

Figure S1. Particle size distribution curve.



Figure S2. Electronic universal material testing machine RGM-100kN.

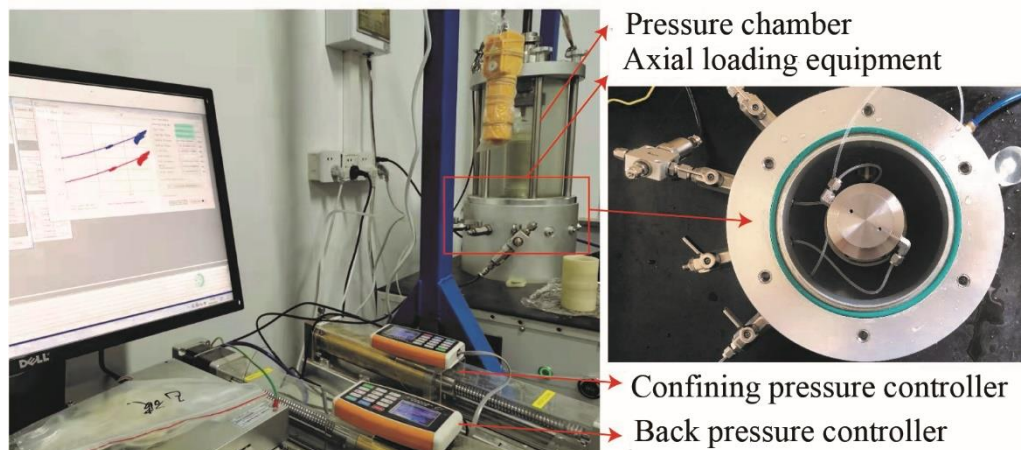
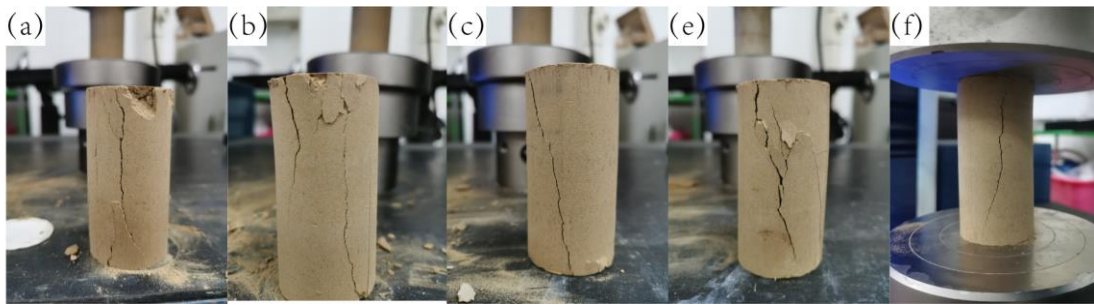
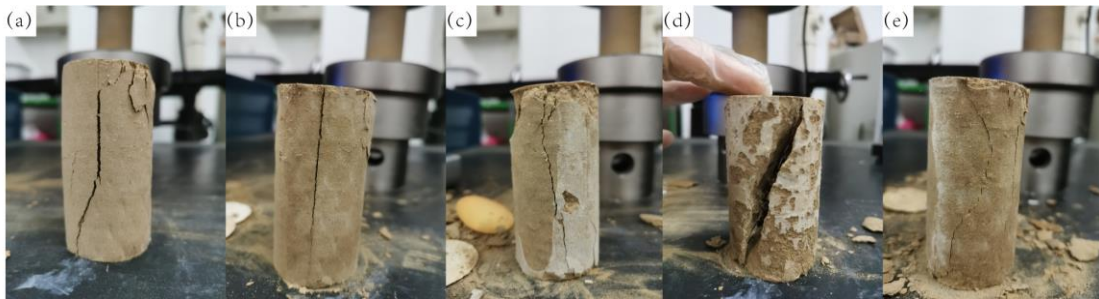


Figure S3. KTL dynamic three-axis system.

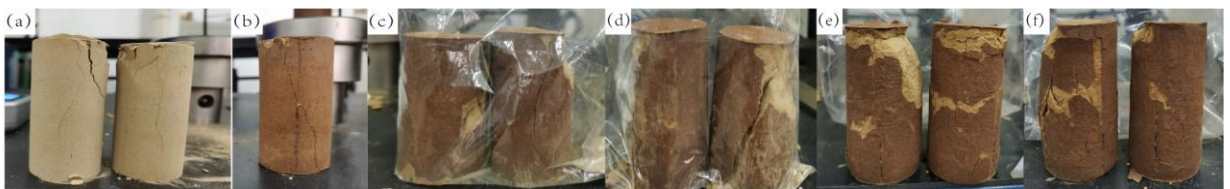


(a) The pressure failure diagram of the constant temperature sample of the scheme E

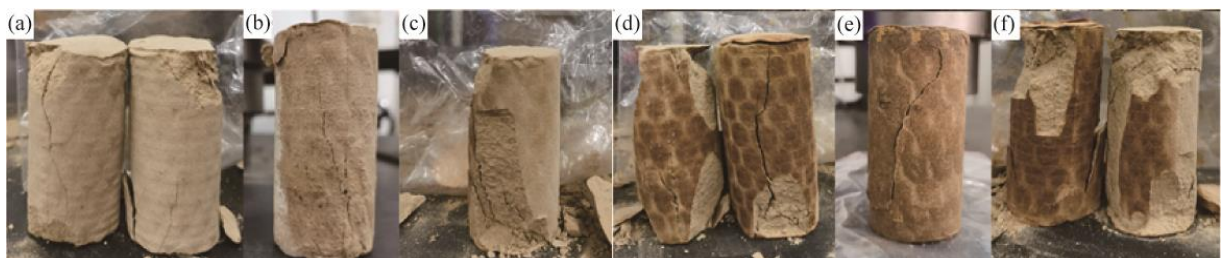


(b) Compression failure diagram of immersed samples in scheme E

Figure S4. Compression failure diagram of different samples in scheme E.



