breaking strength F_{Br} [N]	352	5280	6600	8800	11440	18480	28600	38720	58520
Allowable tensile force [2] F_{zul} [N]	880	1320	1650	2200	2860	4620	7150	9680	14630
Weight per metre [kg/m]	0.058	0.077	0.096	0.120	0.154	0.240	0.360	0.480	0.720
Min. belt length [mm]	1100	1100	1100	1100	1100	1100	1100	1100	1500

[1] Smaller 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



Minimum number of teeth of the pulley:	z_{min} = 10
Minimum pitch diameter of the pulley:	$d_{w\,min}$ = 31.83 mm
Plane, cylindrical idlers:	
Minimum pitch diameter of an inside idler:	d_{min} = 40 mm
Minimum pitch diameter of an outside idler:	d_{min} = 45 mm

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.