

Calculation of straight tapered teeth skew bevel gear on a hyperboloid

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Basic dimensions	
Offset E :	130.200
GearP Dia. D₁	528.240
GearP Dia. D₂	787.400
Number pinion teeth N_p	16
Number gear teeth N_G	41

Calculate Pitch cone dimensions	
Angel Θ_p used for sketchplane	21.318
Angel Θ_G used for sketchplane	68.682
Pinion tooth offset E_p	17.208
Gear tooth offset E_G	112.992
Distance x₁	238.730
Distance x₂	377.137
Distance X₁	93.163
Distance X₂	147.175
Pinion P Dia. d₁	189.478
Pinion P Dia. d₂	296.356
Distance A to sketchplane	420.310
Pinion equiv. P radius r_e	164.023
Gear equiv. P radius R_e	1077.044

Calculate Gear Blank dimensions	
Pinion pitch cone angle, γ	21.112
Gear pitch cone angle, Γ	67.372

Calculate tooth dimensions	
Pinion equiv. Number of teeth, N_{pe}	17.175
Gear equiv. Number of teeth, N_{Ge}	112.779
Addendum, a₀	19.100
Dedendum, b₀	23.875
Backlash, B	1.910
Pinion flank radi. , r_{CP}	56.099
Gear flank radi. , r_{CG}	368.370
Pinion Bund Cir. Radi r_B	140.148
Pinion base Radi b_R	154.132
Dist.between teeth in Pin.PCir w	31.005
Gear Bund Cir. Radi R_B	1053.169
Gear base Radi B_R	1012.090
Dist.between teeth in Gear.PCir W	32.077