

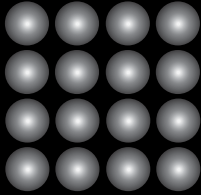


SANTROL
Proppants

Product Reference Guide

United States





Vertically Integrated Proppant Specialists

- 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



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.

Closure Stress psi			2000	4000	6000	8000	10000	12000	14000
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Proppant	Mesh Size	Specific Gravity	Bulk Density lb/ft ³	Conductivity md-ft @ 250 Degrees 2lb/ft ²						
Curable										
SUPER LC*	40 / 70	2.56	98	869	730	525	322	215	-	-
SUPER LC*	20 / 40	2.51	99	4490	3954	2842	1029	452	-	-
SUPER LC*	16 / 30	2.56	97	8623	4509	1909	880	340	-	-
SUPER DC*	40 / 70	2.56	93	920	755	560	322	260	-	-
OPTIPROP G2 [†]	20 / 40	2.55	98	4670	3943	2950	1700	906	-	-
OPTIPROP G2 [†]	16 / 30	2.58	98	6230	5600	3945	2100	900	-	-
GGL G2 [†]	20 / 40	3.00	121	5179	4561	4042	3547	2402	1652	1221
HYPERPROP G2 [†]	20 / 40	3.24	137	8240	5990	4750	3890	2512	2186	1480

Precured										
TLC	30 / 50	2.52	96	1583	1272	856	419	207	-	-
TLC	20 / 40	2.45	96	5035	3629	2014	987	503	-	-
THS	40 / 70	2.43	96	1090	980	762	485	305	-	-
THS	30 / 50	2.50	96	1990	1866	1230	790	400	-	-
THS	20 / 40	2.45	96	6743	4302	3011	1753	995	-	-
POWERPROP	40 / 70	2.48	96	1380	1121	848	664	373	226	170
POWERPROP	30 / 50	2.58	96	3320	3003	2366	1508	1190	818	373
POWERPROP	20 / 40	2.48	96	5009	3847	3008	1969	1190	626	334

Frac Sand**										
Northern White	16 / 30	2.65	98	8500	5000	2500	1000	-	-	-
Northern White	20 / 40	2.65	98	4280	3190	1618	721	312	-	-
Northern White	30 / 50	2.65	98	2745	2223	1307	505	218	-	-
Northern White	40 / 70	2.65	98	901	655	353	125	30	-	-
Northern White	100	2.65	98	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Lake	30 / 50	2.60	96	2480	2270	909	243	164	-	-
Lake	40 / 70	2.60	96	1287	759	321	-	-	-	-

Data listed has been generated by Santrol Proppants and independent laboratories. Closure stress testing has been conducted with a baseline of 2 lb/ft² @ 250°F and 50 hours of closure. 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.

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.

* SuperDC[®] 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.

** Santrol Proppants Northern White 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.



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