Different mix designs are carried out and compressive strength is determined. The maximum compressive strength obtained in 28 days is 21 ksi.

**2. Objectives**
- To demonstrate the effectiveness of the Ultra-High Performance Concrete (UHPC) encasement to restore the lost steel H-pile axial capacity.
- To evaluate the bond strength of UHPC and steel H-pile with headed studs.
- To propose innovative method of retrofitting for corroded steel H-pile.

**3. Why UHPC**
- High early strength allow reduce the construction delay.
- Durability when exposed to moisture, freeze thaw conditions.
- Flowability of UHPC allow the concrete to be poured to encase complex geometries without clogging.
- Crack resistance resulting from its high tensile strength.
- Fatigue resistance

**4. Mix Design**
- Based on literature review, different mix designs are implemented.
- Best mix design having better strength and flowability is selected for the experiment work.

**5. Preparation of Mold**
- Precast UHCP mold
- Cast-in-place UHCP mold

**6. UHPC Encasement Method**
- Precast UHCP Encasement
- Cast-in-place UHCP Encasement

**7. Push-out Test**
- The steel H-pile having shear studs is encased with UHPC and the push test is conducted.

**8. Findings and Conclusion**
- Different mix designs are carried out and compressive strength is determined.
- The maximum compressive strength obtained in 28 days is 21 ksi.
- The steel H-pile having shear studs is encased with UHPC and the push test is conducted.

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