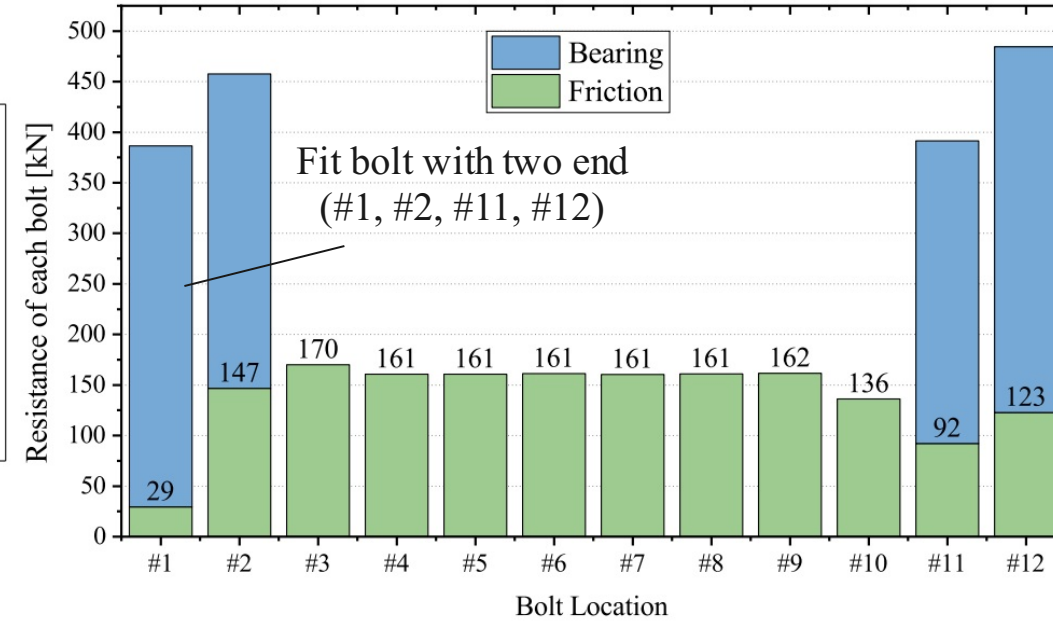
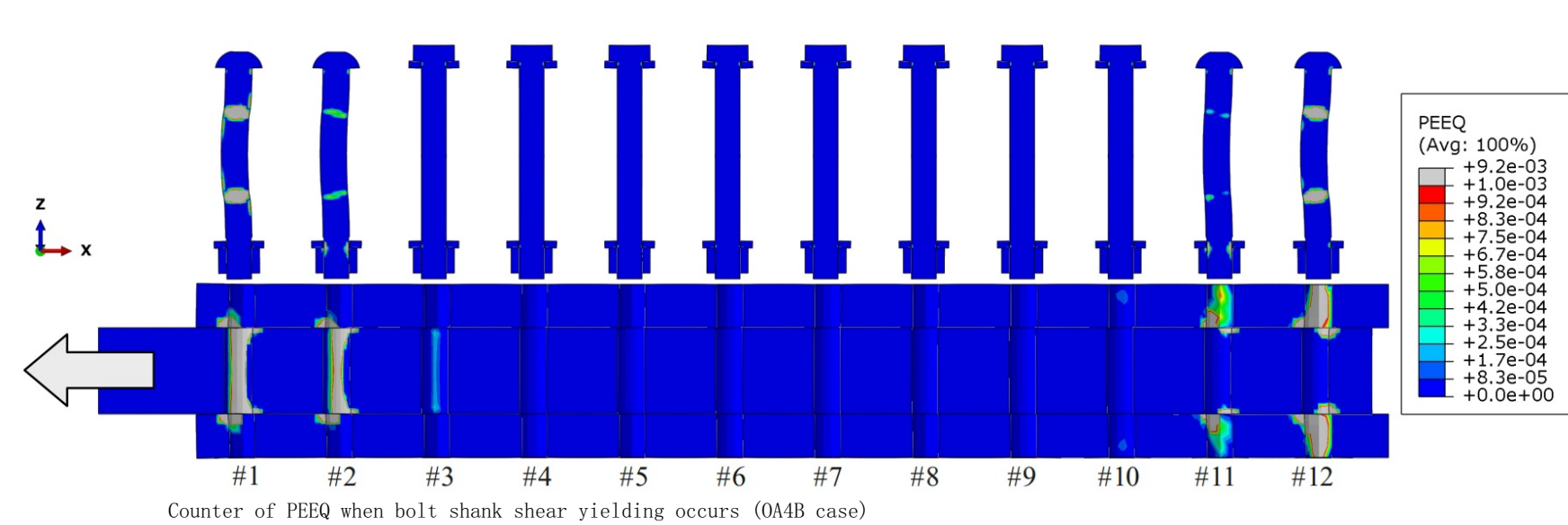


Serviceability limit states of long bolted joints combined with bearing-type bolted connections



