Define Parameters

$f'_m := 1500psi$ Masonry Compressive strength

Nominal_Masonry_Thickness_t := 6 | 8 | 10 | 12

$t := Nominal\_Masonry\_Thickness\_t \cdot in$ $t = 5.625 \cdot in$

fr_normal_bedjoints :=
- Solid Units,(Masonry Cement), M or S
- Solid Units,(Masonry Cement), N
- **Hollow Ungouted Units,(Masonry Cement), M,S**
- Hollow Ungouted Units,(Masonry Cement), N
- Hollow gouted Units,(Masonry Cement), M,S
- Hollow gouted Units,(Masonry Cement), N

CMU Modulus of Rupture

$fr\_normal\_bedjoints := (fr\_normal\_bedjoints) \cdot psi$ $fr\_normal\_bedjoints = 51.000 \cdot psi$

$f_{r\_cmu\_v} := fr\_normal\_bedjoints$ $f_{r\_cmu\_v} = 51.000\ psi$

Wall Weight for concrete Density of 125

Masonry_Weight_per_ft2 :=
- **6" CMU, No grout,FS**
- 6" CMU, No grout,Full
- 6" CMU, Solid,Full
- 6" CMU, Grout @ 8", Full

Neglect_Self_Weight := **Yes** | No

$MasonryWeight\_per\_ft2 := (Masonry\_Weight\_per\_ft2) \cdot \frac{lbf}{ft^2}$ $Neglect\_Self\_Weight = \text{"No"}$

$MasonryWeight\_per\_ft2 = 28.000 \cdot \frac{lbf}{ft^2}$

$MasonryWeight\_per\_ft2 := \begin{cases} 0 & \text{if } Neglect\_Self\_Weight = \text{"Yes"} \\ MasonryWeight\_per\_ft2 & \text{if } Neglect\_Self\_Weight = \text{"No"} \end{cases}$ $MasonryWeight\_per\_ft2 = 28.000 \cdot \frac{lbf}{ft^2}$

CMU Spanning Vertically Section Properties

$Masonry\_A_n :=$
- **6" CMU, No grout,FS**
- 6" CMU, No grout,Full
- 6" CMU, Solid,Full
- 6" CMU, Grout @ 16", FS

$Masonry\_S_{n\_v} :=$
- **6" CMU, No grout,FS**
- 6" CMU, No grout,Full
- 6" CMU, Solid,Full
- 6" CMU, Grout @ 16", FS

$CMU\_A_n := (Masonry\_A_n) \cdot in^2$ $CMU\_A_n = 24.0 \cdot in^2$ / ft strip of wall

$CMU\_S_{n\_v} := (Masonry\_S_{n\_v}) \cdot in^3$ $CMU\_S_{n\_v} = 46.3 \cdot in^3$ / ft strip of wall

$r_{avg.} :=$

$r_{avg} := \left(r_{avg.}\right) \cdot in$ $\quad r_{avg} = 2.08 \cdot in$ / ft strip of wall