

## Z-Beam Calculation Sample

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Ref. Zbeam.STEP, THK = 3/8'', Load = 5000 lb on top.

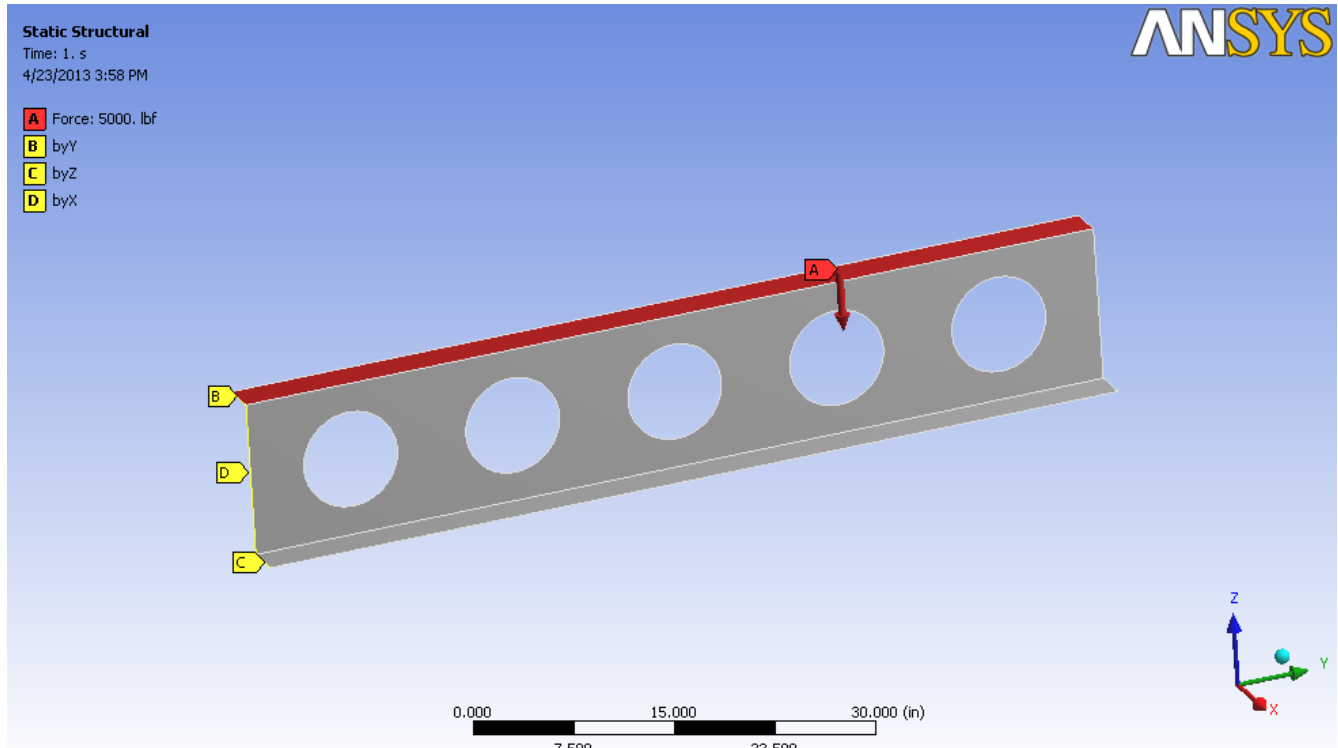


Fig. 1 ANSYS model

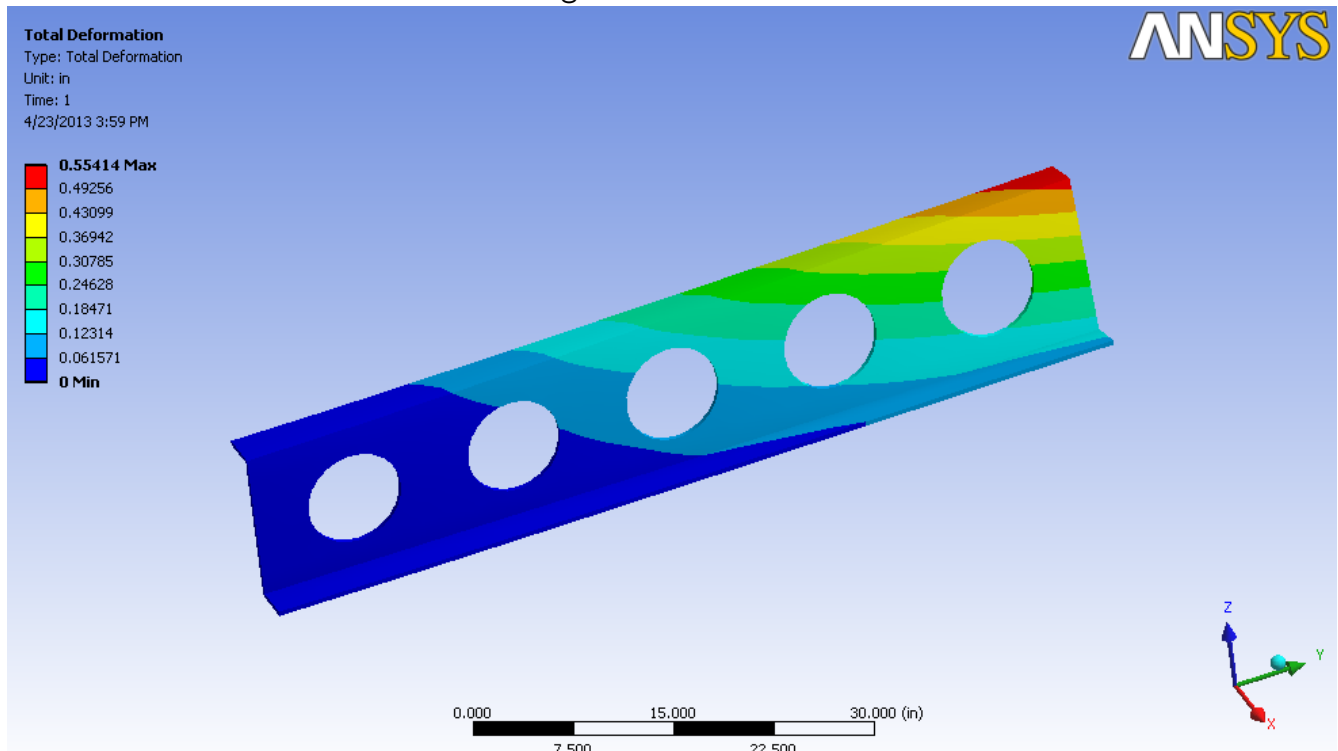


Fig. 2 Max. Displacement 0.55''

