OMNIGEAR
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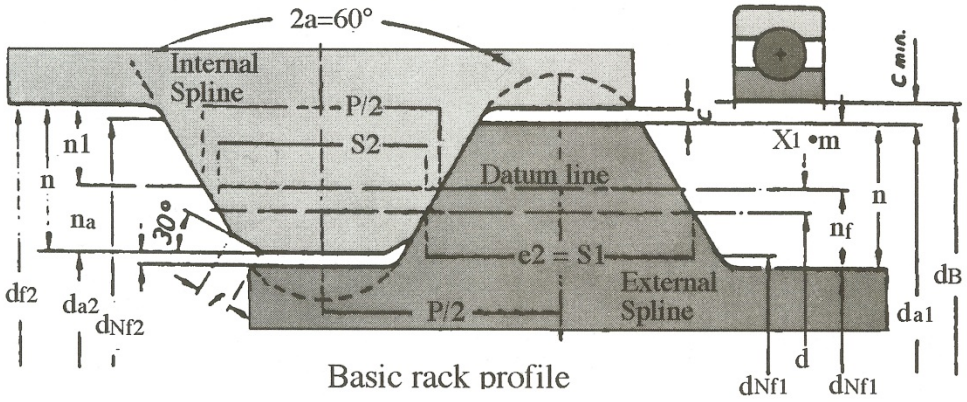
MODULE-DIN 5480 FLAT ROOT INVOLUTE SPLINES

The modules covered by this standard are:
(0/6) - 0.8 - (1) - 1.25 - (1.5) - 2 (2.5) - 3 - (4) - 5 - (6) - 8 - (10).
Modules in parentheses should be avoided wherever possible, when designing or selecting a spline connection.
Involute splines according to this Standard are used for easily detachable, sliding or tight connections between shaft and hub by a stub tooth system showing the characteristic required for the transmission of torque and for centering and also meeting the requirements for economic production.
Tooth proportions of the external and internal spline are determined by the basis rack profile, the reference diameter d_B and the number of teeth z. The latter is selected in such a way that the addendum modifications necessary to meet the reference diameter remain limited to smallest values and that the mean pressure angles will be kept close to 30°, which is expedient for self centering, accurate finish and low compressive stresses. The dedendum, h_f or the tool addendum h_{a^*} are adjusted to the production techniques so that involve lengths corresponding to the form diameter are quaranteed.



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Basic Rack Profile

Module		m	
Pitch		p	= m • π
Pressure Angle		μ	= 300
No. of teeth	External Spline	z1	
	Internal Spline	z2	= z1
Addendum Modification	External Spline	x1	= - 0.05 • m to + 0.45 • m
	Internal Spline	x2	= x1 • m = + 0.05 • m to + 0.45 • m
Tooth Depth		h	= ha + hf
Addendum		ha	= 0.45 • m
Dedendum		hf	= hao, see DIN 5480 pt. 16 = 0.05 • m. min. dimension, special tools = 0.60 • m, universal hob = 0.65 • m, universal pinion-type cutter2
Tip Clearence		c	= hf - 0.45 • m = 0.1 • m to 0.2 • m
Fillet Radius		gt	= 0.16 • m (min dimension)
Tip chamfer of broached spline		f	= 0.15 • m
Pitch Diameter		d	= m • z
Base Diameter		db	= m • z • cos μ
Reference Diameter		dB	= [df2] min dimension = = [m • z2 + 2x2 • m - 1.1 • m] = standard diameter DIN 323 & bearing bore diiam.
Internal spline Major diam.		df2	= m • z2 + 2x2 • m 2hf2
Internal spline Minor diam.		da2	= m • z2 + 2x2 • m + 0.9 • m
Internal spline Form diam.		dnf2 max	= - (da1 + fr) with Fr according to DIN 5480 pt.14 quality 11
External spline Major diam.		da1	= m • z1 + 2x1 • 2hf2
External spline Minor diam.		df2	= m • z1 + 2x1 • m + 0.9 • m
External spline Form diam.		dNf1 max	= - (da1 + fr) with Fr according to DIN 5480 pt. 14 quality 11
Internal Tooth Thickness		S2	= m • π/2 + 2x2 * m tan μ
Internal space width		e2	= s1
Internal Tooth Thickness		s1	= m • π/2 + 2x1 • m tan μ