

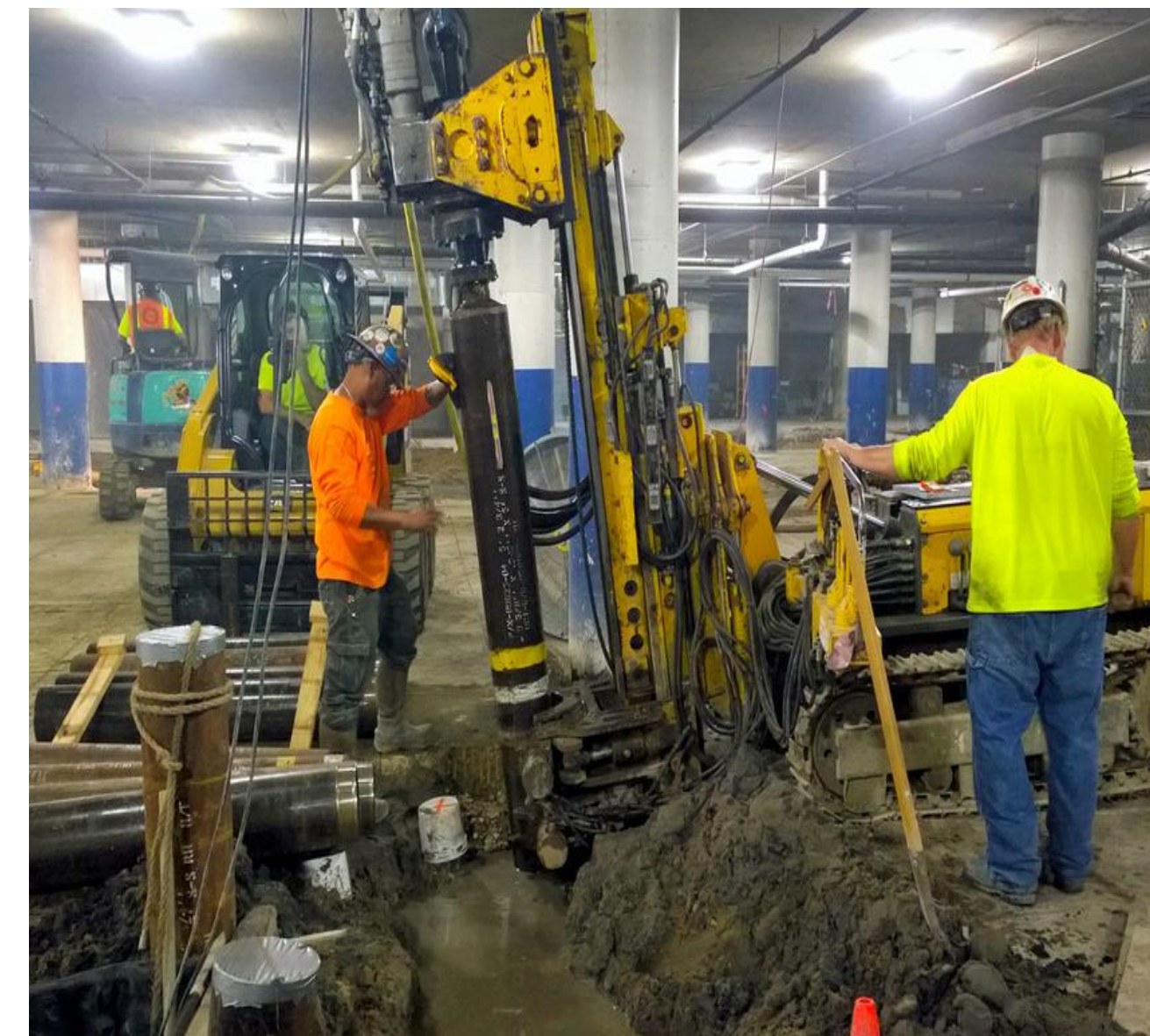
Flexural Strength of Micropile Threaded Connections

