

PROPPANT TEST REPORT

Product	Low Density Proppant I	Packing	1.5 MT/Bag	Test Date	2012/11/18
Contract No.	***	Package	1 Bag	Order Quantity	***
Specification	20/40	Patch No.	GDGC-L-120831-1	Production Date	2012/8/31
Test Standard:		SY/T 5108-2006 (CNPC Test Standard)			
Item No.	Test Items	Requirement		Test Result	
1	Particle Distribution (%)	16 Mesh	1180 μm	***	
		18Mesh	1000 μm	***	
		20Mesh	850 μm	***	
		25Mesh	710 μm	***	
		30Mesh	600 μm	***	
		35Mesh	500 μm	***	
		40Mesh	425 μm	***	
		45Mesh	355 μm	***	
		50Mesh	300 μm	***	
		60Mesh	250 μm	***	
		70Mesh	212 μm	***	
		80Mesh	180 μm	***	
		100Mesh	150 μm	***	
				PAN	
		Total		***	
2	Average Partice Size, μm	***		***	
3	Cphericity	>0.8		0.86	
4	Circularity	>0.80		0.88	
5	Turbidity, FTU	<100		44.8	
6	Solubility in Acid (%)	<8		6.25	
7	Bulk Density (g/cm ³)	***		1.62	
8	Apperaent Density (g/cm ³)	***		2.98	
9	Crushing Rate (%)	52 (Mpa)		4.03	
		69 (Mpa)		***	
		86 (Mpa)		***	
		100 (Mpa)		***	
Remarks		***			
Tested By	Zhao Ruping	Noted By	Hu Xinli	Approved By	Zhao Jun

IMPORTANT NOTE

- 1) THE TEST REPORT IS BASED ON PROPPANT PRODUCTS CERTAIN UNDER PATCH NO. IT IS FOR REFERENCE PURPOSE.
- 2) DUE TO DIFFERENCE ON MACHINES IN DIFFERENT LABS, THERE WILL BE ACCEPTABLE TOLERANCE OF TEST RESULT.
- 3) TEST REPORT WILL BE RESERVED AND EXIPRES TILL TESTED SAMPLES DISPOSED & ABANDONED
- 4) TEST REPORT MUST BE PRESENTED ACCORDING TO DIFFERENT PATCH NO. & SALES CONTRACT NO.

PROPPANT TEST REPORT

Product	Medium Density Proppant I	Packing	1.5 MT/Bag	Test Date	2012/11/18		
Contract No.	***	Package	1 Bag	Order Quantity	***		
Specification	20/40	Patch No.	GDGC-M-120917-2	Production Date	2012/9/17		
Test Standard:		SY/T 5108-2006 (CNPC Test Standard)					
Item No.	Test Items	Requirement		Test Result			
1	Particle Distribution (%)	16 Mesh	1180 μm	***			
		18Mesh	1000 μm	***			
		20Mesh	850 μm	***			
		25Mesh	710 μm	***			
		30Mesh	600 μm	***			
		35Mesh	500 μm	***			
		40Mesh	425 μm	***			
		45Mesh	355 μm	***			
		50Mesh	300 μm	***			
		60Mesh	250 μm	***			
		70Mesh	212 μm	***			
		80Mesh	180 μm	***			
		100Mesh	150 μm	***			
				PAN		***	
				Total		***	
2	Average Partice Size, μm	***		***			
3	Cphericity	>0.8		0.9			
4	Circlarity	>0.80		0.9			
5	Turbidity, FTU	<100		46.7			
6	Solubility in Acid (%)	<8		6.2			
7	Bulk Density (g/cm3)	***		1.8			
8	Apperaent Density (g/cm3)	***		3.22			
9	Crushing Rate (%)	52 (Mpa)		***			
		69 (Mpa)		4.69			
		86 (Mpa)		***			
		100 (Mpa)		***			
Remarks		***					
Tested By	Zhao Ruping	Noted By	Hu Xinli	Approved By	Zhao Jun		

IMPORTANT NOTE

- 1) THE TEST REPORT IS BASED ON PROPPANT PRODUCTS CERTAIN UNDER PATCH NO. IT IS FOR REFERENCE PURPOSE.
- 2) DUE TO DIFFERENCE ON MACHINES IN DIFFERENT LABS, THERE WILL BE ACCEPTABLE TOLERANCE OF TEST RESULT.
- 3) TEST REPORT WILL BE RESERVED AND EXIPRES TILL TESTED SAMPLES DISPOSED & ABANDONED
- 4) TEST REPORT MUST BE PRESENTED ACCORDING TO DIFFERENT PATCH NO. & SALES CONTRACT NO.