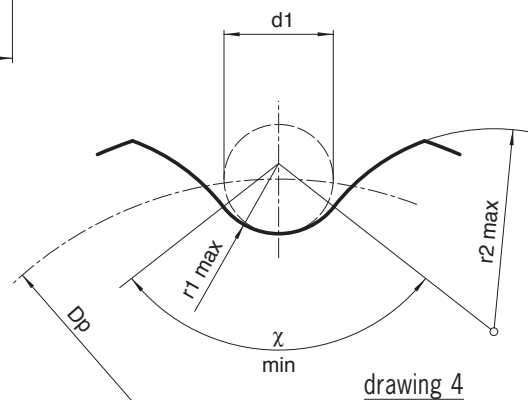
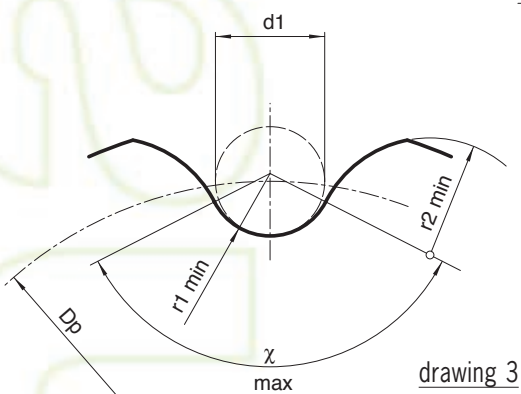
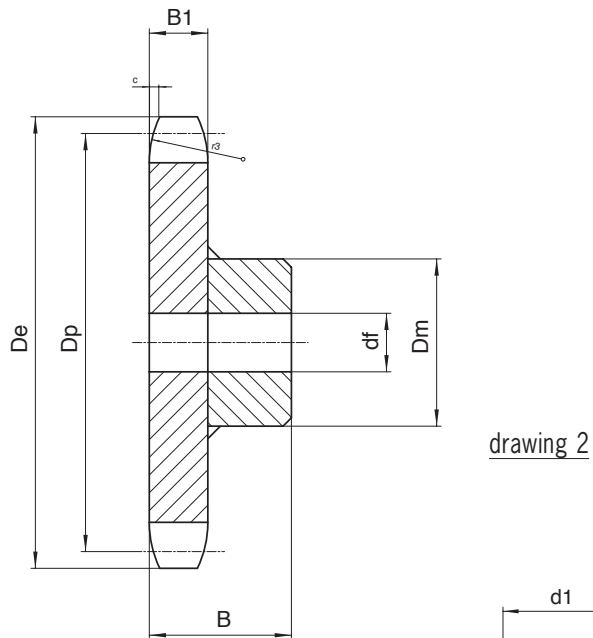
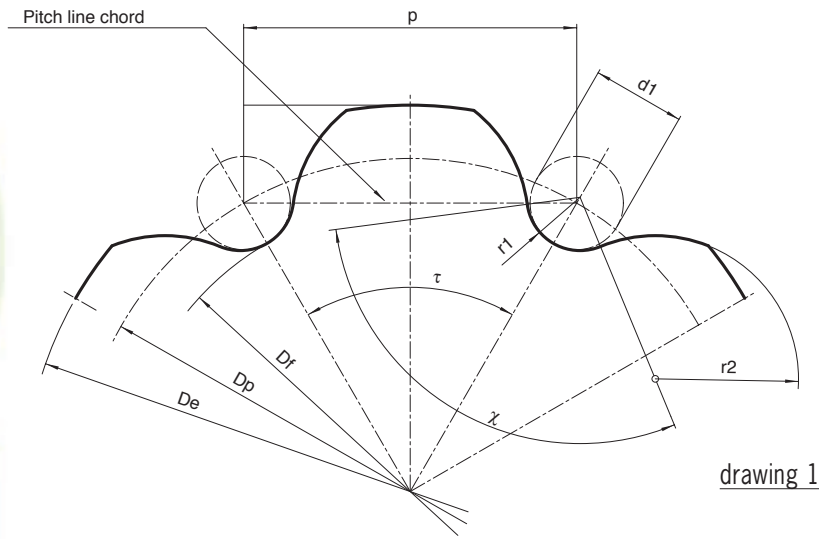


SPROCKETS



LEGENDA

p chain pitch
 d_1 roller diameter
 D_p pitch diameter
 D_f bottom-land diameter
 D_e outer diameter

r_1 radius of the roller seat
 τ pitch angle
 χ angle of the roller seat
 r_2 radius of the tooth flank

z number of teeth
 B_1 tooth width
 c release of the tooth flank
 r_3 radius of the tooth head

SPROCKETS

SPROKET DESIGN CALCULATIONS

PITCH DIAMETER (See drawings 1-2)

$$D_p = \frac{P}{\sin \frac{\tau}{2}} = p \cdot y$$

$$\frac{\tau}{2} = \frac{180^\circ}{z}$$

y = fixed number of table no.8

TABLE 8

No. of Teeth	Fixed no. y	No. of Teeth	Fixed no. y	No. of Teeth	Fixed no. y
6	2,000	21	6,709	36	11,474
7	2,305	22	7,027	37	11,792
8	2,613	23	7,344	38	12,110
9	2,924	24	7,661	39	12,428
10	3,236	25	7,979	40	12,745
11	3,549	26	8,296	41	13,063
12	3,864	27	8,614	42	13,381
13	4,179	28	8,931	43	13,700
14	4,494	29	9,249	44	14,018
15	4,810	30	9,567	45	14,336
16	5,126	31	9,885	46	14,654
17	5,442	32	10,202	47	14,972
18	5,759	33	10,520	48	15,290
19	6,076	34	10,838	49	15,608
20	6,392	35	11,156	50	15,926

TOOTH ROOT DIAMETER (See drawing 1)

$$D_f = D_p - d_1$$

TOOTH POCKET DIMENSIONS (See drawings 3-4)

Minimum dimensions:

$$r_{1min} = 0,505 \cdot d_1$$

$$\chi_{max} = 140^\circ - \frac{90^\circ}{z}$$

$$r_{2min} = 0,12 \cdot d_1 \cdot (z+2)$$

Maximum dimensions:

$$r_{1max} = 0,505 \cdot d_1 + 0,069 \cdot \sqrt[3]{d_1}$$

$$\chi_{min} = 120^\circ - \frac{90^\circ}{z}$$

$$r_{2max} = 0,008 \cdot d_1 \cdot (z^2+180)$$

TOP DIAMETER (See drawings 1-2)

Maximum value:

$$D_{e max} = D_p + 0,8 d_1$$

Minimum value:

$$D_{e min} = D_p + 0,5 d_1$$

TOOTH WIDTH (See drawing 2)

$$B_1 = (0,90 \div 0,93) \cdot L$$

L = inner width of the chain

$$0,1 \cdot p \leq c \leq 0,15 \cdot p$$

$$r_3 \geq p$$



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