

CLAYMAX® DIRECT SHEAR TESTING SUMMARY

The following table summarizes the direct shear testing on Claymax that has been performed by CETCO and other laboratories on a project-specific basis for the past several years. This data will give the designer some *general* information about the shear strength of commonly used GCL interfaces and should be the first step in evaluating a proposed liner system where slope stability is a concern.

The variables in any direct shear test are numerous, including specimen preparation; hydration pressures, liquids, and sequencing, and rate of shear, and others. Test results will vary accordingly, which is partially accountable for the wide range of data reported even for similar interfaces.

This data is for informational purposes only and is not intended to replace project-specific interface testing, which CETCO emphatically recommends. CETCO makes no warranty as to the usefulness of the data. Individual test reports for most of the summarized data can be provided upon request.

SUMMARY OF CLAYMAX DIRECT SHEAR TEST DATA

Lab ¹	Report Date	Interface Tested	Normal Stresses (psi)	Shear Rate (in/min)	Peak Secant Friction Angle (deg)	LD Secant Friction Angles (deg) ³	Comments
JCC	03-95	Internal 200R	0.7 - 1.4 - 2.8	0.04	30-18-8	15-17-7	
GEO	05-02-96	Internal 200R	0.69 - 1.4 - 2.1	0.04	27-15-17	11-11-8	
PUWL	06-02-97	Internal 200R	1 – 3.5 – 5.5	0.04	15.1	6.1	
		Internal 200R	10 – 20 – 40	0.04	9.5	4.1	
SGI	5-13-02	Internal 200R	50	0.04	10	7.6	

Notes:

¹ GEO = Geotechnics, Pittsburgh, PA
JCC = James Clem Corporation, Fairmount, GA (12-inch direct shear box)
PUWL = Purdue University, W. Lafayette, IN (16" x 42" direct shear box)
SGI = SGI Testing Services, Atlanta, GA (12-inch direct shear box)

Internal = Failure forced within the Claymax (between the geotextiles).

² "Hydrated" = specimen was hydrated prior to testing, *although the actual hydration methods and durations vary.*

All hydrated specimens were hydrated with distilled or tap water, unless otherwise noted.

³ "Residual Shear Strength" was determined at a minimum of 3 inches of displacement unless noted otherwise.

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