

Daily Iron Ore Index Report

December 06, 2018

IRON ORE PORT STOCK INDEX (IOPI)

December 06, 2018		FOT Qingdao (inc. 16% VAT), RMB/wet tonne							CFR Qingdao Equivalent (exc. 16% VAT), USD/dry tonne ¹						
Index	Fe Content	Price	Change	Change %	MTD	YTD ²	Low ²	High ²	Price	Change	Change %	MTD	YTD ²	Low ²	High ²
IOPI62	62% Fe Fines	549	1	0.2%	545	506	443	603	71.17	0.01	0.0%	70.32	67.33	61.36	77.89
IOPI58	58% Fe Fines	390	1	0.3%	390	358	304	419	49.45	0.05	0.1%	49.29	46.37	40.67	52.71
IOPI65	65% Fe Fines	682	-9	-1.3%	687	657	541	784	89.33	-1.40	-1.5%	89.71	88.54	75.83	101.71

IRON ORE SEABORNE INDEX (IOSI)

December 06, 2018		CFR Qingdao, USD/dry tonne							MARKET COMMENTARY Despite weakening iron ore futures, both onshore and offshore, physical iron ore resisted the downward trend. However the market felt very shaky as the negative broader macro-economic sentiment pervades amongst the participants and traders are wary of China's future demand for steel and iron ore.						
Index	Fe Content	Price	Change	Change %	MTD	YTD ³	Low ³	High ³							
IOSI62	62% Fe Fines	69.10	0.05	0.1%	68.08	68.81	62.95	86.20							
IOSI65	65% Fe Fines	86.95	0.60	0.7%	85.69	93.90	83.20	101.50							

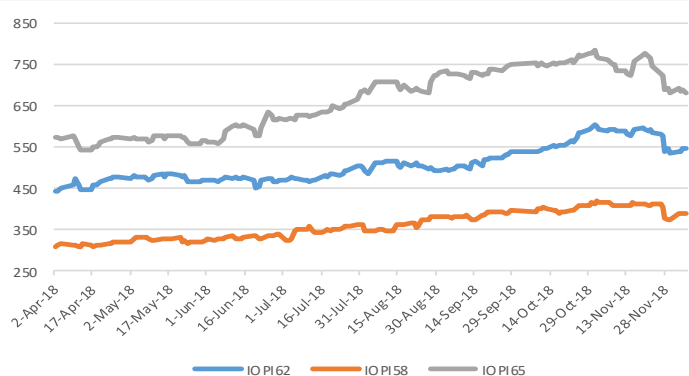
IRON ORE PORT LUMP INDEX (IOPLI)

Week Ending November 30		FOT Qingdao (inc. 16% VAT), RMB/wet tonne							CFR Qingdao Equivalent (exc. 16% VAT), USD/dry tonne ¹						
Index	Fe Content	Price	W-o-W	Change %	MTD	YTD ³	Low ³	High ³	Price	W-o-W	Change %	MTD	YTD ³	Low ³	High ³
IOPLI62	62.5% Fe Lump	769	-11	-1.4%	771	646	565	789	95.94	-1.50	-1.5%	96.21	83.19	76.63	98.50

