

Northern White Sand Specs

Company Name	Region	Mining Location	Mesh size	Crush Resistance - K Factor	Specific Gravity	Bulk Density (lb/ft3)	Bulk Density (g/cm3)	Krumbein Roundness	Krumbein Sphericity	Acid Solubility (wt %)	Turbidity (FTU)	Conductivity (MD-FT)						Permeability (DARCY)					
												2000 psi	4000 psi	6000 psi	8000 psi	10000 psi	12000 psi	2000 psi	4000 psi	6000 psi	8000 psi	10000 psi	12000 psi
Badger Mining	Wonewoc & St. Peters Formation	Taylor/Alma Center/Fairwater, WI	40/70	9K	2.65	-	-	-	-	0.56%	43	949	775	536	278	139	-	51	42	30	16	8	-
			50/140	10K	2.65	-	-	-	-	1.12%	51	340	292	231	155	90	-	18	16	13	9	5	-
Capital Sand Proppants, LLC	St. Peters Formation	Jackson, MO	40/70	8-10K	-	92.39	1.48	0.7	0.6	-	<250	1400	1000	750	300	200	100	68	55	38	18	8	5
			100 M	10-12K	-	88.65	1.42	0.6	0.6	-	<250	400	250	200	100	50	25	20	18	9	5	4	2
Fairmount Santrol	St. Peters Formation	Shakopee, MN Wedron, IL Rock, WI Maiden	40/70	9K	2.65	93.0	1.49	0.7	0.7	<0.6%	<50	1264	919	581	342	182	-	68	51	34	21	11	-
HI Crush Partners, LP	St. Peters Formation	Blair, WI	40/70	10K	2.64	94.2	1.51	0.7	0.7	0.90%	<50	1296	1044	646	318	-	-	65	54	34	18	-	-
			100 M	12K	2.64	94.2	1.51	0.6	0.7	1.00%	70	488	380	274	160	-	-	24	19	14	9	-	-
		Augusta, WI	40/70	9K	2.63	93.43	1.5	0.7	0.7	1.52%	<50	931	773	570	281	-	-	51	43	33	17	-	-
			100 M	10K	2.59	92.92	1.49	0.7	0.7	3.0%	<70	-	-	-	-	-	-	-	-	-	-	-	-
		Whitehall, WI	40/70	9K	2.64	94.21	1.51	0.7	0.7	1.62%	<50	953	705	443	159	68	-	48	36	23	9	4	-
			100 M	11K	2.64	93.18	1.49	0.7	0.7	2.20%	<70	521	331	184	61	38	-	26	17	10	3	2	-
		Wyeville, WI	40/70	11K	2.64	95.55	1.53	0.7	0.7	1.28%	<50	823	611	432	290	-	-	46	35	25	18	-	-
			100 M	14K	2.64	94.8	1.52	0.7	0.7	1.10%	<70	499	429	312	187	-	-	26	23	17	11	-	-
SmartSand, Inc.	Wonewoc Formation	Oakdale, WI	40/70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			100 M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
U.S. Silica	St. Peters Formation	Peru/Utica/Rochelle, IL & Sparta, WI	30/50	7K	2.65	96.14	1.54	0.7	0.7	0.8%	<120	1871	1323	903	474	231	125	99	71	51	28	14	8
			40/70	9K	2.65	96.14	1.54	0.6	0.7	0.8%	<140	1082	877	598	323	168	107	58	48	33	19	10	7
			100 M	7-13K	2.65	96.14	1.54	0.7	0.7	0.7%	<110	-	-	-	-	-	-	-	-	-	-	-	-
Wisconsin Proppants, LLC	Wonewoc/St. Peters Formation	Hixton, WI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Note: Data sourced from company websites.