

Properties of Sishen 66% 20mm lump ore



Substance	Specification (%)	Typical (%)
Chemical properties		
Fe	66.00 Min.	66.18
SiO ₂	3.70 Max.	2.92
Al ₂ O ₃	1.50 Max.	1.02
P	0.060 Max.	0.057
S	0.026 Max.	0.013
K ₂ O	0.19 Max.	0.15
Fe ₂ O ₃	–	94.89
FeO	–	<0.18
TiO ₂	–	<0.065
CaO	–	<0.068
Na ₂ O	–	0.017
MgO	–	<0.020
Mn	–	<0.011
As	–	0.0020
Cr	–	0.0054
Ni	–	0.0026
Zn	–	<0.0007
Pb	–	0.0008
Cu	–	<0.0006
Mo	–	<0.0005
V	–	0.0038
LOI _(900°C)	–	0.63
Moisture	1.00 Max.	0.99

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Physical properties		
Screen analysis at the port of loading:		
+20 mm	12.0 Max.	6.5
-20 + 16 mm	-	16.7
-16 + 12.5mm	-	29.0
-12.5 + 9.5mm	-	27.6
-9.5 + 8 mm	-	10.9
-8 + 6.3 mm	12.0 Max.	5.3
-6.3 mm	-	4.0
Bulk Density	-	2.1 g/cm ³
Porosity	-	5.8%
Metallurgical characteristics		
Decrepitation Index (ISO 8371)		
DI _{-6.3mm}	-	0.81
Reducibility Index (ISO 4695)		
RI _{R40}	-	0.65 %/min
Reducibility Index (ISO 7215)		
RI	-	43.3
Tumbler Index (ISO 3271)		
TI	-	91.9
AI	-	3.3
Reduction Disintegration Index (ISO 4696.1)		
RDI _{+6.3mm}	-	84.6
RDI _{-3.15mm}	-	8.5
RDI _{-0.5mm}	-	2.7

Substance	Specification (%)	Typical (%)
Reducibility (HYL method)		
k at 800 °C	-	2.8
k at 950 °C	-	5.2
Low temperature Disintegration (HYL method)		
+6.3mm	-	41.4
-3.2mm	-	30.4
Midrex Linder Test (760 °C)		
Metallization (+6.3mm)	-	94.8
Carbon (+6.3mm)	-	0.58
Process Fragmentation		
-3.36mm	-	2.4
Midrex Hot Load Test (815 °C)		
Metallization (+6.3mm)	-	98.1
% < 3.36mm after reduction	-	4.3
% > 6.73mm after tumble	-	82
Carbon (+6.3mm)	-	1.25
Clustering % > 25mm after 10 rev	-	0

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