

- Proppants for virtually every application
- Unparalleled research and resin formulation expertise
- Specialized coating operations assure consistency in production and proppant performance
- Sophisticated logistics network with thousands of private railcars and the most extensive terminal and transload facilities in North America



SANTROL
Proppants

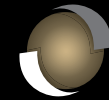
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SANTROL
Proppants

Product Reference Guide



In every sense, nobody goes to greater depths than Santrol Proppants. As this guide illustrates, our proppants provide the conductivity you need for every application, whether you're drilling a shallow, conventional well or working a tough, deep formation requiring horizontal drilling and multiple frac stages. Our full line of products, in turn, is supported by the greatest vertical integration of any proppant provider—including in-house research and resin formulation capabilities, captive facilities on 3 continents, the industry's largest fleet of private railcars, more terminals nationwide, and the most sophisticated transloading system to move even the biggest orders promptly and consistently. To obtain more technical information, product specifications or MSDS, contact your Santrol Proppants representative or visit www.SantrolProppants.com.

Proppant	Mesh Size	Specific Gravity	Bulk Density lb/ft ³	Closure Stress psi						
				2,000	4,000	6,000	8,000	10,000	12,000	14,000

Curable	Conductivity md-ft @ 250 Degrees 2lb/ft ² @ 50 hrs									
SUPER LC*	40 / 70	2.58	96.1	869	730	525	322	215	-	-
SUPER LC*	30 / 50	2.58	92.4	2,023	1,680	1,031	602	313	-	-
SUPER LC*	20 / 40	2.54	96.1	4,490	3,954	2,842	1,029	452	-	-
SUPER LC*	16 / 30	2.58	97.4	8,623	4,509	1,909	880	340	-	-
SUPER DC*	40 / 70	2.58	88.6	920	755	560	322	260	-	-
SUPER DC*	30 / 50	2.55	92.4	2,215	1,780	1,175	655	357	146	-
OPTIPROP G2 [†]	30 / 50	2.51	93.0	1,986	1,843	1,269	687	379	161	-
OPTIPROP G2 [†]	20 / 40	2.54	94.9	4,670	3,943	2,950	1,700	906	-	-
OPTIPROP G2 [†]	16 / 30	2.53	96.1	6,230	5,600	3,945	2,100	900	-	-
GGL G2 [†]	20 / 40	3.16	118.0	5,179	4,561	4,042	3,547	2,402	1,652	1,221
HYPERPROP G2 [†]	20 / 40	3.33	121.7	8,240	5,990	4,750	3,890	2,512	2,186	1,480

Precured	Conductivity md-ft @ 250 Degrees 2lb/ft ² @ 50 hrs									
TLC	30 / 50	2.52	91.1	1,583	1,272	856	419	207	121	-
TLC	20 / 40	2.59	96.8	5,035	3,629	2,014	987	503	-	-
THS	40 / 70	2.54	88.6	1,090	980	762	485	305	-	-
THS	30 / 50	2.55	93.6	1,990	1,866	1,230	790	400	202	100
THS	20 / 40	2.48	96.1	6,743	4,302	3,011	1,753	995	-	-
POWERPROP	40 / 70	2.51	91.8	1,380	1,121	848	664	373	226	170
POWERPROP	30 / 50	2.55	94.9	3,320	3,003	2,366	1,508	818	502	-
POWERPROP	20 / 40	2.56	99.3	5,009	3,847	3,008	1,969	1,190	626	334

Frac Sand	Conductivity md-ft @ 150 Degrees 2lb/ft @ 50 HRS									
Northern White	40 / 70	2.65	93.0	1,264	919	581	342	182	-	-
Northern White	30 / 50	2.65	95.5	2,745	2,223	1,307	505	218	-	-
Northern White	20 / 40	2.65	95.5	4,280	3,190	1,618	721	312	-	-
Northern White	16 / 30	2.65	97.4	8,350	4,832	2,209	914	-	-	-
Lake	40 / 70	2.65	91.1	1,287	759	321	159	82	-	-
Lake	30 / 50	2.65	91.1	2,480	2,270	909	243	164	-	-

All physical properties have been measured using the ISO-13503-2 Standards. Data listed has been generated by Santrol Proppants and independent laboratories. Every real-world sampling is different, so your results may vary. Santrol Proppants are compatible with most all commonly used water- and oil-based fracturing fluids. Some fluids may require adjustment of pH control, foamer or breaker loading. Avoid prolonged exposure to highly alkaline fluids. Testing prior to pumping is advised.

Santrol Proppants Northern White Frac Sand[®] is 99.8% pure round, monocrystalline quartz. Santrol Proppants Lake Sand is 93.2% pure sub-round quartz. All curable and precured proppants listed above use high-purity Northern White sand as the base substrate. GGL G2[®] is an intermediate strength ceramic and HyperProp G2[®] is bauxite based.

Detailed technical data and MSDS on all proppants and Superset Activators can be found at www.SantrolProppants.com.

The information contained in this product guide is for general application and is believed to be accurate at the time of printing. Santrol Proppants makes no warranty, expressed or implied, concerning these products except that these products shall conform to Santrol Proppants specifications.

Even if not shown here, many of the products listed have associated trademarks or registered trademarks and are owned by Santrol Proppants.

[†] G2 technology-based proppants are encapsulated, requiring both temperature and closure stress to bond, thereby eliminating set-up in the wellbore.

* Super DC[®] and Super LC[®] proppants require activators when used at temps of 70° to 150°F. Santrol Proppants supplies Superset Activators, low temperature liquid chemical activators, for use with water- or oil-based fracturing fluids.