

This file contains raw data of Nuclear magnetic resonance test and mechanical indexes of rock samples under different free soaking durations.

Data list:

Table A is raw data of mechanical indexes of rock samples under different free soaking durations. In the Manuscript, it shows the Figure 2 and Figure 3.

Table B -Table D is the raw data of Nuclear magnetic resonance test. In the Manuscript, Table B shows the Figure 5(A) and Figure 5(B); Table C shows the Figure 5(C) and Figure 5(D); Table D shows the Figure 5(E) and Figure 5(F).

Free soaking time/month	Serial number	diameter /mm	height /mm	volume /cm ³	Immersion quality/g	Uniaxial ultimate compressive strength/MPa	Average value of uniaxial ultimate compressive strength/MPa	peak strain/ $\mu\epsilon$		Elastic modulus E/GPa	Elastic modulus E initial value/GPa	Damaged material Elastic modulus E'/GPa	Damage variable D
								Transverse peak strain	Longitudinal peak strain				
0	S-0-1	50.26	99.88	198.06	543.59	30.81	28.187	228.5	617	102.172	103.362	103.362	0
	S-0-2	50.2	100.5	198.89	537.75	25.46		307	830	98.165			
	S-0-3	50.2	99.88	197.59	544.06	28.29		263	712.5	109.749			
1	S-1-1	50.24	100.1	198.36	546.98	28.51	26.823	376	896	89.648	103.362	86.141	0.167
	S-1-2	50.2	100.1	198.04	547.18	26.91		387	923.5	81.783			
	S-1-3	49.86	100.2	195.5	559.33	25.05		462	1081	86.991			
3	S-3-1	50.24	100.3	198.65	558.78	23.78	23.137	532	1268.5	63.622	103.362	63.524	0.385
	S-3-2	50.26	100.3	198.89	552.45	24.21		498	1186	62.262			
	S-3-3	50.24	100.2	198.55	563.95	21.42		585	1394	64.689			
6	S-6-1	50.26	100.2	198.75	546.94	18.83	18.531	768	1812	40.954	103.362	39.857	0.653
	S-6-2	50.2	99.22	196.28	548.45	19.85		712	1617	38.003			
	S-6-3	50.24	100.9	199.92	563.9	17.01		772	1536	40.614			
9	S-9-1	49.88	98.37	192.13	546.86	5.86	6.300	986	2190.5	8.935	103.362	9.105	0.912
	S-9-2	49.86	99.24	193.67	541.88	7.64		946	1916	11.49			
	S-9-3	50.24	100.8	199.74	545.06	5.5		1102	2268	6.889			

Table A Mechanical indexes of rock samples within different free immersion durations
(Raw data of Figure 2 and Figure 3)

Aperture	Natural state	Free Soaking for 1 month	Free Soaking for 3 month	Free Soaking for 6 month	Free Soaking for 9 month
0-0.001	0.000266456	0.000158497	0.000152376	0.000133801	0
0.001-0.0025	0.092503532	0.054985024	0.052954778	0.046484856	0
0.0025-0.01	0.972577717	0.581221195	0.562519581	0.490426127	0
0.01-0.025	19.06797951	12.7705193	11.75862482	10.40921862	4.498455895
0.025-0.1	23.15319141	21.29666559	17.42607233	17.68422878	18.4721949
0.10-0.16	4.761707765	5.445950637	5.050952191	5.956168595	7.218297945
0.16-0.25	3.088696996	3.462371759	3.782571958	4.542905291	5.938996188
0.25-0.40	3.333326355	3.29821972	4.040457487	4.627095129	2.348451259
0.40-0.63	3.765983651	3.169388925	3.865047423	4.064259864	1.776393011
0.63-1.00	3.66614338	2.793692992	3.149751953	3.287886128	4.73265312
1.00-1.60	4.381714023	3.127325567	3.207157887	2.008423693	2.317797679
1.60-2.50	3.448261316	7.233197032	5.178644447	4.829548761	1.128218736
2.50-4.00	3.577985042	2.104648184	2.5229575	3.112497757	3.970518579
4.00-6.30	3.890977943	8.011038569	9.786734162	2.222633469	1.287241881
6.30-10.0	4.661441914	5.377635032	8.006499129	6.749693244	8.350733497
10.0-16.0	7.195654994	5.70395981	10.46995258	9.300185175	6.328709367
16.0-25.0	6.867753206	7.450105379	7.306917948	11.51027036	10.98925298
25.0-40.0	3.420962545	7.098836345	3.832031456	8.321546382	12.36230898
40.0-63.0	0.652872252	1.020080438	0	0.836393966	8.236691865
63.0-100	0	0	0	0	0.043084115
>100	0	0	0	0	0
Micropore	43.28651862	34.70354961	29.80032388	28.63049219	22.9706508
Mesopore	33.91479647	38.64583339	40.58427501	34.65141869	30.7185684
Macropore	22.79868491	26.650617	29.61540111	36.71808912	46.31078081

