

$$T1 := 70 \quad P1 := 14.696 \quad P2 := 3500$$

$$v := 2 \quad s := 5 \quad h := 4$$

$$Pt_1 := ST_pdata(P1, T1, 1, 1)$$

$$Pt_{1v} = 0.01604916$$

$$Pt_2 := ST_pdata(P2, T1, 1, 1)$$

$$Pt_{2v} = 0.015880074$$

$$Pt_3 := ST_pdata(P2, Pt_{1s}, s, 1)$$

$$Pt_{3v} = 0.01588168$$

$$Pt_4 := ST_pdata(P2, Pt_{1h}, h, 1)$$

$$Pt_{4v} = 0.015860671$$

$$L_t := 1 - \frac{Pt_{2v}}{Pt_{1v}} = 1.053551426\%$$

Constant temperature expansion

$$L_s := 1 - \frac{Pt_{3v}}{Pt_{1v}} = 1.04354265\%$$

Constant entropy expansion

$$L_h := 1 - \frac{Pt_{4v}}{Pt_{1v}} = 1.174447252\%$$

Constant enthalpy expansion

$$T2 := 1200$$

$$Pt_1 := ST_pdata(P1, T2, 1, 1)$$

$$Pt_{1v} = 67.245075211$$

$$Pt_2 := ST_pdata(P2, T2, 1, 1)$$

$$Pt_{2v} = 0.256296575$$

$$Pt_3 := ST_pdata(P2, Pt_{1s}, s, 1)$$

$$Pt_{3v} = \mathbf{\text{Out of temperature range}}$$

$$Pt_4 := ST_pdata(P2, Pt_{1h}, h, 1)$$

$$Pt_{4v} = 0.281819688$$

$$G_t := 1 - \frac{Pt_{2v}}{Pt_{1v}} = 99.61886194\%$$

Constant temperature expansion

$$G_s := 1 - \frac{Pt_{3v}}{Pt_{1v}} = \mathbf{\text{Out of temperature range}}$$

Constant entropy expansion

$$G_h := 1 - \frac{Pt_{4v}}{Pt_{1v}} = 99.580906576\%$$

Constant enthalpy expansion

Out of temperature range

$$\frac{G_t}{L_t} = 94.555291247$$

$$\frac{G_s}{L_s} = \mathbf{\text{Out of temperature range}}$$

$$\frac{G_h}{L_h} = 84.789594787$$

$$T1 := 70 \quad P1 := 3400 \quad P2 := 3500$$

$$Pt_1 := ST_pdata(P1, T1, 1, 1)$$

$$Pt_{1v} = 0.015884768$$

$$Pt_2 := ST_pdata(P2, T1, 1, 1)$$

$$Pt_{2v} = 0.015880074$$

$$Pt_3 := ST_pdata(P2, Pt_{1s}, s, 1)$$

$$Pt_{3v} = 0.015880123$$

$$Pt_4 := ST_pdata(P2, Pt_{1h}, h, 1)$$

$$Pt_{4v} = 0.015879464$$

$$L_t := 1 - \frac{Pt_{2v}}{Pt_{1v}} = 0.029551823\%$$

Constant temperature expansion

$$L_s := 1 - \frac{Pt_{3v}}{Pt_{1v}} = 0.029246287\%$$

Constant entropy expansion

$$L_h := 1 - \frac{Pt_{4v}}{Pt_{1v}} = 0.033393352\%$$

Constant enthalpy expansion

$$T2 := 1200$$

$$Pt_1 := ST_pdata(P1, T2, 1, 1)$$

$$Pt_{1v} = 0.264593557$$

$$Pt_2 := ST_pdata(P2, T2, 1, 1)$$

$$Pt_{2v} = 0.256296575$$

$$Pt_3 := ST_pdata(P2, Pt_{1s}, s, 1)$$

$$Pt_{3v} = 0.258724396$$

$$Pt_4 := ST_pdata(P2, Pt_{1h}, h, 1)$$

$$Pt_{4v} = 0.257069756$$

$$G_t := 1 - \frac{Pt_{2v}}{Pt_{1v}} = 3.135745926\%$$

Constant temperature expansion

$$G_s := 1 - \frac{Pt_{3v}}{Pt_{1v}} = 2.218179805\%$$

Constant entropy expansion

$$G_h := 1 - \frac{Pt_{4v}}{Pt_{1v}} = 2.843531346\%$$

Constant enthalpy expansion

$$\frac{G_t}{L_t} = 106.110068956$$

$$\frac{G_s}{L_s} = 75.844834583$$

$$\frac{G_h}{L_h} = 85.152616866$$

$$T1 := 625 \quad P1 := 3400 \quad P2 := 3500$$

$$Pt_1 := ST_ptdata(P1, T1, 1, 1)$$

$$Pt_{1v} = 0.023632342$$

$$Pt_2 := ST_ptdata(P2, T1, 1, 1)$$

$$Pt_{2v} = 0.023568618$$

$$Pt_3 := ST_ptdata(P2, Pt_{1s}, s, 1)$$

$$Pt_{3v} = 0.023600418$$

$$Pt_4 := ST_ptdata(P2, Pt_{1h}, h, 1)$$

$$Pt_{4v} = 0.023585903$$

$$L_t := 1 - \frac{Pt_{2v}}{Pt_{1v}} = 0.26965119\%$$

Constant temperature expansion

$$L_s := 1 - \frac{Pt_{3v}}{Pt_{1v}} = 0.135088962\%$$

Constant entropy expansion

$$L_h := 1 - \frac{Pt_{4v}}{Pt_{1v}} = 0.196509073\%$$

Constant enthalpy expansion

$$T2 := 750$$

$$Pt_1 := ST_ptdata(P1, T2, 1, 1)$$

$$Pt_{1v} = 0.112919499$$

$$Pt_2 := ST_ptdata(P2, T2, 1, 1)$$

$$Pt_{2v} = 0.104787925$$

$$Pt_3 := ST_ptdata(P2, Pt_{1s}, s, 1)$$

$$Pt_{3v} = 0.110436047$$

$$Pt_4 := ST_ptdata(P2, Pt_{1h}, h, 1)$$

$$Pt_{4v} = 0.109787984$$

$$G_t := 1 - \frac{Pt_{2v}}{Pt_{1v}} = 7.201213476\%$$

Constant temperature expansion

$$G_s := 1 - \frac{Pt_{3v}}{Pt_{1v}} = 2.19931186\%$$

Constant entropy expansion

$$G_h := 1 - \frac{Pt_{4v}}{Pt_{1v}} = 2.773227987\%$$

Constant enthalpy expansion

$$\frac{G_t}{L_t} = 26.705661738$$

$$\frac{G_s}{L_s} = 16.280470486$$

$$\frac{G_h}{L_h} = 14.112467899$$