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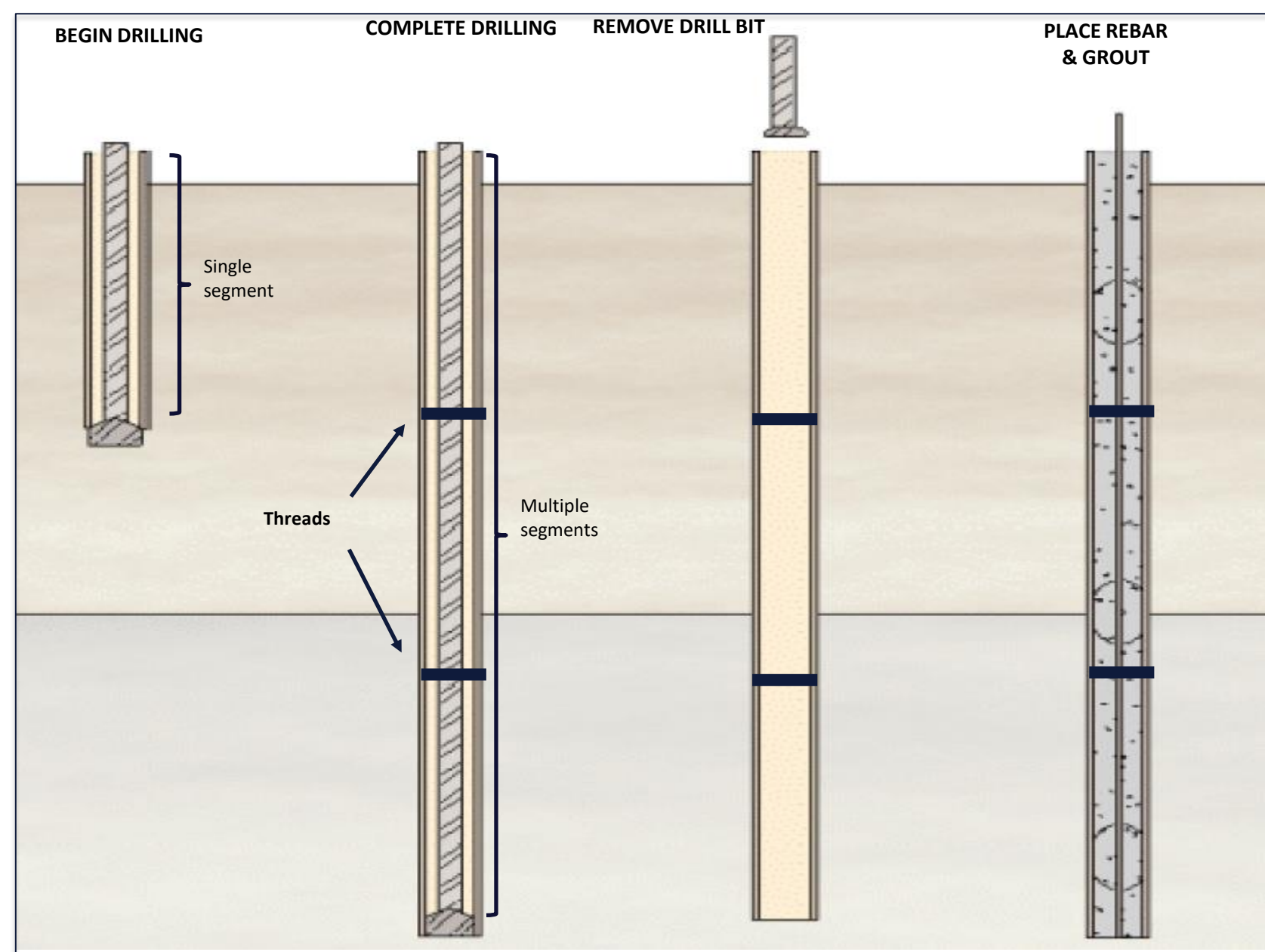
Steel Casing Micropiles

