

TECHNICAL DATA SHEET

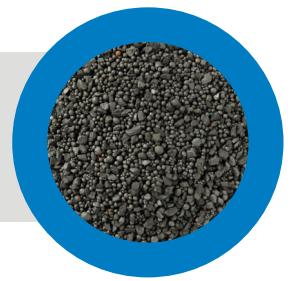
PROPPANTS TECHNICAL DATA



SinterLite Lock Bauxite is a intermediate strength used around the world for high-temperature, high closure stress environments where proppant flowback is expected. SinterLite Lock is a blend of a small percentage of angular bauxite grains with the spherical grains of SinterLite Bauxite. The purpose of the angular grains is to provide a mechanical process to prevent the flowback of proppant grains as the well is produced. With SinterLite Lock there is no chemical reaction required, and no dependence on temperature or time for the Lock to be effective. To ensure accuracy and homogeneity the blend is accomplished during manufacturing therefore no blend is necessary in the field.

Properties	Sieves	ISP								
		16/30			20/40			30/60		
		R 1	R 2	R 3	R 1	R 2	R 3	R 1	R 2	R 3
		% Retained			% Retained			% Retained		
Sieve Analysis	# 16	1	1	2						
	# 18	31	26	27						
	# 20	59	55	51	7	7	6			
	# 25	7	12	13	53	52	47			
	# 30	2	6	7	38	37	41	1	1	1
	# 35				2	4	6			
	# 40							63	63	56
	# 50							33	33	38
	# 60							3	3	5
	Fines		0	0	0	0	0	0	0	0
Mean Diameter	mm	0.964	0.934	0.938	0.745	0.742	0.729	0.457	0.456	0.444
Sphericity & Roundness	-	0.85x0.85								
Bulk Density	g/cm ³	1.85								
	lb/ft ³	116								
Apparent Density	g/cm ³	3.39								
Absolute Density	g/cm ³	3.47								
Turbidity	FTU	56								
Acid Solubility	%	4.9								
Crush Resistance Stress psi, % fines	7,500	7.6	11.7	12.1	3.7	4.7	5.2	4.3	5.9	6.8
Chemical Composition, %	Al ₂ O ₃	71.1								
	Fe ₂ O ₃	13.6								
	SiO ₂	11.4								
	TiO ₂	1.7								
	Other	2.2								

Typical data measured in accordance with ISO 13503-2 and 13503-5

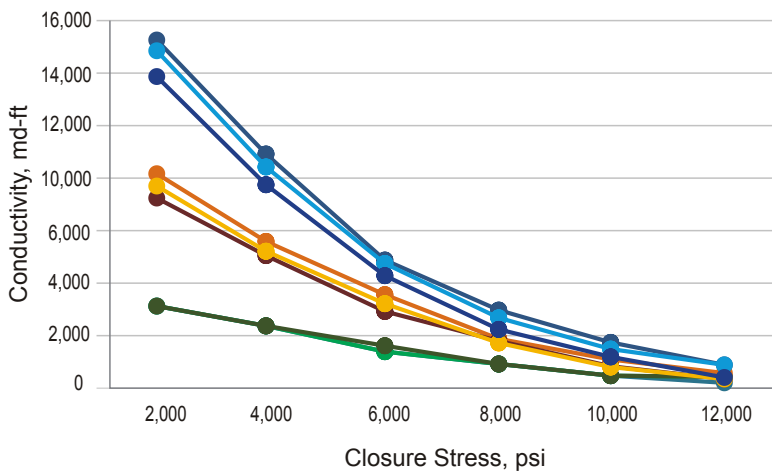


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SinterLiteLock - Conductivity

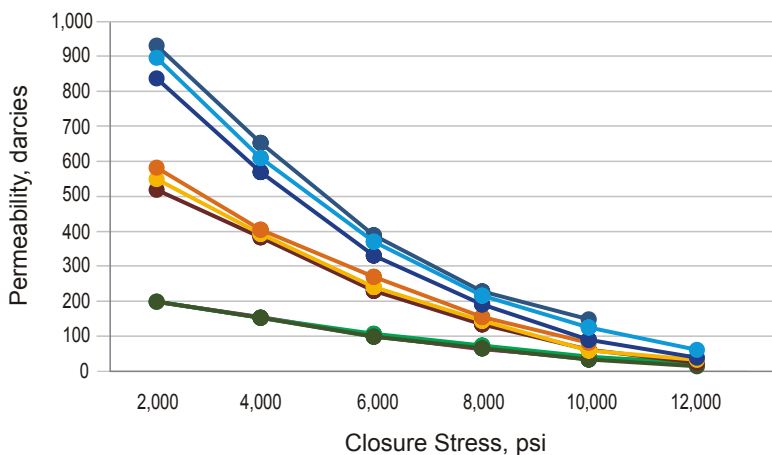
md-ft - 2% KCl - 2lb/ft² @250° F



	2,000	4,000	6,000	8,000	10,000	12,000
16/30 R1	14,829	9,801	5,739	3,349	2,071	990
16/30 R2	14,293	9,235	5,476	3,114	1,716	877
16/30 R3	13,350	8,574	4,948	2,684	1,312	545
20/40 R1	9,074	6,168	4,020	2,230	1,173	693
20/40 R2	8,765	5,894	3,657	2,043	945	460
20/40 R3	8,157	5,699	3,406	1,931	913	432
30/60 R1	3,441	2,595	1,666	1,061	665	473
30/60 R2	3,422	2,535	1,714	1,056	594	352
30/60 R3	3,381	2,478	1,629	1,042	591	311

SinterLite Lock - Permeability

darcies, 2% KCl - 2lb/ft² @250° F



	2,000	4,000	6,000	8,000	10,000	12,000
16/30 R1	922	640	394	242	155	77.2
16/30 R2	885	598	374	225	129	68.7
16/30 R3	822	560	341	197	100	43.1
20/40 R1	570	403	273	158	86.2	52.5
20/40 R2	549	383	247	145	69.7	35
20/40 R3	514	372	231	138	67.7	33.3
30/60 R1	201	157	105	70	46	34
30/60 R2	199	158	112	75	45	28
30/60 R3	199	156	109	74	45	25