Hello Nazmul,

The AISC base plate design is based on the AISC Design Guide 1 Second Edition. According to the DG1 section 3.5, the shear in a base plate design can be handled in three ways:

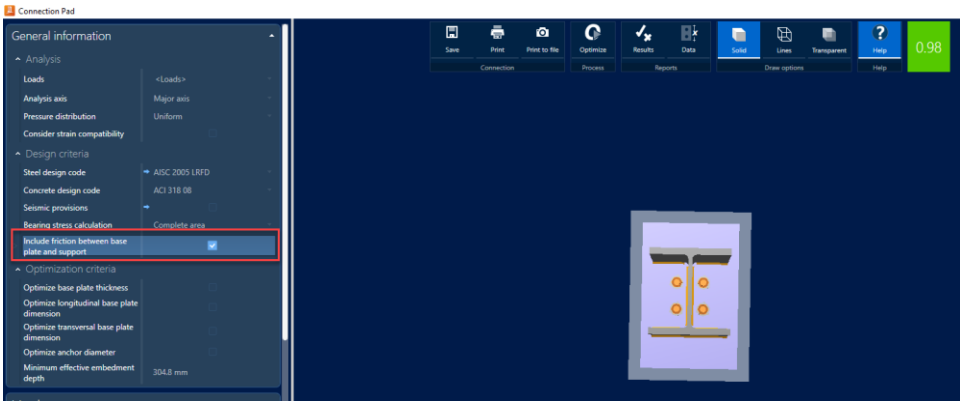
1. Friction between the base plate and the grouting or concrete surface

2. Using a shear lug

3. Shear in anchors

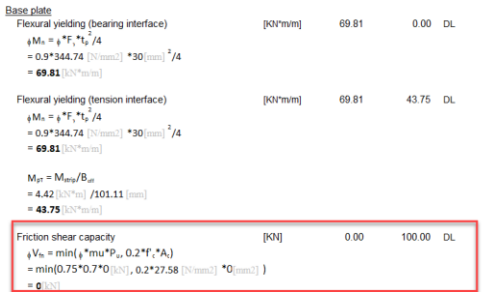
By default in RAM Connection check the shear in anchors that is why you see all the shear capacities being calculated according to the ACI 318 Appendix D.

If you want consider the friction between the base plate and the concrete you need to check the “Include friction between base plate and support” option in Design criteria.

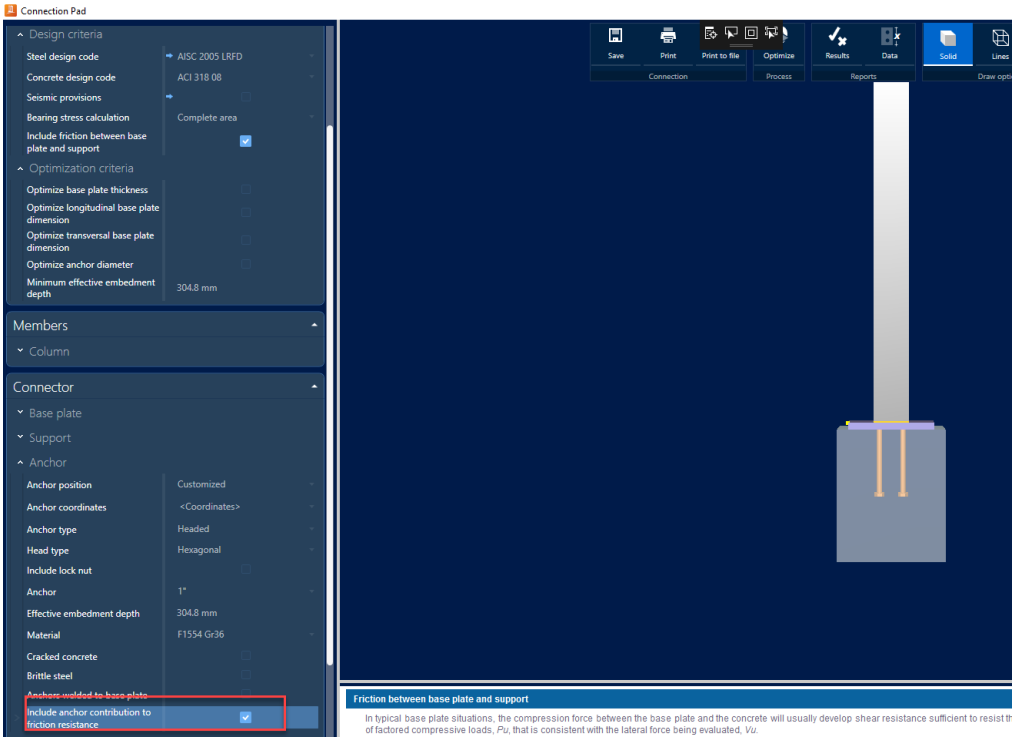


This will enable the friction calculation which can be calculated just for the plate or Include it in the anchors shear capacity.

