

## Chain

### 04 Chain Drive

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Description	KISSsoft example
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Non commercial version for demo and support purposes only ! (914)  
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## 1 Messages

 Calculation is consistent.

## 2 Overview

Calculation method: DIN ISO 10823:2006

## 3 Inputs

Standard	DIN ISO 606:2012	
Type	06B	
Number of strands	[ns]	2
Pitch (mm)	[p]	9.53
Center distance (mm)	[a]	401.26
Chain length (mm)	[l]	993.04
Number of parts (of chain)	[Nl]	104
Speed of chain (m/s)	[v]	3.17

### 3.1 Geometry of chain

Maximum roller diameter (mm)	[d1]	6.35
Maximum bearing pin body diameter (mm)	[d2]	3.28
Minimum width between inner plates (mm)	[b1]	5.72
Maximum width over inner link (mm)	[b2]	8.53
Total width of chain (mm)	[btot]	23.80
Maximum inner plates depth (mm)	[h2]	8.26
Sectional area of two inner plates (mm <sup>2</sup> )	[Ai]	9.82
Ratio	[th/ts]	1.00
Minimum breaking force (kN)	[Fu]	16.90

### 3.2 Sprocket 1 geometry

Minimum tooth flank radius (mm)	[remin]	29.46	
Medium tooth flank radius (mm)	[re]	23.11	
Maximum tooth flank radius (mm)	[remax]	16.76	
Minimal roll-seating radius (mm)	[rimin]	3.21	
Medium roll-seating radius (mm)	[ri]	3.27	
Maximum roll-seating radius (mm)	[rimax]	3.33	
Minimal roll-seating angle (°)	[amin]	115.50	
Medium roll-seating angle (°)	[α]	125.50	
Maximum roll-seating angle (°)	[amax]	135.50	
Minimum outside diameter (mm)	[damin]	63.30	
Medium outside diameter (mm)	[da]	64.87	
Maximum outside diameter (mm)	[damax]	66.44	
Root diameter (mm)	[df]	54.54	0/-0.25
Root diameter tolerance			
Minimum tooth height over reference circle (mm)	[hamin]	1.59	
Medium tooth height over reference circle (mm)	[ha]	2.37	
Maximum tooth height over reference circle (mm)	[hamax]	3.16	
Facewidth of a tooth (mm)	[bf1]	5.03	h14
Facewidth over all teeth (mm)	[bftot]	14.56	
Measuring-pin diameter (mm)	[dr]	6.35	
Tolerance measuring-roll diameter (mm)			
Measure over rolls (mm)	[MR]	67.24	

### 3.3 Sprocket 2 geometry

Minimum tooth flank radius (mm)	[remin]	29.46	
Medium tooth flank radius (mm)	[re]	23.11	
Maximum tooth flank radius (mm)	[remax]	16.76	
Minimal roll-seating radius (mm)	[rimin]	3.21	
Medium roll-seating radius (mm)	[ri]	3.27	
Maximum roll-seating radius (mm)	[rimax]	3.33	
Minimal roll-seating angle (°)	[amin]	115.50	
Medium roll-seating angle (°)	[α]	125.50	
Maximum roll-seating angle (°)	[amax]	135.50	
Minimum outside diameter (mm)	[damin]	63.30	
Medium outside diameter (mm)	[da]	64.87	
Maximum outside diameter (mm)	[damax]	66.44	
Root diameter (mm)	[df]	54.54	0/-0.25
Root diameter tolerance			
Minimum tooth height over reference circle (mm)	[hamin]	1.59	
Medium tooth height over reference circle (mm)	[ha]	2.37	
Maximum tooth height over reference circle (mm)	[hamax]	3.16	
Facewidth of a tooth (mm)	[bf1]	5.03	h14
Facewidth over all teeth (mm)	[bftot]	14.56	
Measuring-pin diameter (mm)	[dr]	6.35	
Tolerance measuring-roll diameter (mm)			
Measure over rolls (mm)	[MR]	67.24	

		Sprocket 1	Sprocket 2
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Speed (1/min)	[n]	1000.00	1000.00
Number of teeth	[z]	20	20
Reference diameter (mm)	[d]	60.89	60.89
Loop (°)		180.00	180.00
Torque (Nm)	[T]	19.10	19.10
Radial force (N)	[Fa]	635.15	635.15

## 4 Results

Nominal power (kW)	[Pn]	2.00
Application factor	[f1]	1.00
Factor for number of teeth	[f2]	0.95
Operating power (kW)	[Pmax]	1.89
Speed correction factor	[KPS]	1.00
Nominal power plate fatigue resistance (kW)	[Pc1]	3.28
Nominal power roll-/bush fatigue (kW)	[Pc2]	27.30
Nominal power pin/bush wear (kW)	[Pc3]	264.53
Maximum transmittable Power (kW)	[Pzul]	3.28

### 4.1 Maximum possible variation for the output speed (due to polygon effect)

Minimal speed (1/min)	[nmin]	987.69
Maximal Speed (1/min)	[nmax]	1012.47

### 4.2 Lubrication proposal

Oil bath or centrifugal lubrication  
Factor  $v \cdot p^{0.56}$  11.22

Utilization (%)	[A]	57.70
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Formula:  $A = P_{max} / P_{zul} * 100$

$P_{zul} = \min(P_{c1}, P_{c2}, P_{c3})$

$P_{max} = P_n \cdot f_1 \cdot f_2$

End of report (lines: 149)