Permanent steel casings micropiles are an advantageous foundation system:

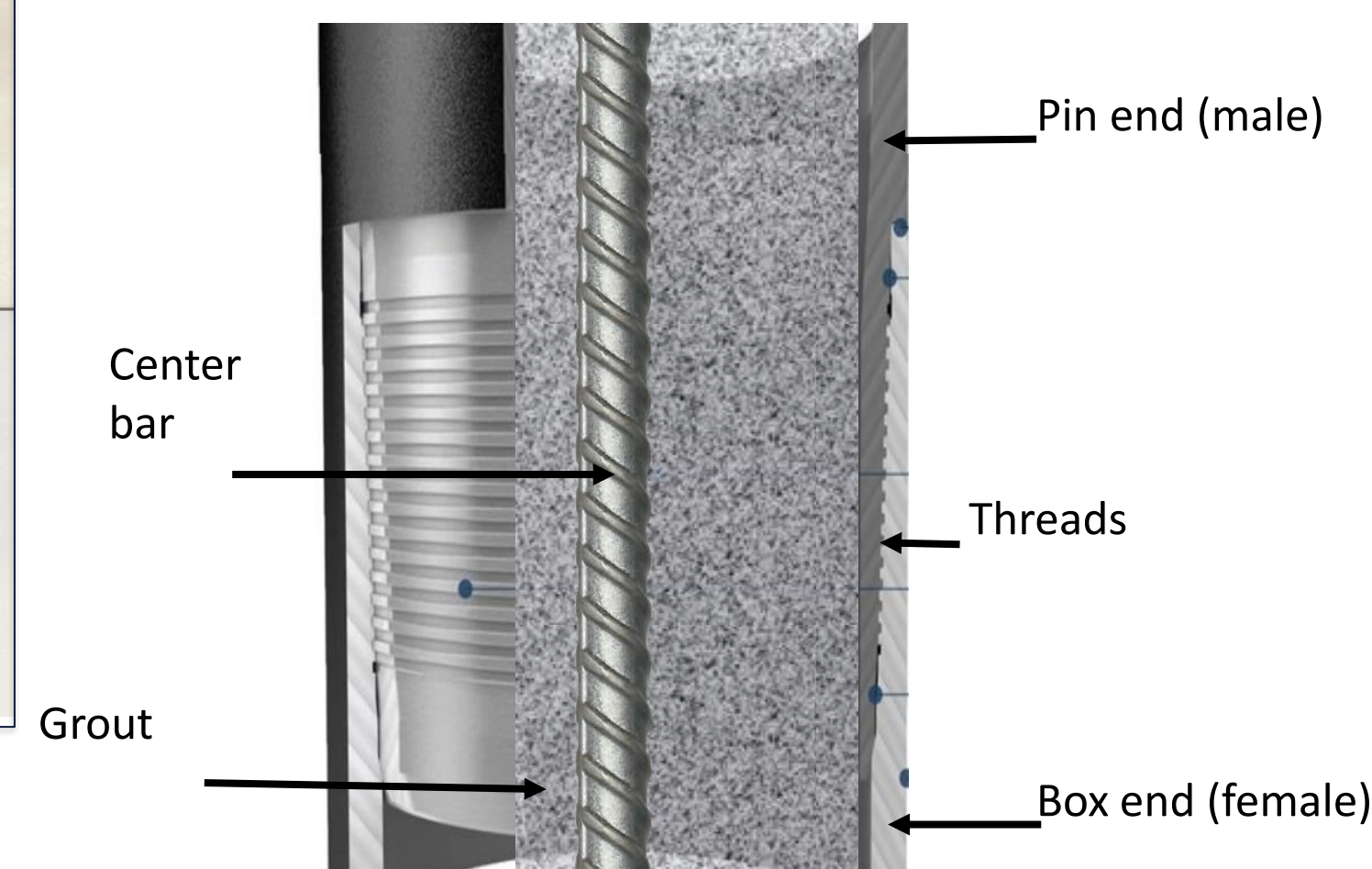
- High geotechnical capacities.
- Suitable for challenging subsurface conditions.
- Suitable at sites with limited access.
- **Segmental installation** for situations with low head clearance.



