



# Technical Data Sheet

## Optibelt ALPHA FLEX T20 - HF

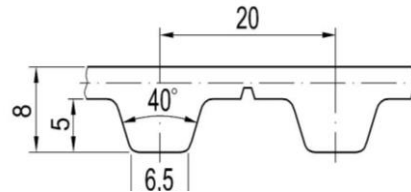
### Polyurethane Timing Belt, Optionally With Fabric PAZ, Thermoplastic PU, Endless

#### Dimensions, Tolerances

Profile:	T20
Tooth pitch t:	20 mm
Total thickness:	8 mm
Tooth height:	5 mm
Tooth tip width:	6.5 mm
Tooth flank angle:	40°
Length tolerance:	±0.5 mm/m
Width tolerance:	±0.7 mm
Thickness tolerance:	±0.3 mm

#### Construction

Polyurethane:	Thermoplastic, 92 Shore A, white
Tension cord:	Steel – high flexible, Ø 1.0 mm
Fabric, optional:	Polyamide, tooth side (PAZ), green



#### Specific nominal power transmittable per tooth

rpm, small idler n <sub>k</sub> [1/min]	Spec. nom. power P <sub>N spez</sub> [W/mm]	rpm, small idler n <sub>k</sub> [1/min]	Spec. nom. power P <sub>N spez</sub> [W/mm]	rpm, small idler n <sub>k</sub> [1/min]	Spec. nom. power P <sub>N spez</sub> [W/mm]
0 <sup>1</sup>	0.000	1200	2.161	3600	4.100
20	0.067	1300	2.280	3800	4.202
40 <sup>2</sup>	0.130	1400	2.394	4000	4.297
60	0.189	1500	2.504	4500	4.507
80 <sup>3</sup>	0.246	1600 <sup>7</sup>	2.609	5000	4.681
100	0.300	1700	2.711	5500	4.825
200 <sup>4</sup>	0.548	1800	2.809	6000	4.940
300	0.766	1900	2.903	6500	5.028
400 <sup>5</sup>	0.964	2000	2.994		
500	1.146	2200	3.167		
600	1.317	2400	3.329		
700	1.477	2600	3.479		
800 <sup>6</sup>	1.628	2800	3.620		
900	1.771	3000	3.753		
1000	1.907	3200 <sup>8</sup>	3.876		
1100	2.037	3400	3.992		

<sup>1</sup>F<sub>N spez</sub> [N/mm] 10.400 <sup>2</sup>9.717 <sup>3</sup>9.217 <sup>4</sup>8.216 <sup>5</sup>7.229 <sup>6</sup>6.104 <sup>7</sup>4.893 <sup>8</sup>3.634

#### Nominal power P<sub>N</sub>

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

P <sub>N spez</sub>	Specific nominal power transmittable per tooth [W/mm]
z <sub>k</sub>	Number of teeth, small idler
z <sub>eB</sub>	Number of teeth in mesh, small idler, limited to z <sub>eB max</sub>
z <sub>eB max</sub>	12, max. allowable no. of teeth
b	belt width [mm]

#### Nominal torque M<sub>N</sub>

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

n<sub>k</sub> rpm, small idler [1/min]

#### Nominal tensile force F<sub>N</sub>

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

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

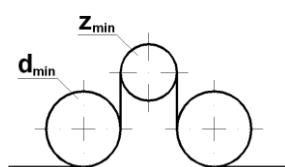
F <sub>N spez</sub>	Specific nominal tensile force transmittable per tooth [N/mm]
t	Tooth pitch [mm]

#### Cord tensile force, belt weight

Belt width * b [mm]	16	20	25	32	50	75	100
Cord breaking strength F <sub>Br</sub> [N]	9520	11880	16640	21400	35680	55920	76160
Allowable tensile force ** F <sub>Zul</sub> [N]	2380	2970	4160	5350	8920	13980	19040
Weight per metre [kg/m]	0.118	0.148	0.185	0.237	0.370	0.555	0.740
Min. belt length [mm]	1500	1500	1500	1500	1500	1500	1500

\* Smaller and intermediate widths possible \*\* Allowable tensile force F<sub>Zul</sub> = 25 % of cord breaking strength F<sub>Br</sub>

#### Timing belt pulleys, inside and outside idlers



Minimum no. of teeth of the pulleys:	z <sub>min</sub> = 12
Minimum pitch diameter of the pulleys:	d <sub>w min</sub> = 76.39 mm
Plane, cylindrical idlers:	
Minimum-Ø of a plane inside idler:	d <sub>min</sub> = 100 mm
Minimum-Ø of a plane outside idler:	d <sub>min</sub> = 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. © Optibelt GmbH 09/2019. Subject to technical modification and change, errors and omissions excepted