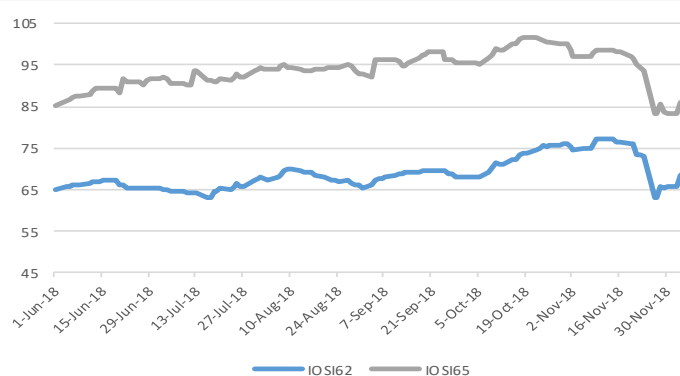
IRON ORE DOMESTIC CONCENTRATE SPOT PRICE ASSESSMENTS AND COMPOSITE INDEX

Week Ending November 30, 2018				RMB/tonne (excluding tax) ⁴				USD/tonne (excluding tax) ⁴			
Province	Region	Product	Basis	This week	Change %	Low ²	High ²	This week	Change %	Low ²	High ²
Hebei	Hanxing	66% Fe Concentrate	Dry	695	-2.5%	579	718	100.07	-2.7%	83.37	103.38
Hebei	Qian'an	65% Fe Concentrate	Dry	700	-13.0%	630	815	100.79	-13.2%	90.71	117.35
Liaoning	Anshan	65% Fe Concentrate	Wet	555	0.0%	445	565	79.91	-0.2%	64.07	81.35
Shandong	Zibo	65% Fe Concentrate	Dry	740	-9.2%	620	815	106.55	-9.4%	89.27	117.35
Week Ending November 30, 2018				This week	Change %	Low ⁵	High ⁵	¹ Exchange rate applied: RMB/USD = 6.8599 ² Since March 1 ³ Since June 1 ⁴ Weekly exchange rate applied: RMB/USD 6.9208 ⁵ Last 12 months			
China Mines Concentrate Composite Index RMB/WT				626.41	-6.8%	534.50	676.26				

IRON ORE PORT INDEX, FOT QINGDAO (RMB/WT)



IRON ORE SEABORNE INDEX, CFR QINGDAO (USD/DMT)



IRON ORE PORT STOCK INDEX MONTHLY, QUARTERLY AND YEAR-TO-DATE AVERAGES

December 06, 2018		FOT Qingdao (inc. 16% VAT), RMB/wet tonne							CFR Qingdao Equivalent (exc. 16% VAT), USD/dry tonne ¹						
Index	Fe Content	August	September	October	November	MTD	QTD	YTD ²	August	September	October	November	MTD	QTD	YTD ²
IOPI62	62% Fe Fines	505	513	564	564	545	572	506	64.29	63.41	65.25	72.55	70.32	73.57	67.33
IOPI58	58% Fe Fines	363	385	401	401	390	403	358	44.14	44.86	45.84	50.47	49.29	50.73	46.37
IOPI65	65% Fe Fines	701	732	760	760	687	745	657	82.19	85.29	92.13	99.05	89.71	96.93	88.54

IRON ORE SEABORNE INDEX MONTHLY, QUARTERLY AND YEAR-TO-DATE AVERAGES

December 06, 2018		CFR Qingdao, USD/dry tonne							FREIGHT RATES						
Index	Fe Content	August	September	October	November	MTD	QTD	YTD ³	FREIGHT RATES - DRY BULK US\$/wet tonne						
IOSI62	62% Fe Fines	67.89	68.79	72.31	72.91	68.08	72.22	68.81	Route	Designation	Change	Change %	Low ⁵	High ⁵	
IOSI65	65% Fe Fines	94.04	96.48	98.97	94.05	85.69	95.71	93.90	W. Australia - Qingdao	C5	8.26	0.22	2.71%	5.109	10.002
									Tubarao - Qingdao	C3	15.85	0.70	4.62%	12.705	24.76

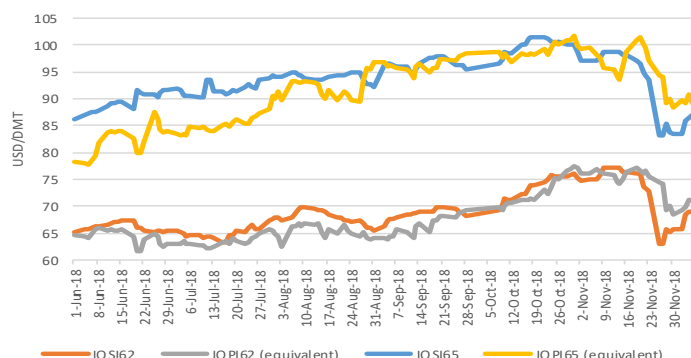
IRON ORE PORT LUMP INDEX MONTHLY, QUARTERLY AND YEAR-TO-DATE AVERAGES

Week Ending November 30		FOT Qingdao (inc. 16% VAT), RMB/wet tonne							CFR Qingdao Equivalent (exc. 16% VAT), USD/dry tonne ¹						
Index	Fe Content	August	September	October	November	MTD	QTD	YTD ³	August	September	October	November	MTD	QTD	YTD ²
IOPLI62	62.5% Fe Lump	652	695	720	771	771	752	646	81.74	87.49	89.65	96.21	96.21	93.75	83.19

Daily Iron Ore Index Report

December 06, 2018

IRON ORE INDEX COMPARISONS



CHINA DOMESTIC COMPOSITE MINES INDEX (RMB/Wet Tonne, including VAT)



