

## **CQHsp™** – Technical Specifications

- Manufactured and Delivered by; Changqing Proppant Corporation
- High quality proppant with high flow rates in both initial and post production stages for greater production and less drop-off.
- Highest strength and conductivity for use in deep wells and high closure gradient wells.
- Available sizes: 16/30 and 20/40

Physical Properties	CQHsp™		
US Mesh	Weight % Retained		
	16/30	20/40	
12			
16	0.6		
18	55.2		
20	29.3	1.0	
25	14.4	33.0	
30	0.4	54.8	
35	0.1	10.5	
40		0.5	
50		0.1	
60			
100			
% in size	99.4	98.9	
Median Diameter, mm	0.996	0.687	
Crush fines *% by weight generated:			
@ 5,000 psi			
@ 7,500 psi	4.1	1.9	
@10,000 psi	7.8	4.4	
@12,500psi	9.9	7.9	
@15,000psi	13.8	9.8	
Sphericity	0.9	0.9	
Roundness	0.8	0.9	
Acid Solubility, %	6.4	6.2	
Bulk Density, g/cc	1.81	1.86	
Bulk Density, lb/cuft	113	116	
Specific Gravity, g/cc	3.21	3.24	
Absolute Volume, gal/lb	0.037	0.037	
Turbidity, FTU	31	39	



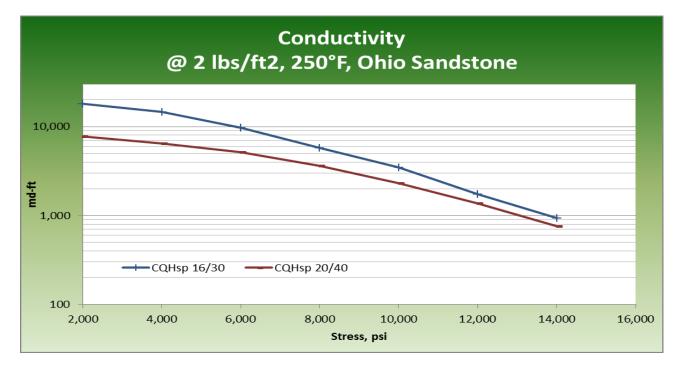
## Long-term Conductivity (2 lb/ft2, 250°F, with 2% KCl, Between Ohio sandstone)

Conductivity (md-ft):

Closure Stress (psi)	16/30	20/40
2,000	18,183	7,727
4,000	14,670	6,509
6,000	9,707	5,189
8,000	5.759	3,623
10,000	3.475	2,324
12,000	1.752	1,372
14,000	935	758

Permeability (Darcies):

Closure Stress (psi)	16/30	20/40
2,000	1,091	479
4,000	905	413
6,000	619	339
8,000	382	243
10,000	239	161
12,000	125	98
14,000	69	56



All the above data are typical values obtained according to ISO 13503-2/API RP 19C, and ISO 13503-5. Actual conductivity may vary substantially due to gel damage, fines migration, and other factors.