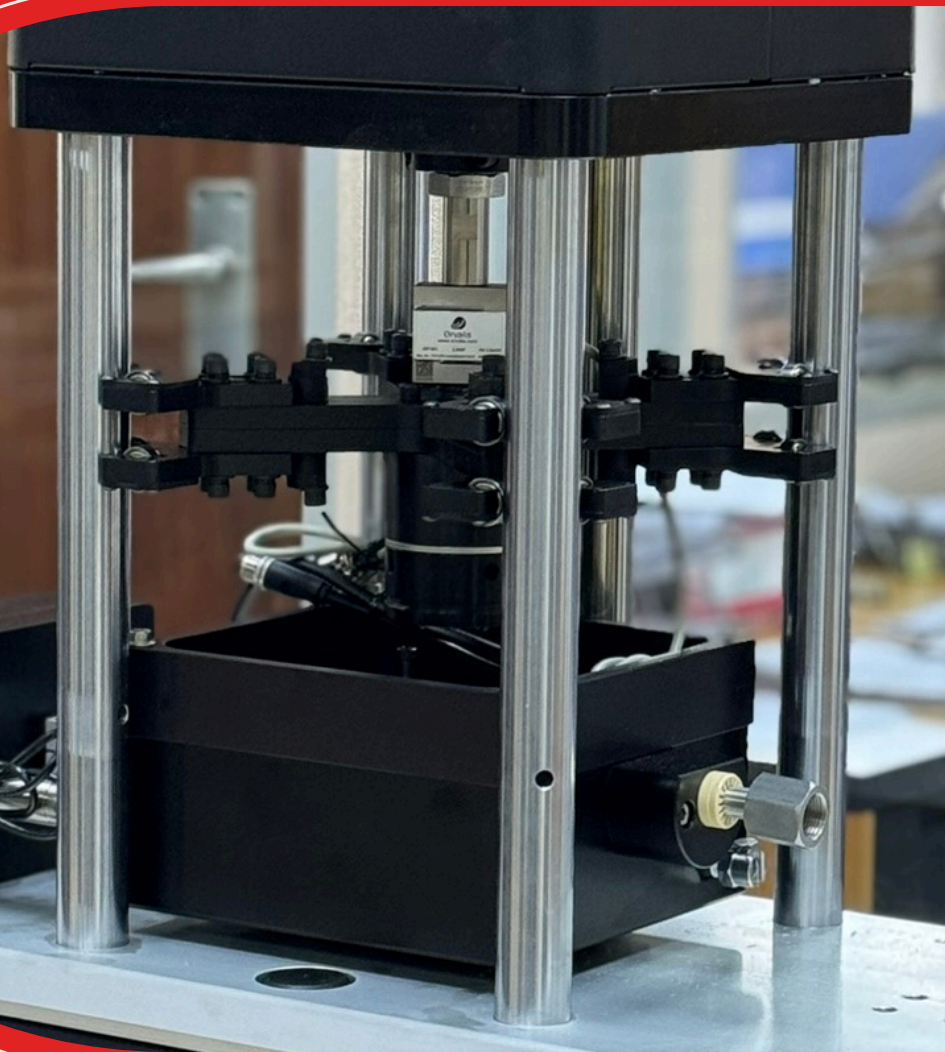


DIRECT SIMPLE SHEAR (DSS) TEST



DIRECT SIMPLE SHEAR (DSS) TEST

At Civilab, our Direct Simple Shear (DSS) testing is conducted in strict accordance with BS 1377 Part 5 & Part 7 and ASTM D6528, ensuring high-quality, standards-compliant results for both monotonic and cyclic testing programs.

Monotonic DSS (MDSS)

This method applies a single, steadily increasing shear stress under constant vertical stress. It is ideal for assessing the drained shear strength parameters of soft, fine-grained soils such as clays and silts.

Cyclic DSS (CDSS)

Cyclic testing simulates repeated loading conditions—critical for evaluating soil behaviour during events such as earthquakes or traffic vibrations. It provides valuable insight into strength degradation, excess pore pressure development, and strain accumulation over time.

DSS testing drives informed, confident engineering decisions.

The DSS test replicates realistic stress paths in cohesive soils by applying horizontal shear stress while maintaining a constant vertical stress. It is particularly suited to soils sensitive to stress history, offering accurate and reliable stress-strain data for geotechnical design.

Applications include but not limited to:

- Foundation and embankment design
- Earthquake and cyclic load assessments
- Slope stability analysis
- Containment structures
- Tailings dams
- Offshore and marine structures



www.civilab.co.za



info@civilab.co.za

Our Commitment to Africa

Civilab (Pty) Ltd is more than a leading construction materials testing laboratory—we are a company grounded in purpose, driven by people, and dedicated to building a better Africa. For over five decades, we've been at the forefront of civil and geotechnical engineering, delivering reliable, standards-compliant testing that supports the backbone of infrastructure across the continent.

At the heart of Civilab's philosophy is Ubuntu—"I am because we are." This African value is woven into the fabric of everything we do.

We believe that our strength lies not just in technical excellence, but in the relationships we build, the communities we support, and the people we uplift. From empowering youth through hands-on training and internships to advancing women and historically disadvantaged groups in engineering, our work goes beyond business—it's about legacy.

Our commitment to Africa is practical and personal. We partner with our clients, invest in skills development, and contribute to infrastructure that enables economic growth and social progress.



Contact us today

Booyens Branch

- 📍 36 Fourth Street, Booyens Reserve, Johannesburg
- ☎ (011) 835-3117
- 📞 (+27) 73 794 1534
- ✉ info@civilab.co.za

Rustenburg Branch

- 📍 112 Zending Street, Rustenburg
- 📞 (+27) 73 110 4807
- ✉ Rustenburg@civilab.co.za