IRON ORE BRAND SPOT PRICE ASSESSMENTS

December 06, 2018	PORT STOCK INDEX (RMB/WT)		
	Price	Change	Diff to IOPI62
Roy Hill	512	2	-37
SIMEC Fines	442	1	-107
PB Fines	530	1	-19
Newman Fines	532	2	-17
MAC Fines	518	-5	-31
Jimblebar Blended Fines	464	4	-85
Carajas Fines	675	-8	126
Brazilian SSF	507	1	-42
Brazilian Blend Fines	554	0	5
RTX Fines	445	7	-104
December 06, 2018	PORT STOCK INDEX (RMB/WT)		
	Price	Change	Diff to IOPI58
SSF	352	4	-38
FMG Blended Fines	393	2	3
Robe River	366	3	-24
Western Fines	379	3	-11
Atlas Fines	363	2	-27
Yandi	447	1	57

December 06, 2018	SEABORNE INDEX (USD/DMT)		
	Price	Change	Diff to IOSI62
Roy Hill	62.05	0.28	-7.05
SIMEC Fines	55.75	0.63	-13.35
PB Fines	68.10	0.13	-1.00
Newman Fines	71.35	0.10	2.25
MAC Fines	62.95	0.23	-6.15
Jimblebar Blended Fines	54.00	0.50	-15.10
Carajas Fines	84.95	-1.42	15.85
Brazilian SSF	69.10	0.05	0.00
Brazilian Blend Fines	72.22	-0.08	3.12
RTX Fines	57.67	0.17	-11.43

IRON ORE INDEX NORMALISATION DIFFERENTIALS

Port Stock Index Product Differentials (RMB/wet tonne)				Seaborne Index Product Differentials (USD/dry tonne)			
	Applicable range	Value	Change		Applicable range	Value	Change
1% Fe	High Grade Fe 60 - 63%	13.00	0.00	1% Fe	High Grade Fe 60 - 63%	3.50	0.00
	High Grade Fe 63 - 64%	43.00	-5.00		High Grade Fe 63 - 64%	2.00	-0.25
	High Grade Fe 64 - 65%	43.00	-5.00		High Grade Fe 64 - 65%	2.00	-0.25
	High Grade Fe 65 - 65.5%	43.00	-5.00		High Grade Fe 65 - 65.5%	2.00	-0.25
	Low Grade Fe	15.00	0.00				
1% Alumina	High Fe Grade Al <2.25%	34.00	0.00	1% Alumina	High Fe Grade Al <2.25%	5.50	-0.50
	High Fe Grade Al 2.25-4%	65.00	-3.00		High Fe Grade Al 2.25-4%	0.50	0.00
	Low Fe Grade Al <2.25%	80.00	0.00				
	Low Fe Grade Al 2.25-4%	17.00	-3.00				
1% Silica	High Fe Grade Si <4%	2.00	0.00	1% Silica	High Fe Grade Si <4%	1.75	-0.25
	High Fe Grade Si 4-6.5%	38.00	0.00		High Fe Grade Si 4 - 6.5%	2.75	-0.25
	Low Fe Grade	2.00	0.00				
0.01% Phosphorus	High Fe Grade 0.09%<P<0.115%	2.00	0.00	0.01% Phosphorus	High Fe Grade 0.09%<P<0.115%	0.25	0.00
	High Fe Grade 0.115%<P<0.15%	7.00	-2.00		High Fe Grade 0.115%<P<0.15%	2.75	0.00
	Low Fe Grade 0.09<P<0.1%	5.00	0.00				

Port Stock Differentials to Qingdao Port (RMB/wet tonne)

Port	Value	Change	Port	Value	Change	Port	Value	Change	Port	Value	Change
Bayuquan	-40.00	0.00	Fangcheng	-5.00	0.00	Lanshan	0.00	0.00	Qingdao	0.00	0.00
Beilun	5.00	0.00	Jiangyin	-20.00	0.00	Lianyungang	0.00	0.00	Rizhao	0.00	0.00
Caofeidian	0.00	0.00	Jingtang	-5.00	0.00	Majishan	0.00	0.00	Shekou	0.00	0.00
Dalian	-40.00	0.00	Lanqiao	0.00	0.00	Nantong	-20.00	0.00	Tianjin	-15.00	0.00