(a) Pressure failure diagram of constant temperature sample of L scheme

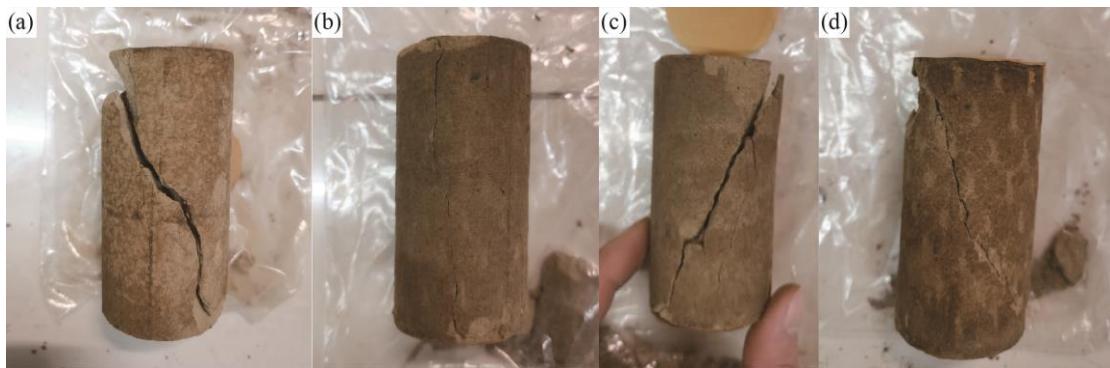


(a) Compression failure diagram of immersed samples in L scheme

Figure S5. Compression failure diagram of different samples in L scheme.



(a) The pressure failure diagram of the constant temperature sample of the E-L scheme



(b) Compression failure diagram of immersed samples in E-L scheme

Figure S6. Compression failure diagram of immersed samples in E-L scheme.

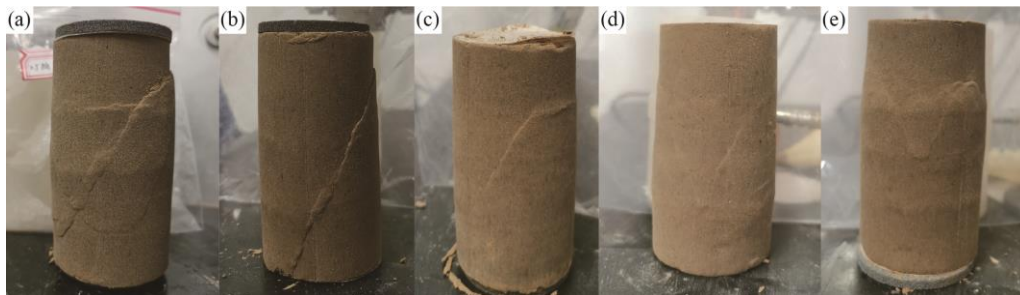


Figure S7. The failure diagram of the sample of scheme E under the action of dynamic load.

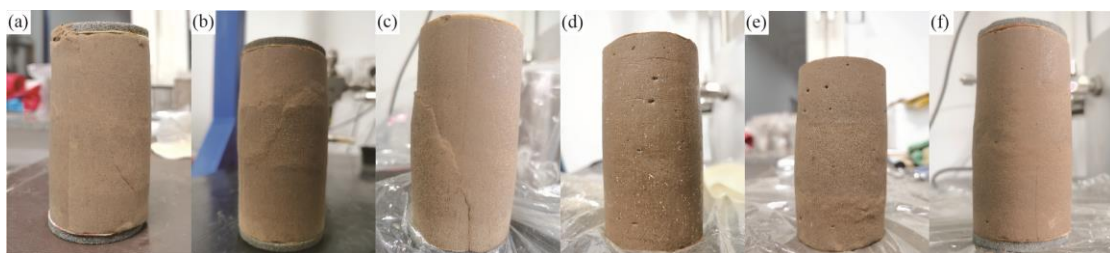


Figure S8 Failure diagram of L scheme specimen under dynamic load

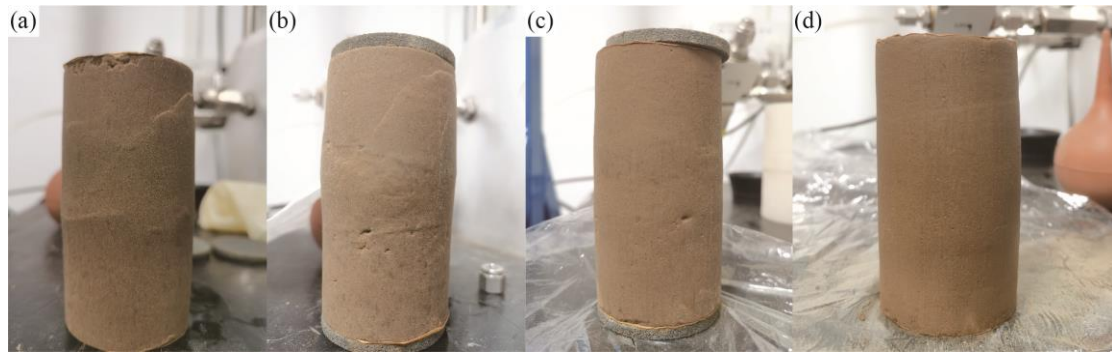


Figure S9. Failure diagram of E-L scheme specimen under dynamic load.