KISHI LABORATORY Ee-B05



KISHI LAB.



[Property of material concrete and durability of concrete structure]

Institute of Industrial Science Department of Human & Social Systems

Concrete & Recycling Engineering

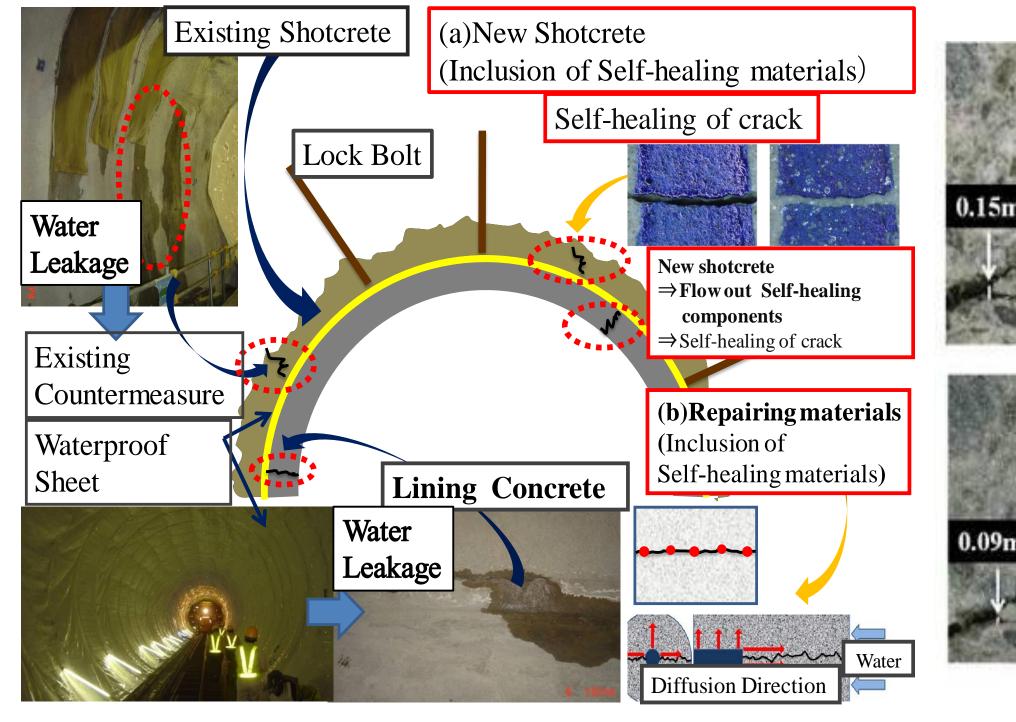
Dept.of Civil Eng.

http://wdnsword.iis.u-tokyo.ac.jp/index_e.shtml

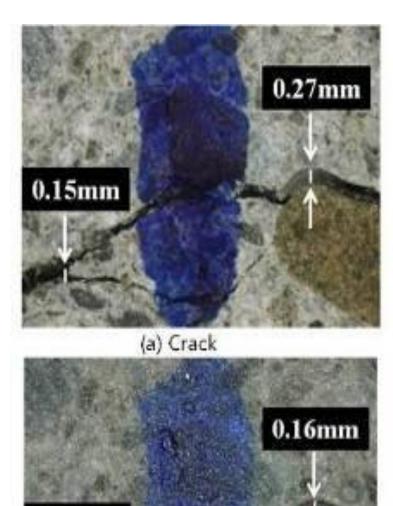
Property and durability of concrete

Kishi laboratory undertake research on (1) cement-based material resolving its physical property, performance assessment, development and practical application of new material and (2) quality inspection / maintenance of concrete structure.

- **♦** A study on new evaluation method of salt penetration that can be considered stagnation and continuation of advection and diffusion
- ◆ A study on new durability design frame that is based on evaluation of liquid water penetration as alternative to neutralization
- Study on Regularity of flow and flow curve based on velocity profiles in coaxial cylinders
- **◆** A study on mechanism of water flow reduction due to air bubble generation in crack
- Development of simplified evaluation method of concrete surface quality
- Development of self-healing technology of concrete crack



Application of self-healing concrete for water leakage of underground infrastructures as tunnels