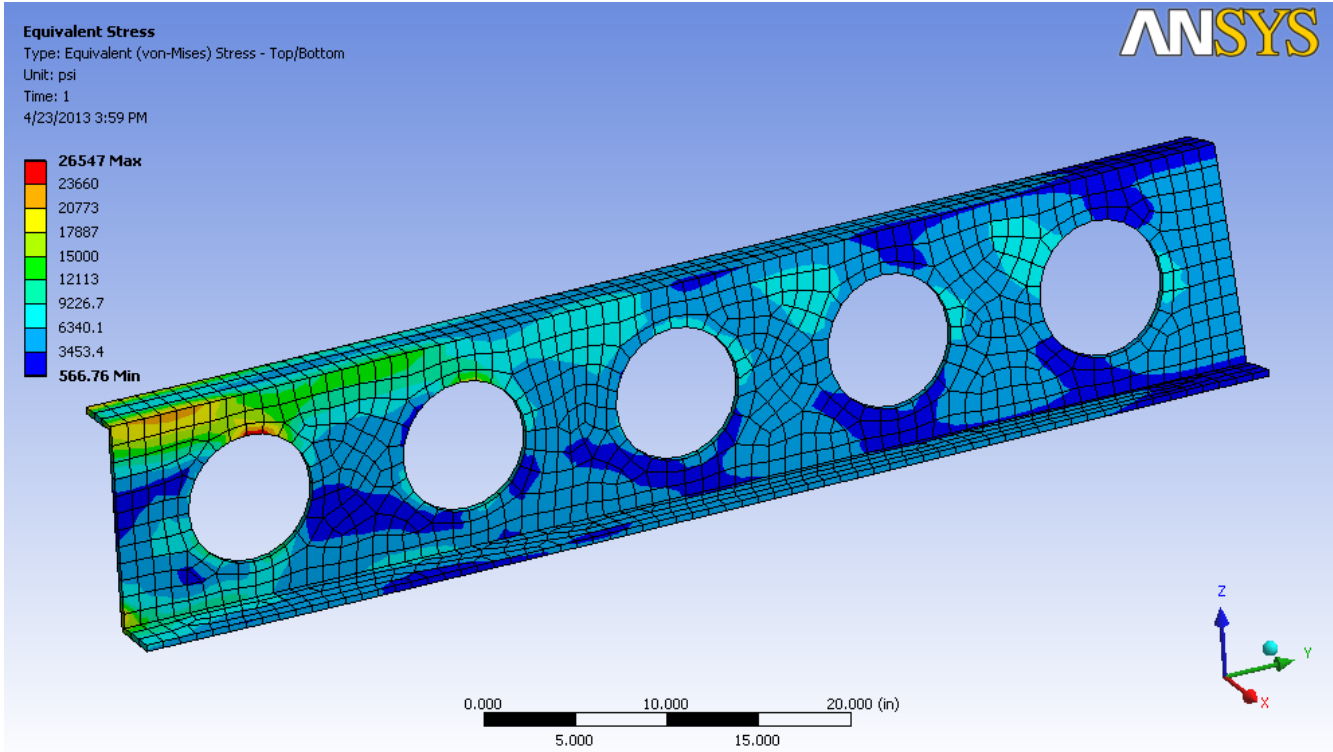


Fig. 3 Max. Von Mises Stress (is localized in the stress concentration zone)  
26,547 psi

DAT1:DISP  