Table B S-1 Nuclear magnetic resonance test raw data
(Raw data of Figure 5(A) and Figure 5(B))

Aperture	Natural state	Free Soaking for 1 month	Free Soaking for 3 month	Free Soaking for 6 month	Free Soaking for 9 month
0-0.001	0.000293621	0.000172128	0.000114536	0.000218419	0
0.001-0.0025	0.101757724	0.059820821	0.039948491	0.075767842	0
0.0025-0.01	1.066206936	5.636843872	0.436528713	0.803498837	0
0.01-0.025	21.30088085	14.47795748	10.71665219	10.1376777	4.574645476
0.025-0.1	27.43649229	22.52499636	18.86011192	16.47742476	16.73235584
0.10-0.16	6.146799948	5.847882887	5.914276353	5.454822035	6.659177686
0.16-0.25	3.820256275	4.240357098	4.042463383	6.534196005	2.587985837
0.25-0.40	3.499821724	4.254760851	7.693838682	3.752848434	1.172664376
0.40-0.63	3.464688377	3.634367154	3.394376372	2.948260206	2.87556413
0.63-1.00	3.317927327	5.828026059	4.153253888	1.511913053	1.821012608
1.00-1.60	4.013775498	3.204074217	3.84800446	2.548858367	4.166255405
1.60-2.50	3.208560458	3.564589677	5.833262835	3.42084845	3.760722232
2.50-4.00	3.721605835	2.393685938	2.036963709	1.056654172	3.384532525
4.00-6.30	4.778498977	3.06152481	1.418164448	4.746748163	2.804778613
6.30-10.0	5.280826749	2.897782627	3.203485036	8.064768149	5.420298823
10.0-16.0	5.95203254	2.665795945	6.325130064	5.465495409	7.372408701
16.0-25.0	2.845294104	3.817574237	12.26298935	5.2	10.74076546
25.0-40.0	0.044280773	7.859352265	7.280317344	8.24	12.57505802
40.0-63.0	0	4.030435574	2.54011823	10	7.67177427
63.0-100	0	0	0	3.56	5.68
>100	0	0	0	0	0
Micropore	49.90563141	42.69979066	30.05335585	27.49458756	21.30700132
Mesopore	35.97193442	36.02926869	38.33460413	31.97514889	29.23269341
Macropore	14.12243417	21.27094065	31.61204002	40.53026356	49.46030527

Table C S-2 Nuclear magnetic resonance test raw data
(Raw data of Figure 5(C) and Figure 5(D))

Aperture	Natural state	Free Soaking for 1 month	Free Soaking for 3 month	Free Soaking for 6 month	Free Soaking for 9 month
0-0.001	0.000230976	0.000317438	0.000169319	0.000189269	0
0.001-0.0025	0.080083338	0.110196988	0.05860451	0.065383805	0
0.0025-0.01	2.833784337	1.160375093	0.605223127	0.671005712	0
0.01-0.025	26.17462519	17.50121142	11.29707624	10.21421799	6.91545478
0.025-0.1	19.93549655	20.91545741	14.12730104	12.69527115	13.63628637
0.10-0.16	3.290029592	5.113862118	2.385332519	3.244908368	7.124207182
0.16-0.25	2.51579997	3.801726102	1.056430483	1.980181539	0.94734881
0.25-0.40	3.167167646	4.193985979	1.166256303	2.020041957	2.105518451
0.40-0.63	3.863970577	3.375292873	2.306691634	2.654797149	5.211502924
0.63-1.00	3.738410469	4.144128801	3.066294363	3.113032093	1.283958585
1.00-1.60	4.424276391	2.289266292	3.997205367	4.207904614	0.910431436
1.60-2.50	3.835711212	5.110261795	2.755016563	3.409662723	1.727455939
2.50-4.00	5.661902437	9.209016727	11.78764665	6.245572711	1.809780475
4.00-6.30	9.104860474	7.889022193	5.846647329	3.425894186	4.817589413
6.30-10.0	1.113657818	4.654214958	5.066278853	5.257684401	6.650573268
10.0-16.0	3.308075561	8.166663816	8.687612126	11.10876861	8.161909935
16.0-25.0	6.81341427	2.365	10.5113192	14.74397362	16.2378279
25.0-40.0	0.138503193	0	12.95853474	11.44939674	12.22880454
40.0-63.0	0	0	2.320359637	3.492113373	10.23135
63.0-100	0	0	0	0	0
>100	0	0	0	0	0
Micropore	49.02422039	39.68755835	26.08837424	23.64606792	20.55174115
Mesopore	39.60212877	45.12656288	34.36752121	30.30199534	25.93779322
Macropore	11.37365084	15.18587877	39.54410455	46.05193674	53.51046564

Table D S-3 Nuclear magnetic resonance test raw data
(Raw data of Figure 5(E) and Figure 5(F))