Chicago, Illinois. By Keller North America: <https://www.keller-na.com/projects/flagship-retail-store>



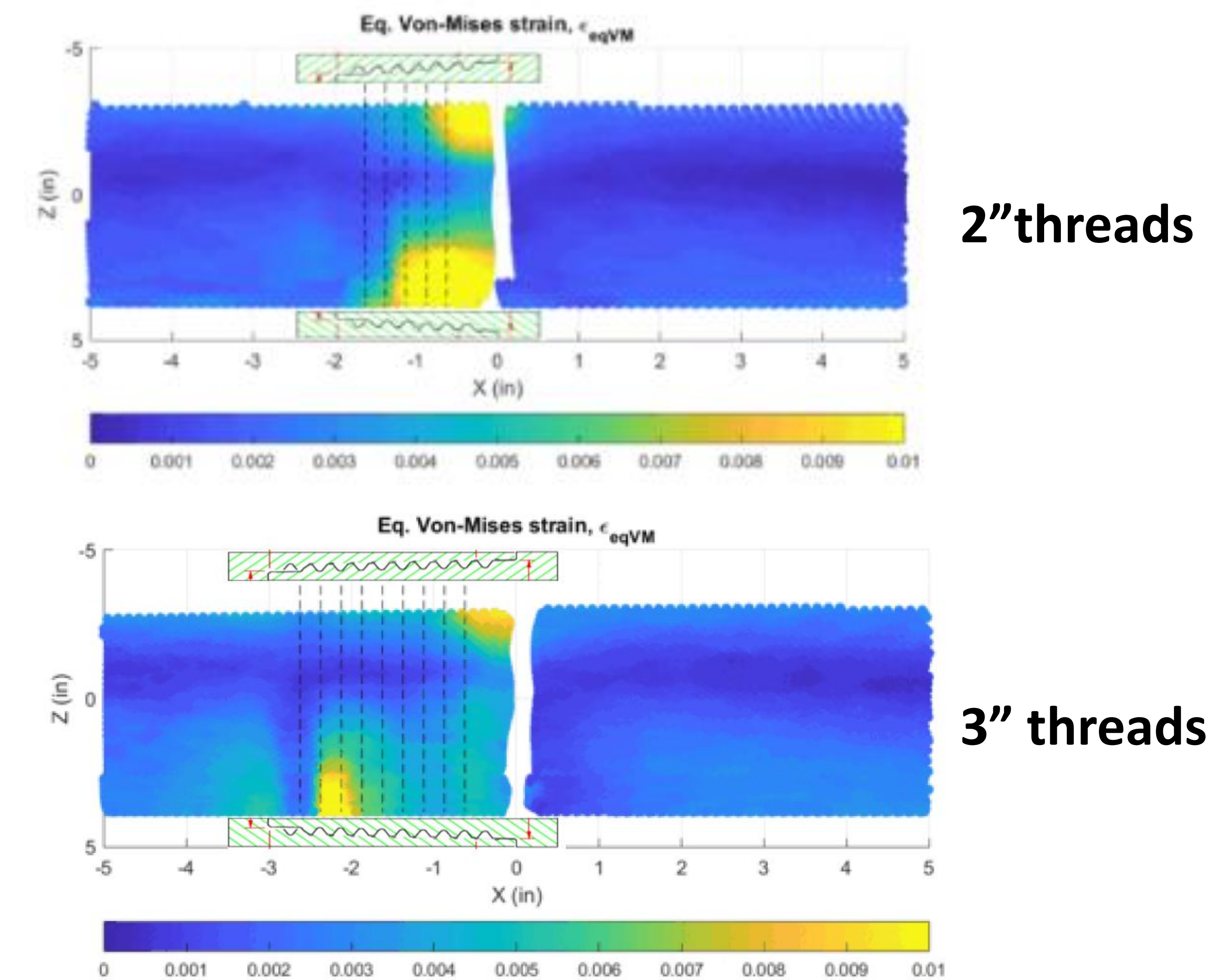
Typical micropile installation. Modified from FHWA (2005)



