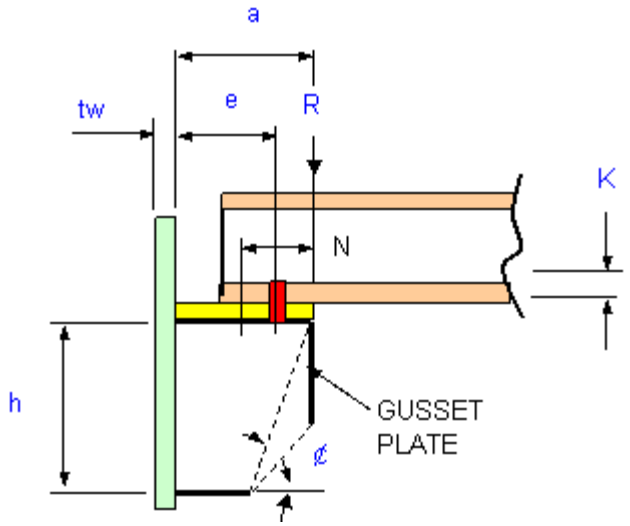
# STEEL STRUCTURE ENGINEERING

## BEAM SEAT REQUIRED THICKNESS

***INPUT DATA*** PGM RUN

| | | | | | |
|---|---|---|---|---|---|
| * Item Name | E-1004 | | * Description | PES21 | |
| Gusset plate width, a | 76 | mm | Bolt center distance from wall, e | 50 | mm |
| Total end reaction load, R | 2500 | Kg | Web thickness, tw | 12.7 | mm |
| Vertical distance from bottom to top of fillet of beam web, K | 30 | mm | Fillet weld size, wf | 8 | mm |
| Gusset trip Angle, ¢ | 45 | mm | Yield strength, Fy | 1600 | Kg/cm^2 |




***RESULT OF CALCULATION***

| | | | | | |
|---|---|---|---|---|---|
| Allowable bending stress, Fb | 960.0 | Kg/cm^2 | Ratio of actual force to allowable force per inch of weld, B | 0.0759 | |
| Required Gusset thickness, t=R (6e-2a)/Fba^2sin^2¢ | 13.35 | mm | Minimum bearing length, N=R/tw (0.75Fy)-K | 16.41 | mm |
| Requied Height, h=((B/2)*(B+(B^2+64e^2)^0.5)^0.5 | 55.56 | mm | | | |

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