

Figure. S1: Synthesis reaction device of ZM.

The ZM was synthesized in a three-port flask containing a blender, thermometer, and condenser tube (Figure. S1).



Figure. S2: Prepared specimens.

The preparation of the specimens is shown in Figure. S2.

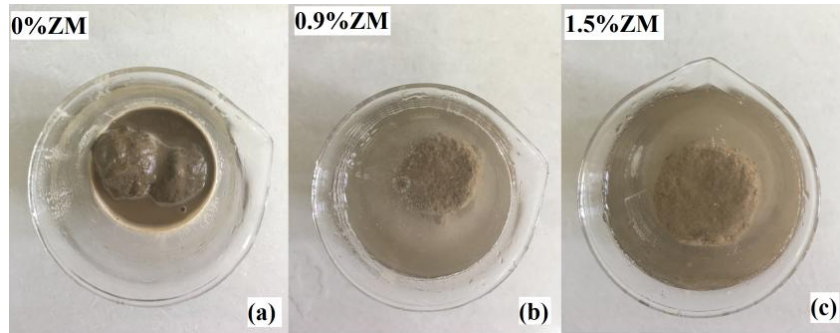


Figure. S3: Specimens with different ZM concentrations after a curing time of seven days and 24-hour immersion, (a) 0% ZM; (b) 0.9% ZM; and (c) 1.5% ZM.

Figure. S3 shows the specimens with different ZM concentrations and a salt content of 3% (by weight of dry soil) after immersion for 24 h.

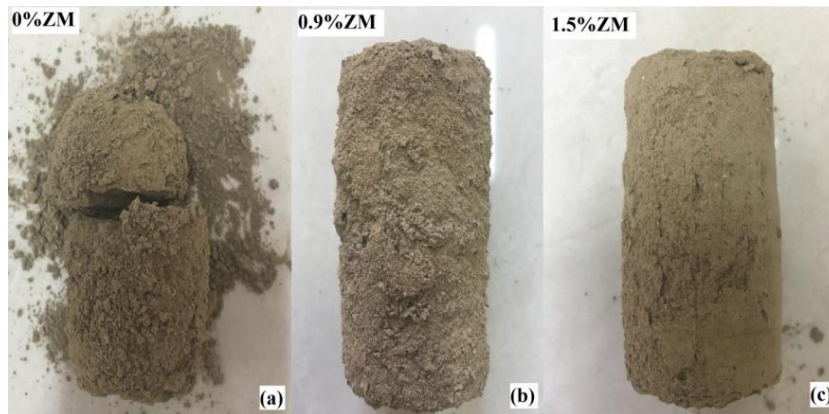


Figure. S4: Specimens with different ZM concentrations after a curing time of 28 days and 1 wetting–drying cycle, (a) 0% ZM; (b) 0.9% ZM; and (c) 1.5% ZM.

Specimens with different ZM concentrations and a salt content of 3% (by weight of dry soil) after a curing time of 28 days and 1 wetting–drying cycle are shown in Figure. S4.