$E_y := 200\text{GPa}$ — modulus of elasticity evaluated at the temperature of interest, see Annex 3-E

$\sigma_{ys} := 550\text{MPa}$ — engineering yield stress evaluated at the temperature of interest, see paragraph 3-D.1

$\sigma_{uts} := 750\text{MPa}$ — engineering ultimate tensile stress evaluated at the temperature of interest, see paragraph 3-D.2.

$\epsilon_{ys} := 0.002$ — 0.2% engineering offset strain

$R := \frac{\sigma_{ys}}{\sigma_{uts}} = 0.733$ — engineering yield to engineering tensile ratio

$m_2 := 2 \cdot 10^{-5}$ — stress-strain curve fitting parameter ratio

$\epsilon_p := 2 \cdot 10^{-5}$ — stress-strain curve fitting parameter ratio

$\sigma_p := 400\text{MPa}$ — Stress at proportional limit.

$\sigma_{uts\_t} := \sigma_{uts} \cdot e^{m_2} = 750.015\ \text{MPa}$ — true ultimate tensile stress evaluated at the true ultimate tensile strain

$K := 1.5 \cdot R^{1.5} - 0.5 \cdot R^{2.5} - R^{3.5} = 0.374$ — material parameter for stress-strain curve model

$\text{points} := 40$ — Number of points on the stress-strain curve

$$i := \mathrm{Vector}([\mathrm{seq}(0\,..\mathrm{points}, 1)])$$

$$\sigma_t := \sigma_p + \sim i \cdot \frac{(\sigma_{uts\_t} - \sigma_p)}{\mathrm{points}} = \begin{bmatrix} 400\ \mathrm{MPa} \\ \left(400 + 0.025\,(\grave{\sigma}_{uts\_t}\grave{} - \grave{\sigma}_p\grave{})\,\frac{1}{\mathrm{MPa}}\right)\mathrm{MPa} \\ \left(400 + 0.050\,(\grave{\sigma}_{uts\_t}\grave{} - \grave{\sigma}_p\grave{})\,\frac{1}{\mathrm{MPa}}\right)\mathrm{MPa} \\ \left(400 + 0.075\,(\grave{\sigma}_{uts\_t}\grave{} - \grave{\sigma}_p\grave{})\,\frac{1}{\mathrm{MPa}}\right)\mathrm{MPa} \\ \left(400 + 0.100\,(\grave{\sigma}_{uts\_t}\grave{} - \grave{\sigma}_p\grave{})\,\frac{1}{\mathrm{MPa}}\right)\mathrm{MPa} \\ \left(400 + 0.125\,(\grave{\sigma}_{uts\_t}\grave{} - \grave{\sigma}_p\grave{})\,\frac{1}{\mathrm{MPa}}\right)\mathrm{MPa} \\ \left(400 + 0.150\,(\grave{\sigma}_{uts\_t}\grave{} - \grave{\sigma}_p\grave{})\,\frac{1}{\mathrm{MPa}}\right)\mathrm{MPa} \\ \left(400 + 0.175\,(\grave{\sigma}_{uts\_t}\grave{} - \grave{\sigma}_p\grave{})\,\frac{1}{\mathrm{MPa}}\right)\mathrm{MPa} \\ \left(400 + 0.200\,(\grave{\sigma}_{uts\_t}\grave{} - \grave{\sigma}_p\grave{})\,\frac{1}{\mathrm{MPa}}\right)\mathrm{MPa} \\ \left(400 + 0.225\,(\grave{\sigma}_{uts\_t}\grave{} - \grave{\sigma}_p\grave{})\,\frac{1}{\mathrm{MPa}}\right)\mathrm{MPa} \\ \text{"41 element Vector[column]"} \end{bmatrix}$$

$$H := \frac{2 \cdot \left(\sigma_t - \left(\sigma_{ys} + K \cdot \left(\sigma_{uts} - \sigma_{ys}\right)\right)\right)}{K \cdot \left(\sigma_{uts} - \sigma_{ys}\right)}$$