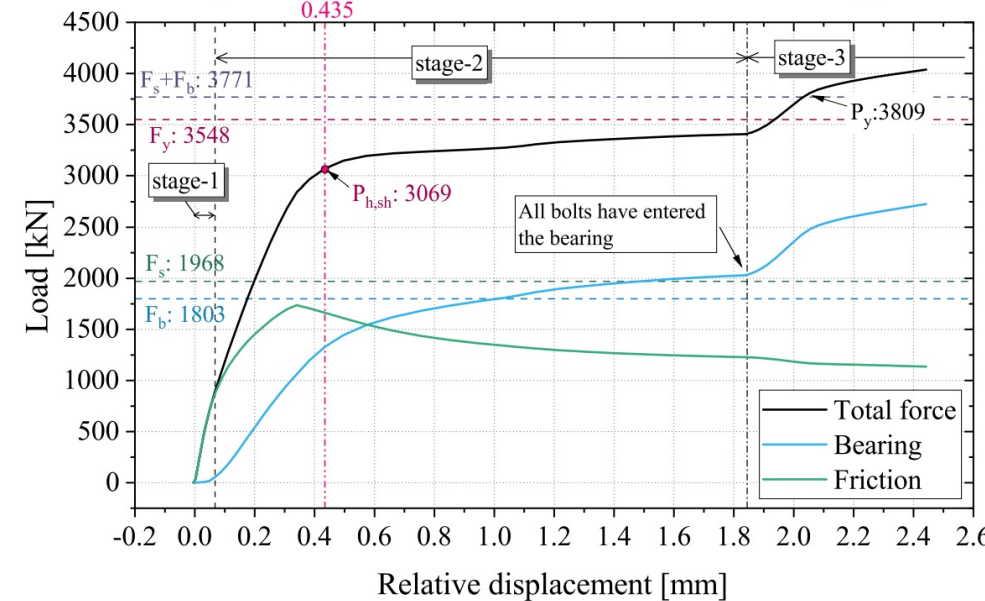
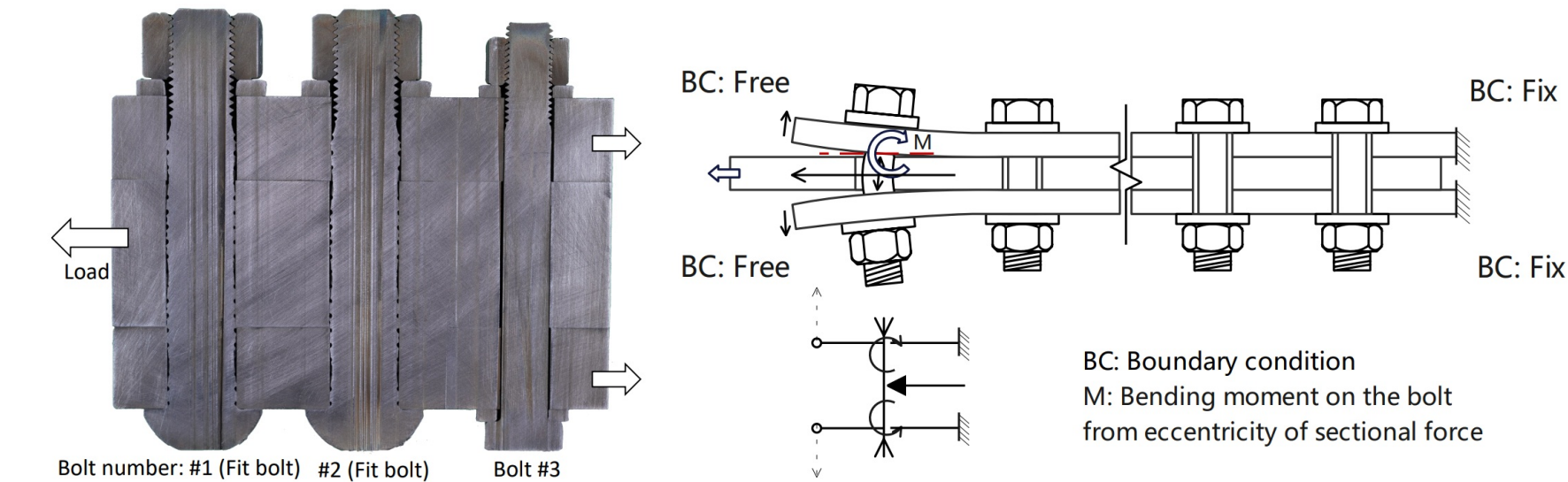
Bolt shank yield resistance calculation formular for hybri joint can given by,

$$F_{h,sh,cor-2} = \alpha_s F_s + \alpha_b F_b$$

Where,

α_s the reduction factor for the slip resistance;
 α_b the reduction factor for the bearing resistance of fit bolts, which is taken to be 0.76.

$$\alpha_s = \begin{cases} 0.89 & \text{if } n_b = 2 \\ 0.79 & \text{if } n_b = 4 \end{cases}$$



(b) Bolt arrangement: 4/12 (the number of Bolt-B = 4, Bolt = 12), OA4B case, $\beta_h = 0.81$

Conclusion

The shear bending of the fit bolt and the bending moment causes the free end of the splice plate to deform outwards from the main plate causes a severe loss of preload, resulting in a significant reduction in the frictional force it can transmit.