



Selected Stress Measurement Sites

Location	Lithology	Maximum Stress MPa	Minimum Stress MPa	Modulus Gpa	Depth (m)	Success	Rock Strength
Coal Mine South Africa	Gritstone	4	1	7	41	100%	(1 - 25 MPa)
Coal Mine UK	Mudstone	3	2	8	850	100%	
Coal Mine South Africa	Siltstone	9	4	8	190	100%	
Coal Mine South Africa	Sandstone	4	2	9	33	66%	
Coal Mine UK	Siltstone	15	7	9	310	100%	
Coal Mine South Africa	Shale	13	1	10	25	100%	
Coal Mine UK	Siltstone	12	5	12	1005	50%	(25 - 50 MPa)
Coal Mine South Africa	Sand and Siltstones	11	5	13	30	100%	
Coal Mine South Africa	Sand and Siltstones	8	2	13	30	100%	
Coal Mine UK	Mudstone/Siltstone	11	7	13	320	100%	
Coal Mine UK	Sand and Siltstones	28	14	14	700	33%	
Coal Mine UK	Mudstone	21	12	15	796	100%	
Coal Mine South Africa	Siltstone/mudstone	5	1	18	110	100%	
Coal Mine UK	Siltstone	16	5	18	400	100%	
Coal Mine UK	Sandstone	21	9	18	670	100%	
Coal Mine UK	Sandstone	14	5	18	1005	100%	
Coal Mine India	Sandstone	10	5	18	250	100%	
Coal Mine South Africa	Shale	5	1	18	42	100%	
Coal Mine UK	Sandstone	12	7	19	690	89%	
Coal Mine UK	Sandstone	17	12	19	690	100%	
Coal Mine South Africa	Sand and Siltstones	2	1	20	26	100%	
Coal Mine South Africa	Shale	5	1	20	42	100%	
Coal Mine UK	Mudstone/Siltstone	22	13	20	900	80%	
Coal Mine South Africa	Sand and Siltstones	6	2	20	53	75%	
Coal Mine South Africa	Sand and Siltstones	6	2	20	54	100%	
Coal Mine UK	Siltstone	23	5	20	540	100%	
Coal Mine Germany	Sandstone	33	26	21	1575	100%	
Coal Mine South Africa	Sandstone	6	1	22	67	100%	
Coal Mine UK	Silt/Mudstone	29	14	23	1010	100%	
Coal Mine UK	Siltstone	22	14	23	1010	100%	
Coal Mine South Africa	Shale	8	1	23	42	100%	
Coal Mine UK	Mudstone	10	6	24	430	100%	
Coal Mine UK	Mudstone/Siltstone	23	7	24	960	100%	
Coal Mine UK	Mudstone	14	6	24	475	100%	
Coal Mine UK	Mudstone	29	12	25	950	100%	
Coal Mine UK	Mudstone	29	12	25	950	100%	
Coal Mine UK	Silt/Mudstone	15	4	27	470	100%	
Coal Mine USA	Sand and Siltstones	41	23	29	578	100%	
Coal Mine UK	Mudstone	27	18	30	180	100%	
Coal Mine Germany	Mud/Siltstone	36	26	35	1059	66%	
Coal Mine India	Sandstone	9	4	37	280	100%	
Coal Mine Germany	Mudstone	33	24	39	1200	100%	
Copper Mine South Africa	Magnetite	42	21	43	1200	100%	
Coal Mine UK	Limestone	4	1	52	80	100%	
Zinc Mine Ireland	Limestone	19	3	60	170	100%	
Helsinki Water Finland	Granit/gniess	9	1	61	50	100%	
Zinc Mine Ireland	Limestone	19	5	62	230	100%	
Copper Mine Zambia	Quartzite	29	9	62	1041	100%	
Gold Mine South Africa	Quartzite	55	20	64	2729	100%	
Zinc Mine Finland	Basalt	63	28	64	1125	100%	
Gold Mine South Africa	Quartzite	84	23	65	2361	100%	
Zinc Mine Ireland	Limestone	29	10	65	800	100%	
Zinc Mine Ireland	Limestone	9	3	68	170	100%	
Zinc Mine Ireland	Limestone	17	4	68	249	100%	
Zinc Mine Ireland	Limestone	18	11	73	750	100%	

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