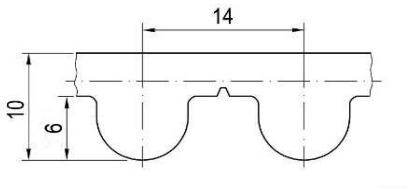
Technical Data Sheet
optibelt ALPHA LINEAR 14MLP - ST - PAZ
PU Timing Belt, Optionally with Fabric PAZ/PAR, Open-Ended

Dimensions, Tolerances

Profile:	14MLP
Tooth pitch t:	14 mm
Total thickness:	10 mm
Tooth height:	6 mm
Tooth tip width:	-
Tooth flank angle:	-
Length tolerance:	± 1 mm/m
Width tolerance:	± 1.5 mm
Thickness tolerance:	± 0.3 mm

Construction

Polyurethane:	Thermoplastic, 92 Shore A, black
Tension cord:	Steel, ø 2.5 mm
Fabric, standard:	Polyamide, tooth (PAZ), black
Fabric, optional:	(PAZ/PAR), black



Specific nominal tensile force transmittable per tooth

Input speed n_1 [1/min]	Spec. nom. tensile force $F_{N\,spez}$ [N/mm]	Input speed n_1 [1/min]	Spec. nom. tensile force $F_{N\,spez}$ [N/mm]	Input speed n_1 [1/min]	Spec. nom. tensile force $F_{N\,spez}$ [N/mm]
0	12.700	1200	7.087	3600	3.965
20	12.455	1300	6.874	3800	3.803
40	12.227	1400	6.674	4000	3.649
60	12.014	1500	6.486	4500	3.293
80	11.815	1600	6.308	5000	2.973
100	11.627	1700	6.140	5500	2.682
200	10.825	1800	5.980	6000	2.415
300	10.185	1900	5.828	6500	2.169
400	9.651	2000	5.682		
500	9.194	2200	5.410		
600	8.794	2400	5.159		
700	8.439	2600	4.926		
800	8.119	2800	4.710		
900	7.828	3000	4.506		
1000	7.562	3200	4.315		
1100	7.316	3400	4.135	v_{max} =	40 m/s

Nominal tensile force F_N

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

$F_{N\,spez}$	Specific nominal tensile force transmittable per tooth [N/mm]
z_{eB}	Number of teeth in mesh, driver pulley, limited to $z_{eB\,max}$
$z_{eB\,max}$	ALPHA LINEAR: 12
b	Belt width [mm]

Nominal torque M_N

$$M_N = F_N \cdot d_{w1} / (2 \cdot 10^3)$$

$$d_{w1} = z_1 \cdot t / \pi$$

d_{w1}	Pitch diameter, driver pulley	[mm]
z_1	Number of teeth, driver pulley	
t	Tooth pitch [mm]	

Nominal power P_N

$$P_N = F_N \cdot z_1 \cdot t \cdot n_1 / (6 \cdot 10^7) \quad [KW]$$

n_1 Speed, driver pulley [1/min]

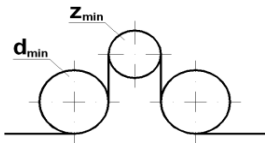
Cord tensile force, belt weight

Belt width [1] b [mm]	25	40	55	60	85	100	115	150	170
F_{Br} [N], ALPHA LINEAR	35000	70000	105000	112000	161000	196000	224000	301000	350000
F_{zul} [N] [2], ALPHA LINEAR	8750	17500	26250	28000	40250	49000	56000	75250	87500
Weight per metre [kg/m]	0.575	0.920	1.265	1.380	1.955	2.300	2.645	3.450	3.910

[1] Smaller and intermediate widths possible

[2] Allowable tensile force F_{zul} = 25% (ALPHA LINEAR) of cord breaking strength F_{Br}

Timing belt pulleys, idlers, clamping plates



Minimum no. of teeth of the pulleys:	z_{min}	= 36
Minimum pitch diameter of the pulleys:	$d_{w\,min}$	= 160.43 mm
Minimum no. of teeth in mesh, clamping plate:	$z_{CP\,min}$	= 8
Minimum- of a plane inside idler:	d_{min}	= not recommended, see pulley
Minimum- of a plane outside idler:	d_{min}	= 200 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.