

Measured Shear Centers:

e_1 = -0.799851 [cm]
e_2 = -0.322254 [cm]
e_3 = 0.797676 [cm]
e_4 = -3.76638 [cm]
e_5 = -3.52081 [cm]

Theoretical Shear Centers:

I_1 = 0.430545 [inch^4] = 17.9206 [cm^4]
I_2 = 0.0130989 [inch^4] = 0.545217 [cm^4]
e_1 = -0.581496 [inch] = -1.477 [cm]
e_2 = -0.232275 [inch] = -0.589979 [cm]
e_3 = -1.58843 [inch] = -4.03461 [cm]
e_4 = -1.52533 [inch] = -3.87433 [cm]
e_5 = -1.26541 [inch] = -3.21415 [cm]

Relative Errors:

e_1_err = 45.8463%
e_2_err = 45.3787%
e_3_err = 119.771%
e_4_err = 2.78628%
e_5_err = 9.54079%

Shear Flow Calculations for Specimen 1:

tau_12_1 = 168.9*s*([kPa]/[m])

tau_24_1 = 6.248*[kPa] + 2737.0*(- 1.0*s^2 + s*0.06172*[m])*([kPa]/[m]^2)

tau_45_1 = 6.248*[kPa] + (-168.9*s)*([kPa]/[m])

tau_1_1 = 0.0

tau_2_1 = 6.248*[kPa]

tau_3_1 = 8.854*[kPa]

tau_4_1 = 6.248*[kPa]

tau_5_1 = 0.0

Shear Flow Calculations for Specimen 2:

tau_12_2 = 3839.0*s*([kPa]/[m])

tau_24_2 = 54.61*[kPa] + 1.799e+5*(- 1.0*s^2 + s*0.02134*[m])*([kPa]/[m]^2)

tau_45_2 = 54.61*[kPa] + (-3839.0*s)*([kPa]/[m])

tau_1_2 = 0.0

tau_2_2 = 54.61*[kPa]

tau_3_2 = 75.08*[kPa]

tau_4_2 = 54.61*[kPa]

tau_5_2 = 0.0

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