Time:1.000000  
Entity:ALL

max: 5.67e-001  
min: 0.00e+000

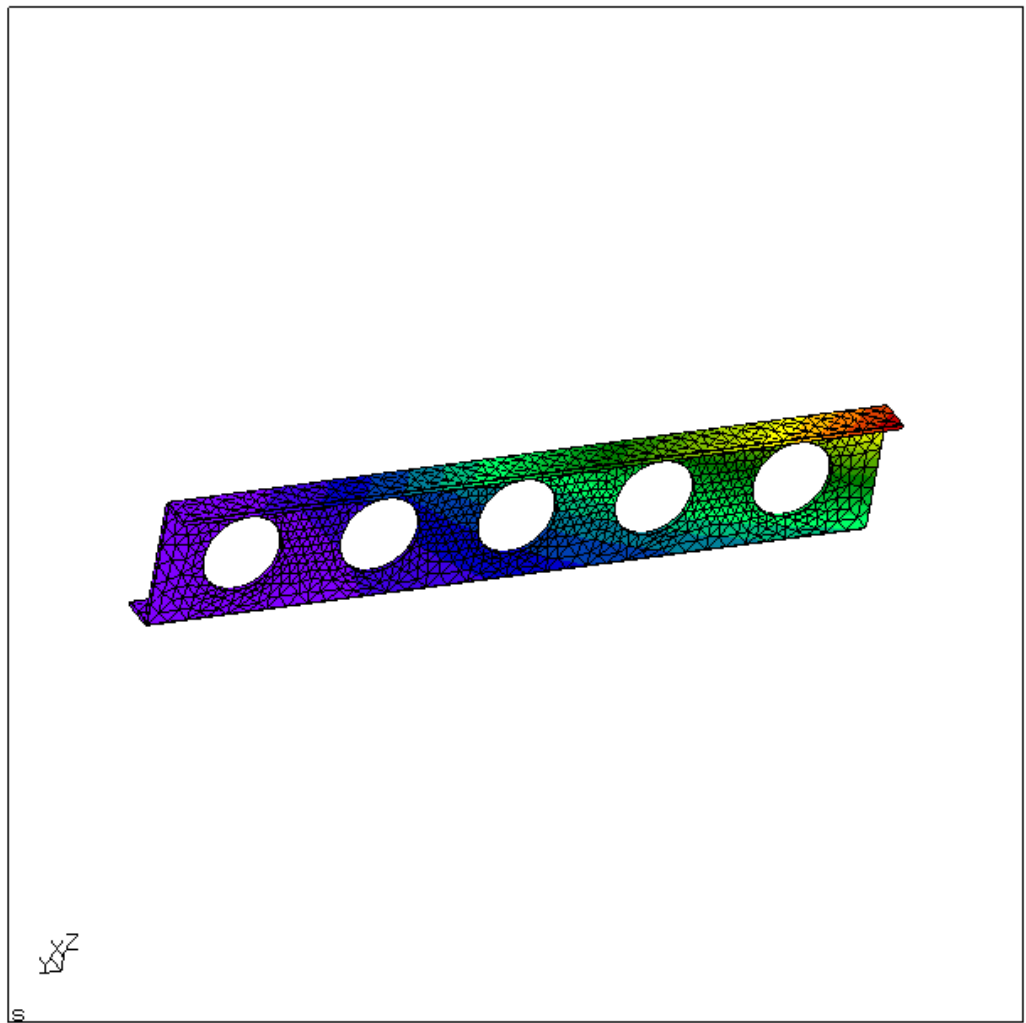
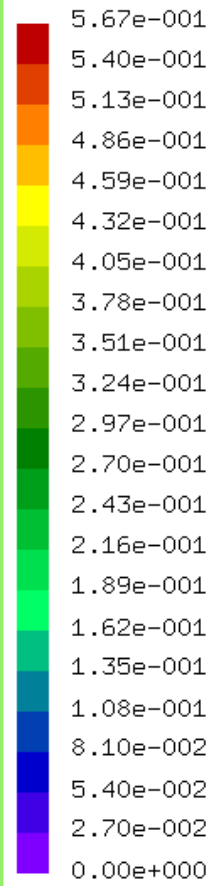