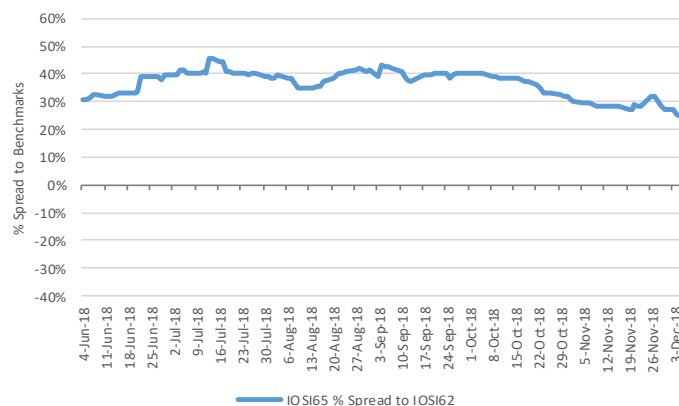
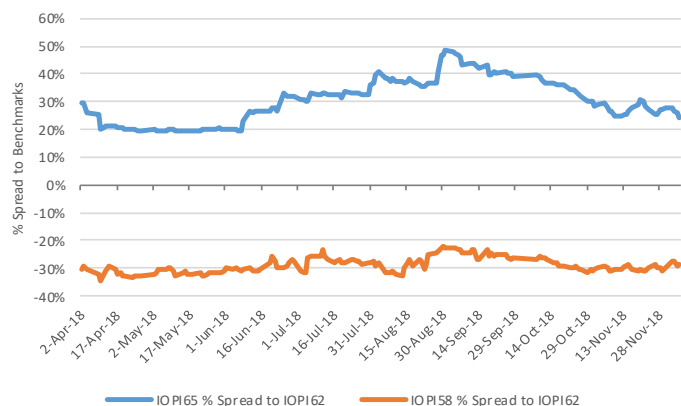
Daily Iron Ore Index Report

December 06, 2018

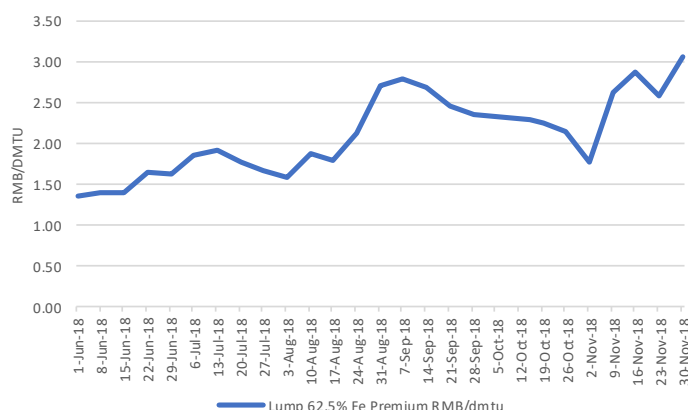
IRON ORE INDEX PREMIUMS/DISCOUNTS

December 06, 2018		
PORT STOCK INDEX (RMB/WT)		
Fe Content	Spread to IOPI62	% Spread to IOPI62
58% Fe Fines	-159	-28.96%
65% Fe Fines	133	24.23%

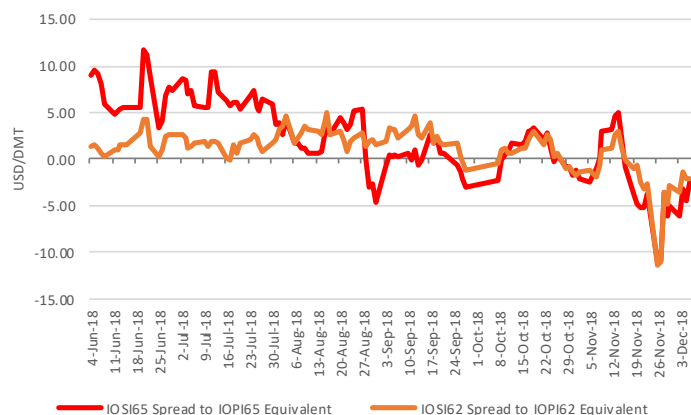
December 06, 2018		
SEABORNE INDEX (USD/DMT)		
Fe Content	Spread to IOSI62	% Spread to IOSI62
65% Fe Fines	17.85	25.83%



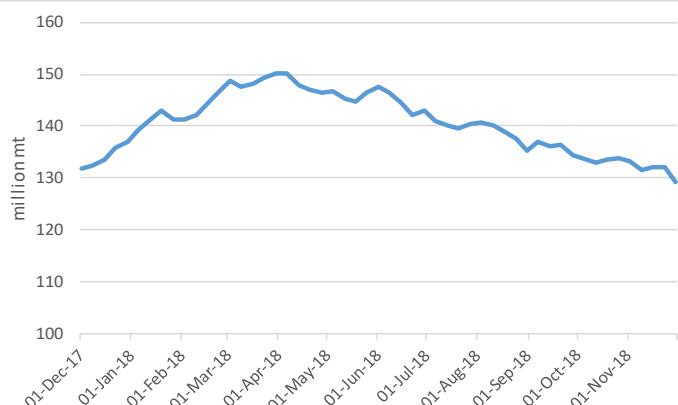
WEEKLY IRON ORE PORT STOCK LUMP PREMIUM (62.5% FE LUMP—62% FE FINES)