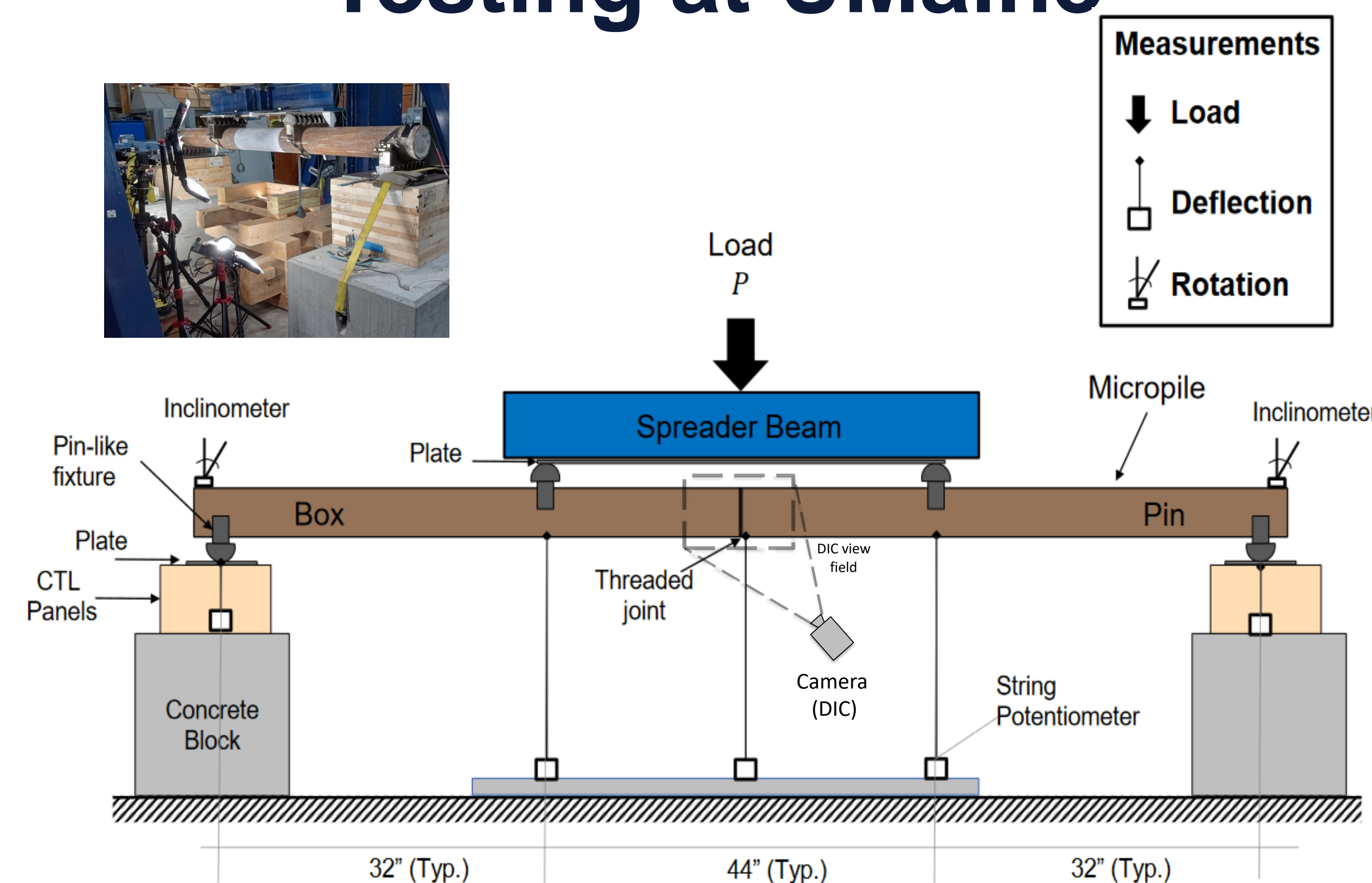
Assemblage mimics installation conditions