(c) 7 days

(b) 3 days (d) 33 days

0.2 20 25 **Duration** (hour) Mechanism of water Water pass test flow reduction

Water flow reduction due to generation of air bubble

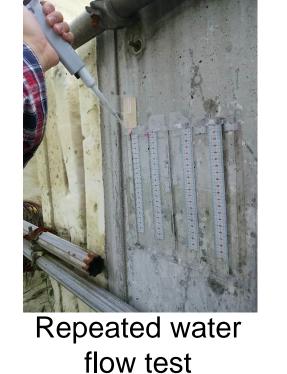




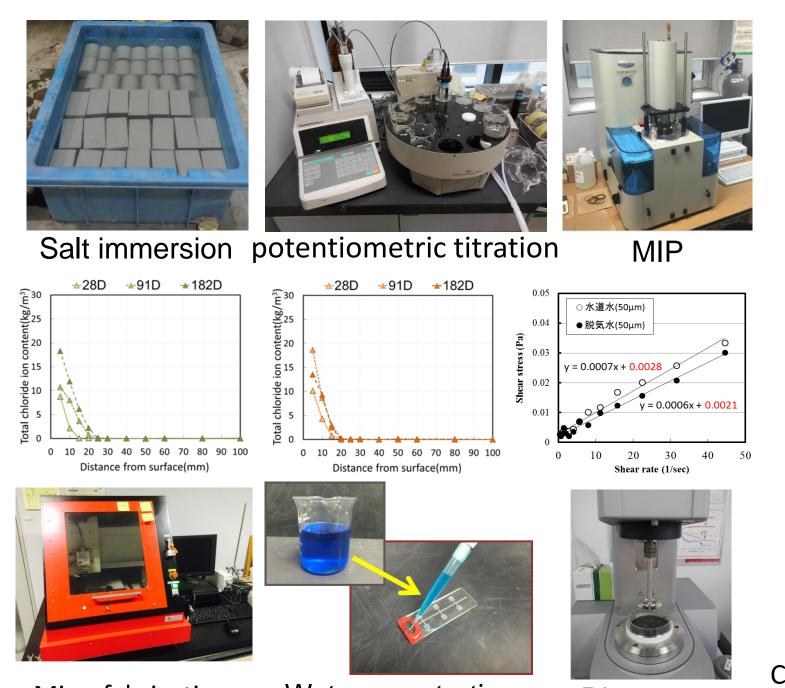
Absorption test



permeability test

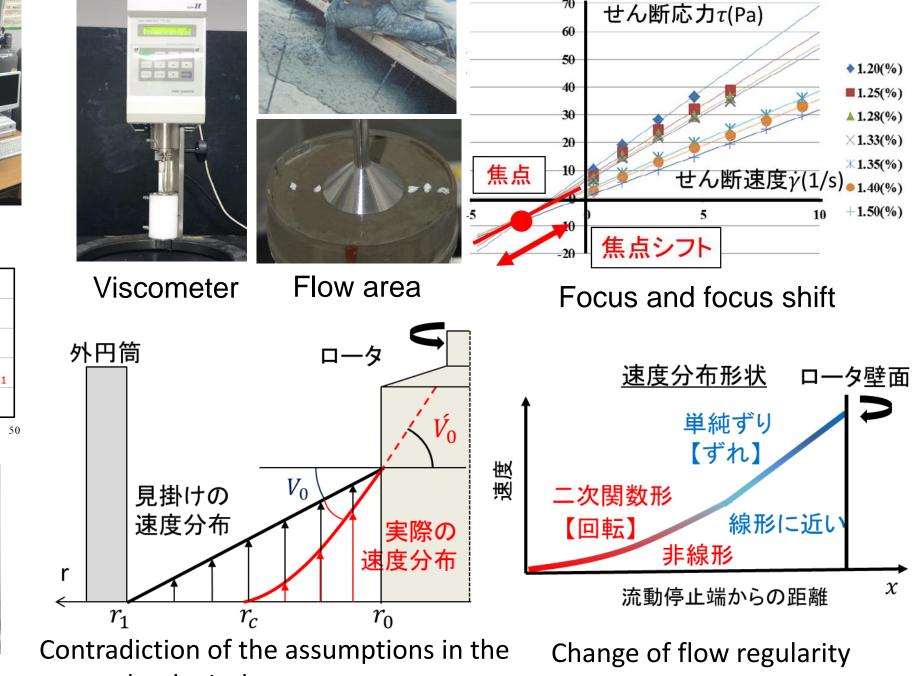


Microfabrication Evaluation of concrete surface quality



Self-healing process of self-healing concrete

Water penetration Stagnation phenomenon of salt ingress



rheological measurements Study on flow curve and regularity of flow