

## Technical Data Sheet for HardRock Garnet

### 1. Average chemical composition (WT%)

SiO<sub>2</sub> ----- 39.88  
 Al<sub>2</sub>O<sub>3</sub> ----- 21.69  
 Fe<sub>2</sub>O<sub>3</sub> ----- 8.30  
 FeO ----- 23.12  
 MgO ----- 2.39  
 MnO ----- 0.80  
 CaO ----- 0.30  
 TiO<sub>2</sub> ----- 0.39

### 2. Physical characteristics

Shape of garnet particles -----Sub-angular  
 Color -----Dark reddish brown  
 Oudour -----No appreciable  
 Solubility in water -----Insoluble  
 Size range -----4mesh to 200mesh  
 Bulk Density ----->2000kg/M3  
 Specific gravity -----3.8-4.3 g/cm3  
 Melting point -----1170℃-1280℃  
 Hardness -----7.20-8.0(hm)  
 Mean refractive -----1.712-1.8875

### 3. Other characteristics

Conductivity ----- Very low(119.3pS /cm)  
 Radioactivity -----Not detectable  
 Contamination -----Non  
 Chloride ----- Less than 1ppm  
 Moisture ----- Non-hygroscopic  
 Free iron ----- Non  
 Free silicon ----- Non  
 Other heavy metal ----- Non

### 4. Particle Distributions

Tyler Screen	Opening (Microns)	#4/8	#8/16	#12/24	#20/40	#30/60	#80	#120
4	4750	0-5						
6	3350	35-40						
7	2800	55-60						
8	2350	0-5	0-3					
10	2000		10-20					
12	1700		20-30	0-5				
14	1400		30-40	10-30				
16	1180		20-30	20-40				
20	1000		0-3	5-20	0-5			
24	710				20-50			
30	600			5-15	20-40	0-5		
35	500			0-5	10-20	10-20		
40	425				5-15	10-30		
45	355				0-5	20-40	0-2	
50	325				0-5	15-30	10-20	
60	250					10-25	25-35	
70	212					0-5	25-35	0-5
80	180						10-20	15-35
100	150						5-10	20-40
-100	150						0-5	
120	125							20-40
140	106							5-15
-140	106							0-10
180	90							