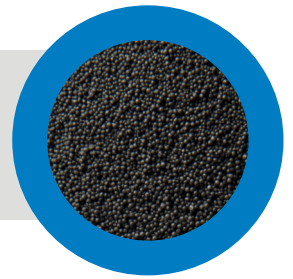


TECHNICAL DATA SHEET
PROPPANTS TECHNICAL DATA

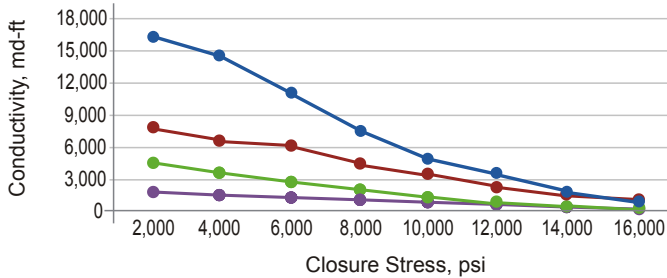


Properties	Sieves	HSP			
		16/30	20/40	30/50	40/70
		% Retained			
Sieve Analysis	# 16	3			
	# 18	22			
	# 20	58	4		
	# 25	15	38		
	# 30	2	47	3	
	# 35		10	40	
	# 40		1	46	5
	# 45				32
	# 50			10	34
	# 60				24
	# 70			1	5
Fines		0	0	0	0
Mean Diameter	mm	0.950	0.704	0.491	0.339
Sphericity & Roundness	-	0.9 x 0.9			
Bulk Density	g/cm ³	2.04			
	lb/ft ³	127			
Apparent Density	g/cm ³	3.63			
Absolute Density	g/cm ³	3.67			
Turbidity	FTU	99			
Acid Solubility	%	5.6			
Crush Resistance Stress psi, % fines	12,500	5.6	2.5	2.1	1.4
	15,000	7.5	4.1	2.9	3.0
Chemical Composition, %	Al ₂ O ₃	74.5			
	Fe ₂ O ₃	14.2			
	SiO ₂	6.4			
	TiO ₂	1.8			
	Other	3.1			

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



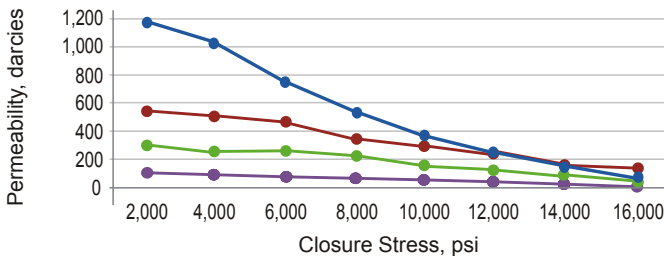
TECHNICAL DATA SHEET PROPPANTS TECHNICAL DATA



SinterBall Bauxite - Conductivity

md-ft - 2% KCl - 2lb/ft² @250° F

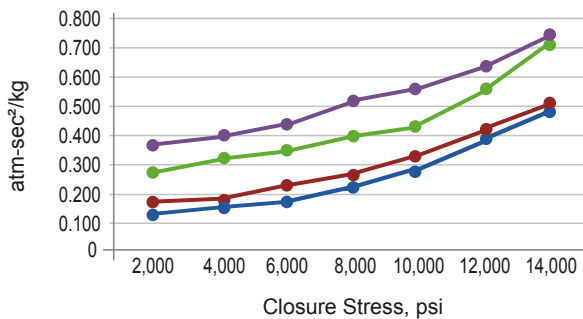
	2,000	4,000	6,000	8,000	10,000	12,000	14,000	16,000
16/30	16,517	14,953	11,351	7,653	5,190	3,124	2,176	1,316
20/40	8,060	6,909	6,023	4,901	3,833	2,903	2,116	1,647
30/50	4,408	3,780	3,265	2,806	2,341	1,815	1,383	1,000
40/70	1,447	1,267	1,130	989	850	712	574	438



SinterBall Bauxite - Permeability

darcies - 2% KCl - 2lb/ft² @250° F

	2,000	4,000	6,000	8,000	10,000	12,000	14,000	16,000
16/30	1,083	1,008	788	548	383	239	171	106
20/40	542	480	432	363	293	229	172	138
30/50	302	264	234	205	175	139	108	80.6
40/70	102	90.9	82.2	73.3	64.3	54.7	45.1	35.1



SinterBall Bauxite - Beta Factor

atm-sec²/kg - 2lb/ft² @300° F

	2,000	4,000	6,000	8,000	10,000	12,000	14,000
16/30	0.127	0.150	0.178	0.209	0.286	0.391	0.583
20/40	0.171	0.184	0.226	0.258	0.322	0.407	0.603
30/50	0.269	0.309	0.354	0.394	0.439	0.562	0.700
40/70	0.361	0.396	0.439	0.505	0.562	0.637	0.754