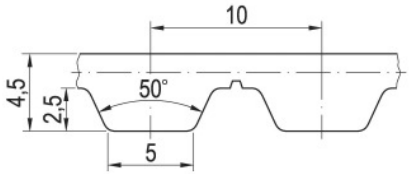
Technical Data Sheet
optibelt ALPHA FLEX AT10 - RF
PU Timing Belt, Optionally With Fabric PAZ, Endless

Dimensions, Tolerances

Profile:	AT10
Tooth pitch t:	10 mm
Total thickness:	4.5 mm
Tooth height:	2.5 mm
Tooth tip width:	5.0 mm
Tooth flank angle:	50°
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:	Stainless steel, Ø 0.9 mm
Fabric, optional:	Polyamide, tooth side (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	0.947	3600	1.898
20	0.025	1300	1.002	3800	1.952
40 [2]	0.048	1400	1.056	4000	2.003
60	0.072	1500	1.108	4500	2.119
80 [3]	0.094	1600 [7]	1.158	5000	2.220
100	0.116	1700	1.207	5500	2.308
200 [4]	0.220	1800	1.253	6000	2.383
300	0.314	1900	1.299	6500	2.447
400 [5]	0.401	2000	1.343	7000	2.500
500	0.482	2200	1.427	7500	2.545
600	0.559	2400	1.506	8000	2.580
700	0.631	2600	1.581	8500	2.606
800 [6]	0.700	2800	1.652	9000	2.625
900	0.766	3000	1.718	9500	2.636
1000	0.828	3200 [8]	1.782	10000	2.640
1100	0.889	3400	1.842	v_{max} = 60 m/s	

[1] $F_{N\,spez}$ [N/mm] 7.500 [2] 7.273 [3] 7.073 [4] 6.590 [5] 6.012 [6] 5.250 [7] 4.343 [8] 3.341

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

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

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

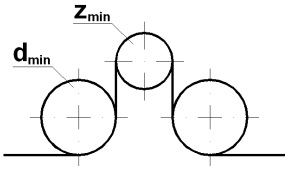
$F_{N\,spez}$	Specific nominal tensile force transmittable per tooth [N/mm]
t	Tooth pitch [mm]

Cord tensile forces, belt weight

Belt width [1] b [mm]	10	12	16	20	25	32	50	75	100
Breaking strength F_{Br} [N]	3020	3760	6040	7540	10560	13580	22640	35480	48320
Allowable tensile force [2] F_{zul} [N]	755	940	1510	1885	2640	3395	5660	8870	12080
Weight per metre [kg/m]	0.058	0.070	0.093	0.116	0.145	0.186	0.290	0.435	0.580
Min. belt length [mm]	1100	1100	1100	1100	1100	1100	1100	1100	1100

[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}	= 18
Minimum pitch diameter of the pulley:	$d_{w\,min}$	= 57.30 mm
Plane, cylindrical idlers:		
Minimum pitch diameter of an inside idler:	d_{min}	= 52 mm
Minimum pitch diameter of an outside idler:	d_{min}	= 120 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.