If it is just for the plate a new capacity is added in the base plate section called “Friction shear capacity”. This depends on axial compression so for a base plate under tension the friction capacity will be zero.



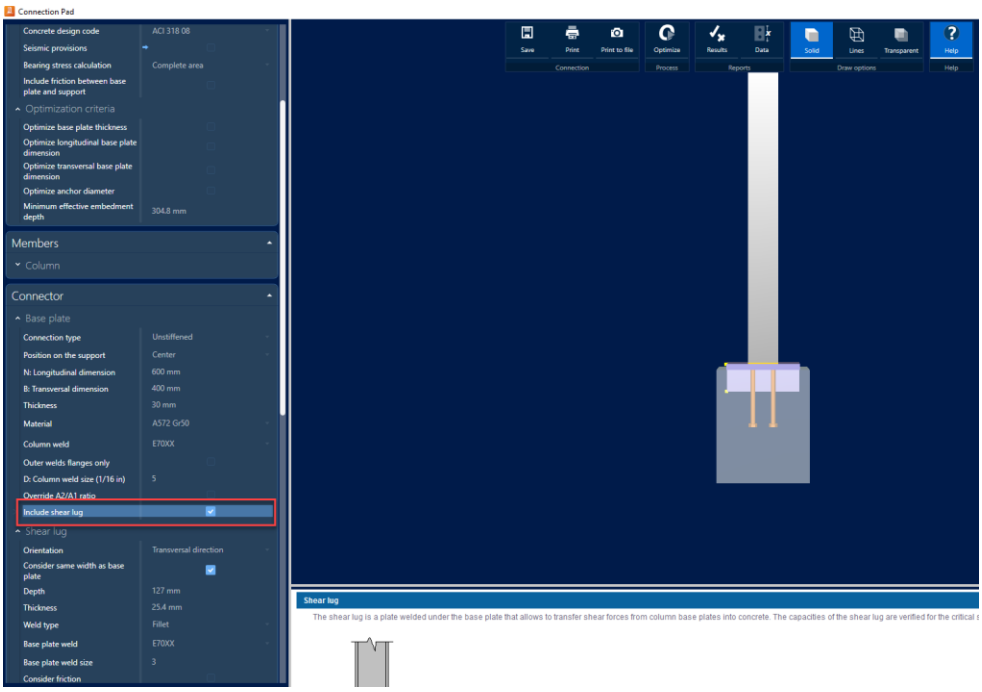
If you want the friction to be considered as a contribution of the anchor shear capacity then you need to check “Include anchor contribution to friction resistance”



This will include the friction contribution to the anchor shear resistance.

Anchor shear	[KN]	60.95	25.00	DL	**0.41**	Eq. D-20, DG1 Sec 3.5.1
$A_{se} = \pi/4.0*(d_z - 0.9743\ [in]/n_t)^2$ $= \pi/4.0*(25.4[mm] - 0.9743\ [in]/8)^2$ $= \mathbf{390.8}\ [mm2]$						Sec. D.5.1.1, D.6.1.2
$f_{uta} = \min(f_{ua}, 1.9*f_{ya}, 125\ [ksi])$ $= \min(399.89[N/mm2], 1.9*248.21\ [N/mm2], 125\ [ksi])$ $= \mathbf{399.89}\ [N/mm2]$						Sec. D.5.1.2
HasGroutPad $\rightarrow$ **False**						
$\phi V_{sa} = \phi*0.6*n*A_{se,V}*f_{uta}$ $= 0.65*0.6*1*390.8\ [mm2]*399.89[N/mm2]$ $= \mathbf{60.95}\ [kN]$						Eq. D-20
$\phi V_{fn} = \min(\phi*mu*P_u, 0.2*f'_c*A_c)$ $= \min(0.75*0.7*0[kN], 0.2*27.58\ [N/mm2]*0[mm2])$ $= \mathbf{0}[kN]$ $\phi V_n = \phi V_{sa} + \phi V_{fnb}$ $= 60.95\ [kN] + 0[kN]$ $= \mathbf{60.95}\ [kN]$						DG1 Sec 3.5.1

Finally, shear can also be resisted by a shear lug. If this is the case you need to check the option



This will enable all section capacities for the shear lug.