Fig. 4 CalculiX Results. Max Displacement 0.57''

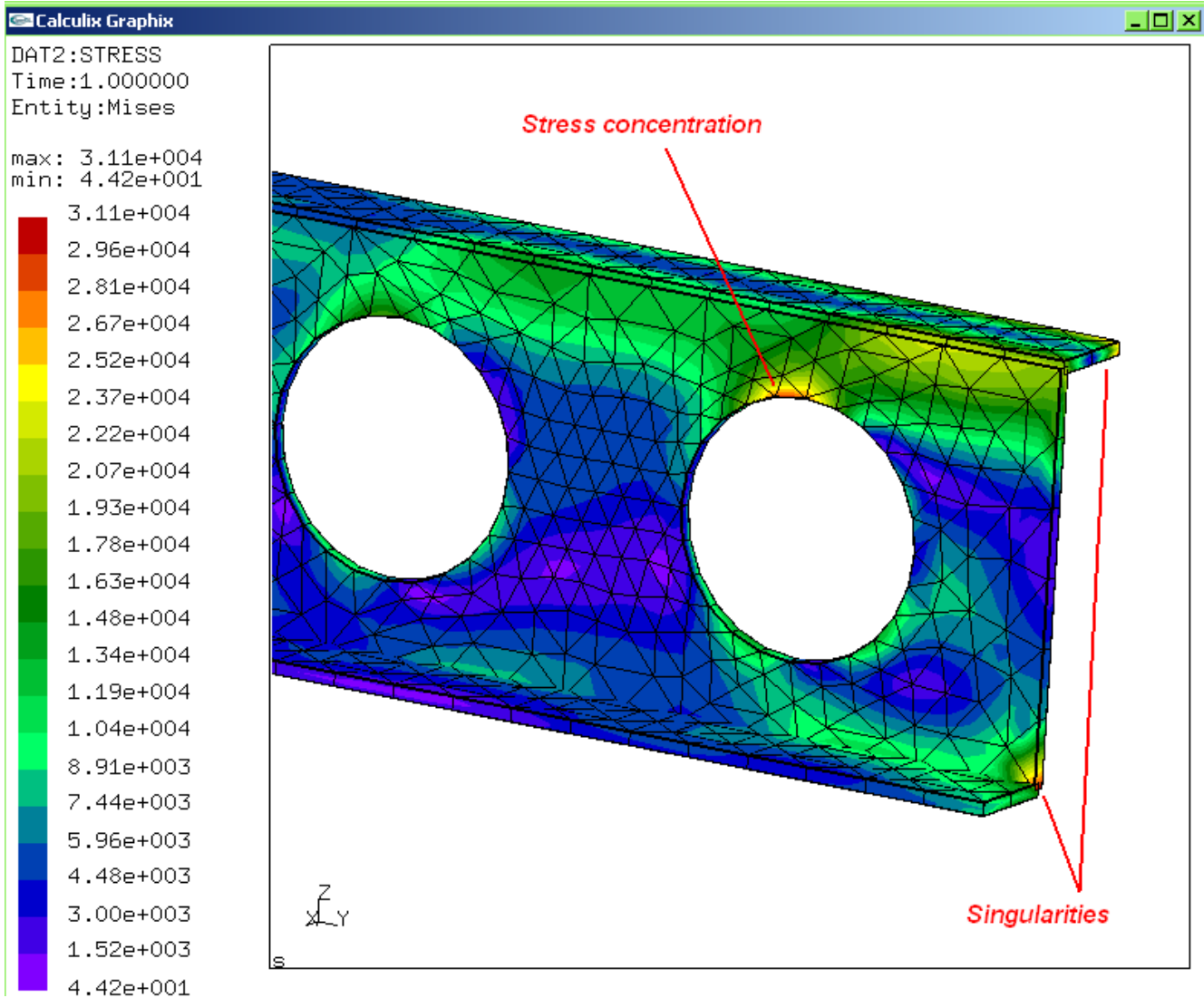
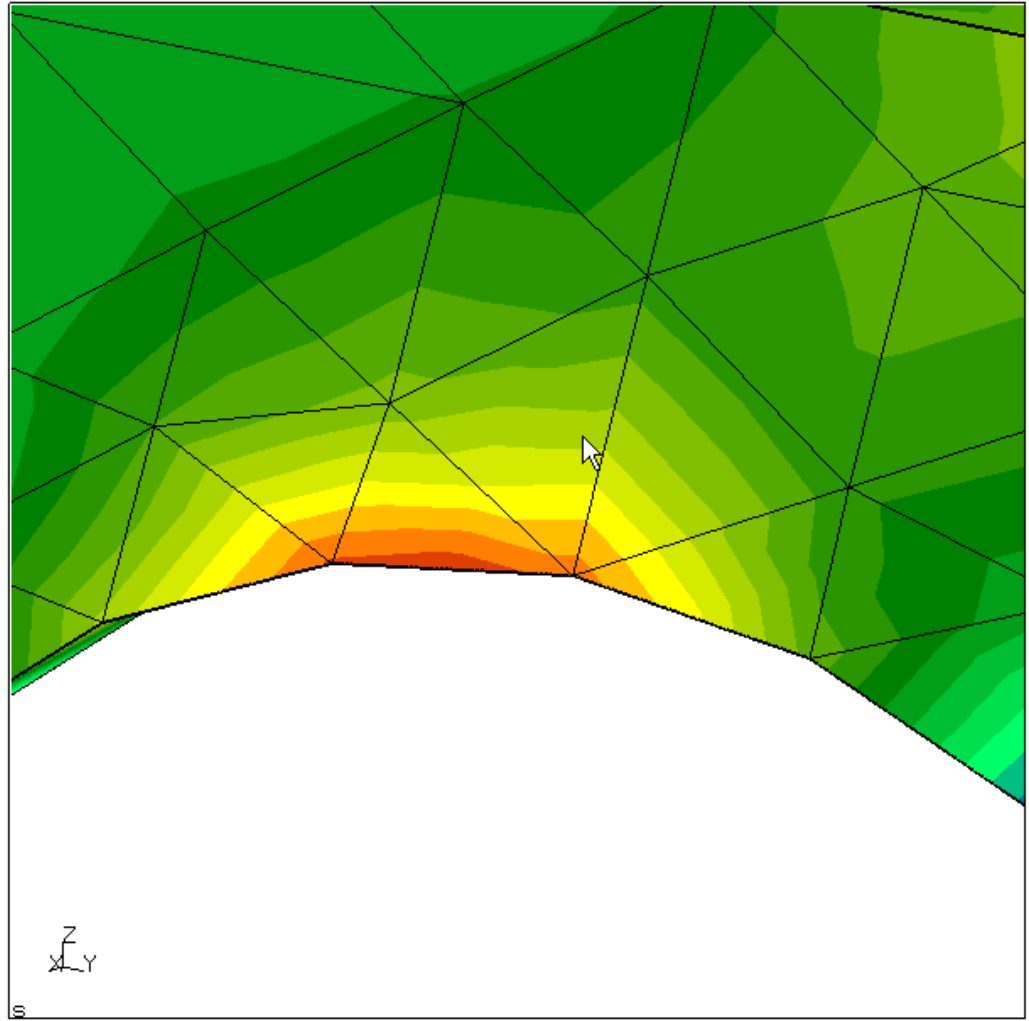
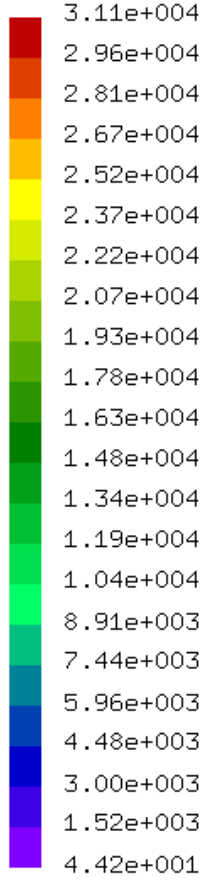


Fig. 5 Von Mises Stress. Max value at singularity point is not correct. The stress in singularity point is nonexistent value and can depend on type of element and meshing.