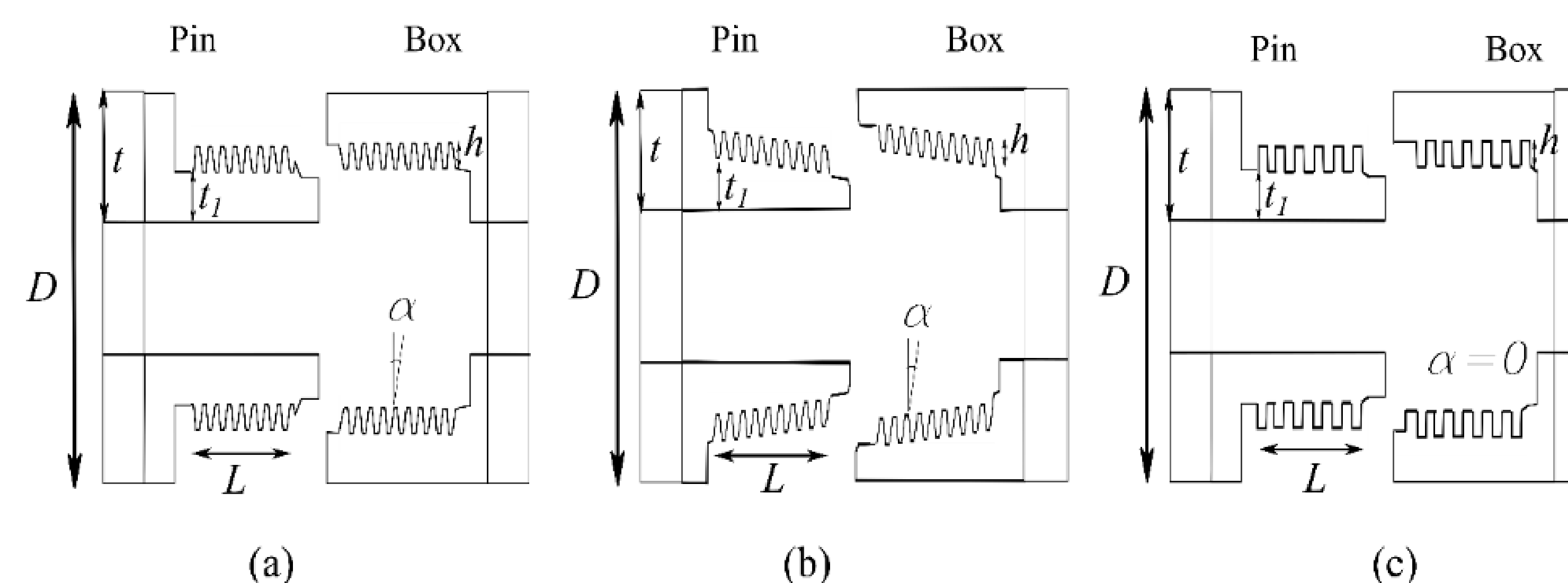
Results



Testing at UMaine



Thread types and variables



- D : Casing outer diameter
- t : wall thickness
- L : Thread engagement length
- t_1 : Thickness at the pin
- h : Thread height
- α : Thread flange angle

Conclusions

- Threaded joint constitute the weak link on the chain.
- Maximum connection capacity is attained for rupture failure.
- Larger casings require longer threads to ensure that rupture governs.

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