

Atlas Curable Resin Coated Low Temperature Proppant (CRC-LT)

ATLAS Curable Resin Coated Low Temp (CRC-LT) was specifically designed to prevent proppant flowback in low temperature reservoirs. Developed with a unique and exclusive resin complex, CRC-LT products develop consistent Unconfined Compressive Strength (UCS) you can count on making it the REAL Low Temperature Proppant Flowback Solution. CRC-LT products are built exclusively on Northern White sand substrate so you get the same strength, resistance to embedment and conductivity you have come to expect from the rest of the Atlas product lines.

- For reservoirs as low as 70° F, Atlas Activator was developed to integrate seamlessly with our CRC-LT line of products.
- Across the entire temperature spectrum, CRC-LT requires significantly less activator than competing products reducing the effective cost of proppant substantially.

TESTS - UNITS	TYPICAL PROPERTIES
Krumbein Shape Factor-Sphericity	0.7-0.8
Loss on Ignition	2.4%-2.7%
Turbidity (NTU)	< 200
Acid Solubility	< 0.3%
Absolute Volume (gal/lb)	0.047
Particle Size Distribution	Meets or exceeds API RP-56
Color	Gold
Physical State	Free Flowing Solid

Activator Loading in Gallons Per Thousand at 24 Hours						
Bottom Hole Temperature						
	70°F	90°F	110°F	135°F	150°F	228°F
0 GPT	-	-	-	40	59	813
2 GPT	-	-	26	48	85	n/a
5 GPT	25	54	51	69	150	n/a
7 GPT	42	70	62	106	153	n/a
10 GPT	63	88	79	129	166	n/a
15 GPT	71	102	112	n/a	n/a	n/a

API Mesh Size	20/40	
Bulk Density (lb/cu.ft)	98.6	
Specific Gravity	2.57	
Unconfined Compressive Strength:		
	12 Hour	24 Hour
228° F and 1,000 psi closure	506 psi	813 psi
90° F and 1,000 psi closure with 10 GPT Atlas Activator	53 psi	88 psi
90° F and 1,000 psi closure with 5 GPT Atlas Activator	21 psi	54 psi
70° F and 1,000 psi closure with 10 GPT Atlas Activator	34 psi	63 psi
70° F and 1,000 psi closure with 5 GPT Atlas Activator	10 psi	25 psi
228° F and 0 psi closure	<5 psi	<5 psi
pH Water Extract ml (Buffer)		8.41 ml

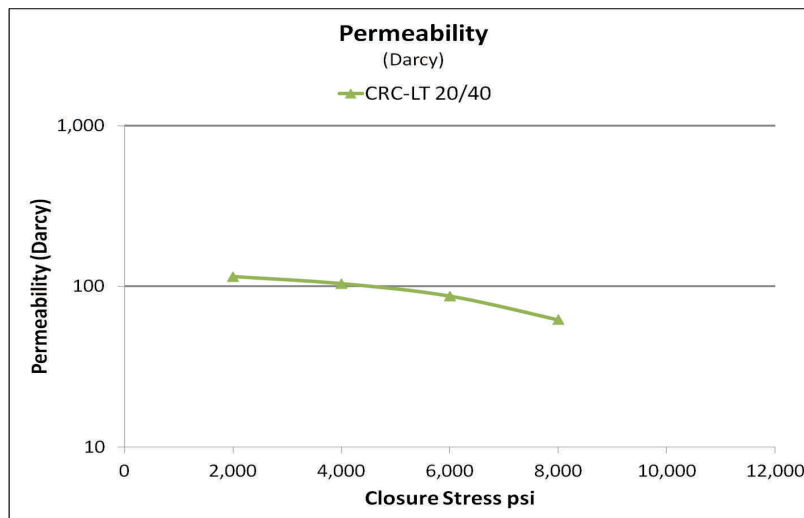
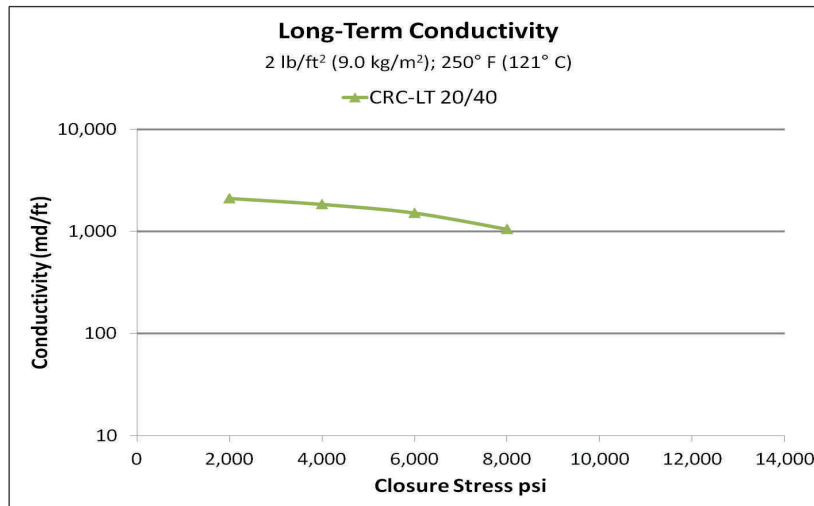
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CONDUCTIVITY						
MD-FT AT 2 lb/ft ² (9.8 kg/m ²); 250°F (121°C)						
	Closure Stress psi					
	2,000	4,000	6,000	8,000	10,000	12,000
CRC-LT 20/40	2,108	1,846	1,518	1,052		

PERMEABILITY						
Darcy						
	Closure Stress psi					
	2,000	4,000	6,000	8,000	10,000	12,000
CRC-LT 20/40	115	104	87	62		

** Data points represent the median value of accumulated Stim-Lab data*



RESIN COATED SILICA SAND PRODUCTS
DANGER



These products have been classified, following the Globally Harmonized System (GHS) of Classifying and Labeling Chemicals criteria, as a Category 1A Carcinogen, a Category 1 Specific Target Organ Toxicity (following repeated exposures), and a Category 2B Eye Irritant. For Industrial Use Only. DO NOT USE THIS PRODUCT FOR BLASTING OR AS AN ABRASIVE. DO NOT PNEUMATICALLY UNLOAD AT A PRESSURE EXCEEDING 5 PSI SO AS TO AVOID ABRADING THE PRODUCT. DO NOT BREATHE DUST.

Read the specific Safety Data Sheet (SDS) before using and follow applicable local, state and federal health and safety standards. The SDSs for the various Resin Coated Silica Sand products are available online at www.atlasresinproppants.com or by calling 715-662-2400. March 19, 2013, Revision C