The same value as above for stress concentration area.

DAT2:STRESS  
Time:1.000000  
Entity:Mises

max: 3.11e+004  
min: 4.42e+001



Zbeam.frd

Fig. 6 Von Mises Stress at stress concentration area

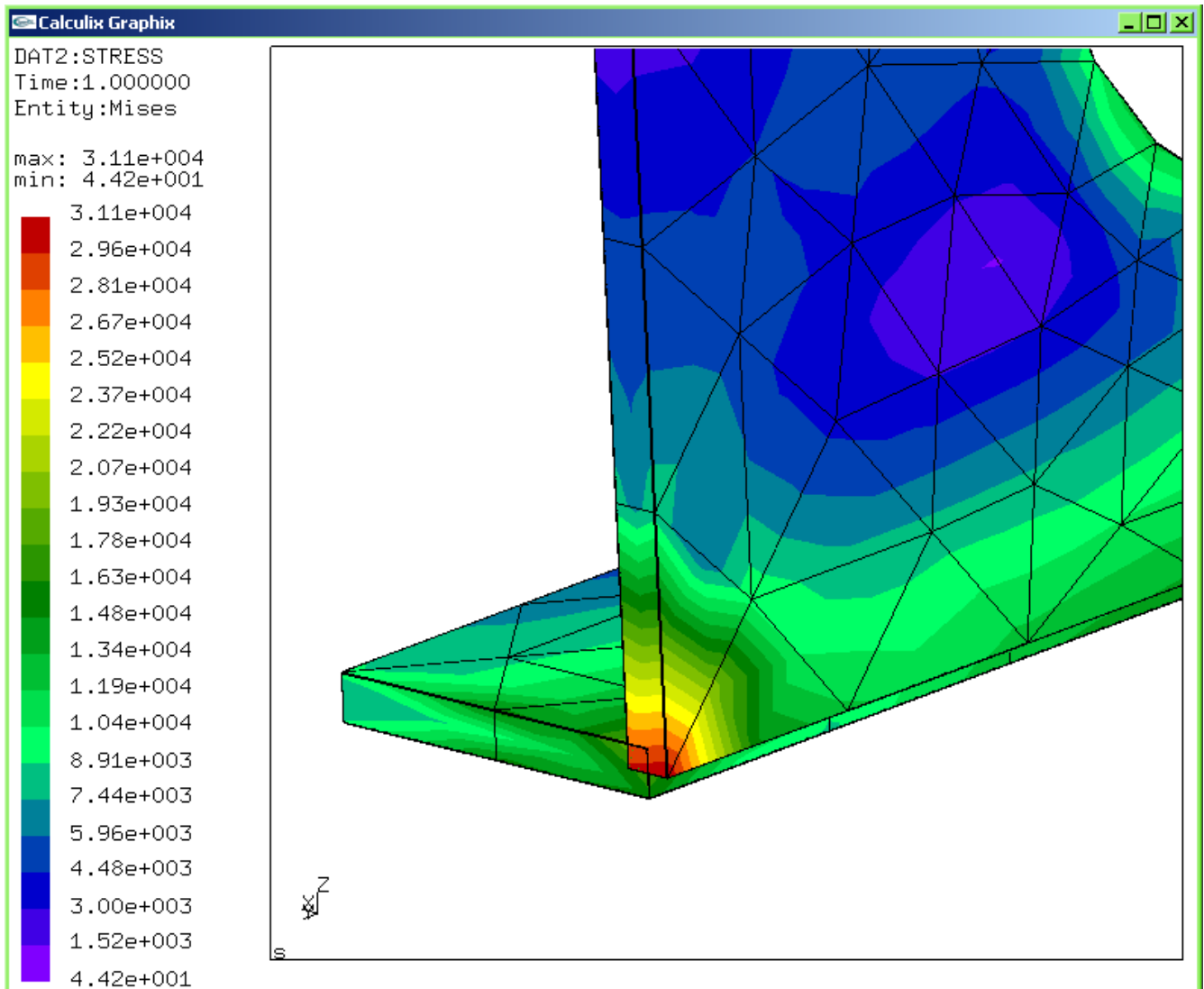


Fig. 7 - Singularity zone. Max Stress is nonexistent value and localized with high gradient near one node. You should not take this value into account (it is infinite value)

