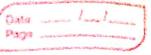


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Mt = Px60 = 5 x103 x G0 x 103 = 66348 N. m2

2 x N 2 x x 720 Pt-Mt = 66348 = 7372 N dr/2 3(18/2) m oby, m = fs(spt assuming b= 10 m &p y = 0.308 (for 2 p= 12) Jurther material is some Surface Ginion is designed $\sigma_b = \sigma_U = 410 = 136.6 Mg$ Potting all the values
136.6 × 10 m × 0.308 × m $= (3.0) \times (1.25) \times (7372)$ m = 4.88 mm N5 mm Ans So, dp1 = mzp = 90 mm dg = mzg = 5 x90 = 450 mm Pt = 7372 = 14744N Now we need to find dynamic boad We know for grade 6 e= 8+0.63p



for pinion. P= m+025 VDe $= 5 + 0.25 \sqrt{90}$ $= 8 + 0.63 \phi = 12.644 4m$ and eg = 14.491 e = ept eg = 27.135 yy = 27.135 x10-3 my None me næd to find dynamic cloud Pd= 210 (ceb+Pt)
210+ (ceb+Pt) We know for grade 6 for pinion 0 = m+0.25 [d] ep = 8+0.630 = 12.644 eg = 4.421 Mm e = ep+eg = 27.13 Mm = 27.135 x10-3 mm The deformation fentor C= 11400Mg 19 = MAP! NP = TX90x720 6000 6000 19= 3.39m/s

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Nono Pel = 210 (Ceb+Pt)
210 (Ceb+Pt)

putting af values

Pd= 5993 N Ams

so effective love, Peff = (sp+ pe = (1.25 x 1474.4) +5993 = 7836N

Beam strength

5b = m.b.ob.y

= 5 x50 x(410) x 0.308

= 10523.33N

Corrected dantor of safety

Sb = fs Pets

or fs = Sb = 10523.33 = 1.34

Pets 7836

Gines Fs = 2.0 for mear strength 50 SW = Fs Petz 50 SW = 2×7836 = 156721

6 SW= dp1 b. d. k