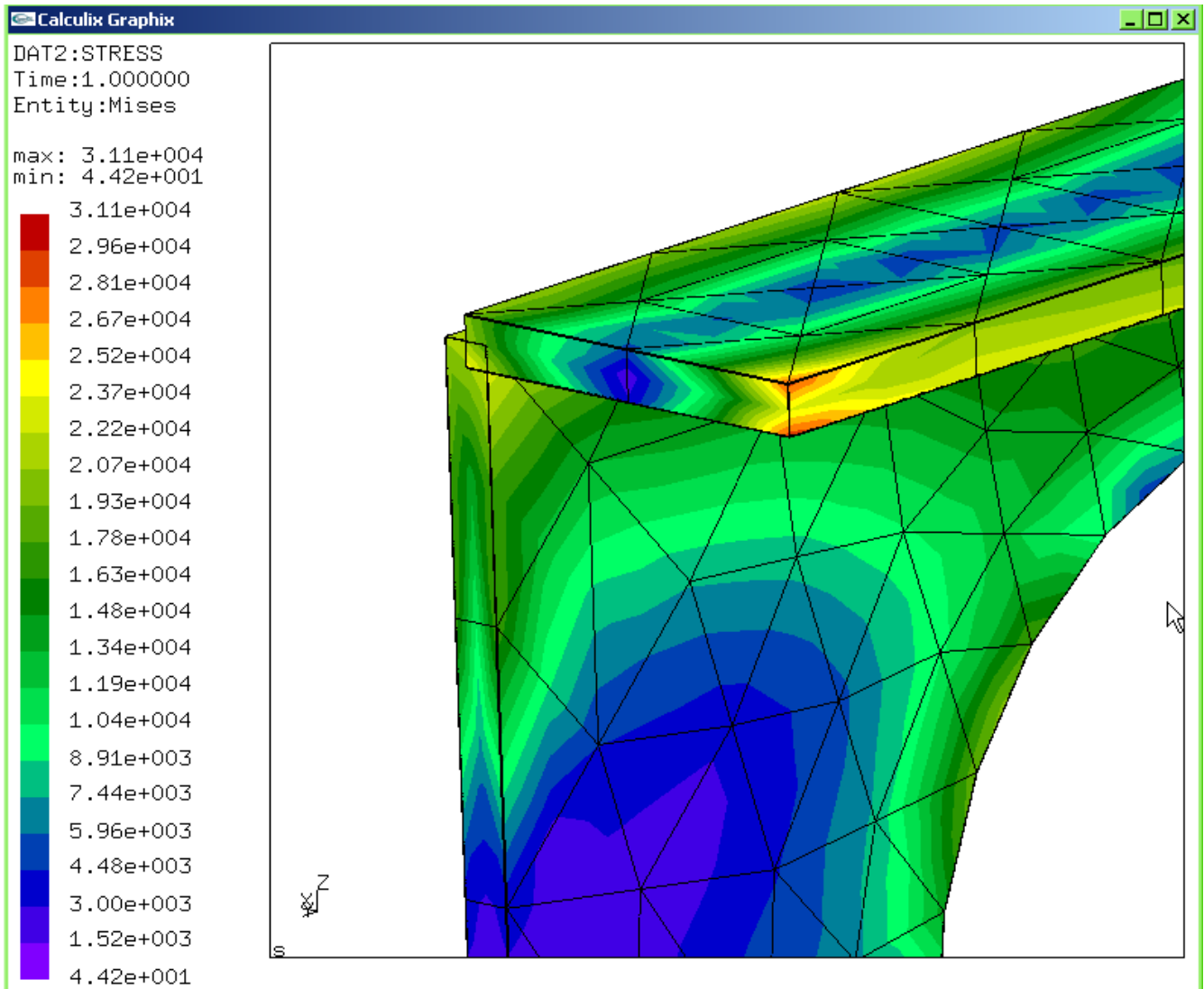


Fig. 8 - Singularity zone. Max Stress is nonexistent value and localized with high gradient near one node. You should not take this value into account (it is infinite value)