IRON ORE SEABORNE TO PORT STOCK SPREADS



TOTAL IRON ORE INVENTORIES AT CHINA PORTS



FUTURE TRADING—FRONT MONTH CLOSING PRICE



IRON ORE PORT INVENTORIES

Week Ending November 30, 2018 (million tonnes)

Province	This week	Change %	Low ⁴	High ⁴
Jingtang	13.29	-3.90%	13.29	19.00
Qingdao	16.90	-2.31%	16.20	19.97
Caofeidian	19.24	0.21%	16.70	25.30
Tianjin	9.90	-1.49%	8.50	11.00
Rizhao	14.82	-3.77%	14.73	19.00
Total (35 Ports)	129.26	-2.18%	129.26	150.04

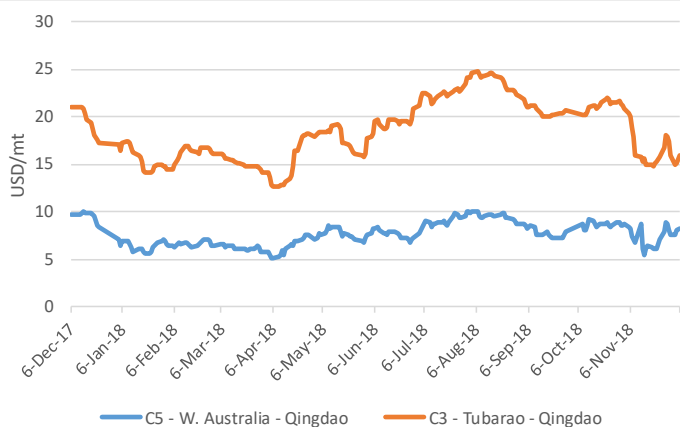
IRON ORE FUTURES CONTRACTS

Closing Date	DCE			SGX		
	06 Dec 3pm close			06 Dec 6 pm		
Contract	I1905	Change	Change %	Dec'18	Change	Change %
Closing Price	469.0	-9.0	-1.88%	65.80	-1.85	-2.73%
Vol traded ('000 lots)	70.23	-27.6	-28.20%	4.63	-3.50	-43.08%
Open positions ('000 lots)	51.68	-0.3	-0.50%	100.06	0.41	0.41%
Day Low	467.0	-0.5	-0.11%	65.80	-1.20	-1.79%
Day High	481.0	1.0	0.21%	66.71	-0.94	-1.39%

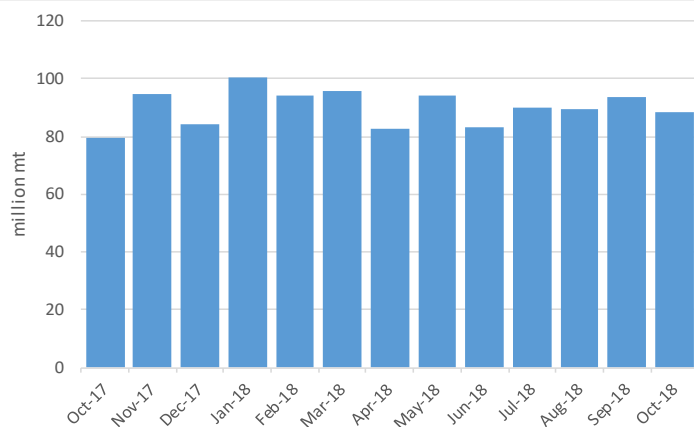
Daily Iron Ore Index Report

December 06, 2018

DRY BULK FREIGHT RATES



TOTAL CHINA IRON ORE IMPORT VOLUMES



Steel Spot Market Prices - China

Steel Spot Market RMB/tonne

Product	30/11/2018	Change	Change %
ReBar HRB400 ϕ 18mm	3,914.0	-198	-4.82%
Wirerod Q300 ϕ 6.5mm	3,979.0	-206	-4.92%
HRC Q235/SS400 5.5mm*1500*C	3,756.0	7	0.19%
CRC SPCC/ST12 1.0mm*1250*2500	4,176.0	-174	-4.00%
Medium & Heavy Plate Q235B 20mm	3,750.0	-200	-5.06%
GI ST02Z 1.0mm*1000*C	4,585.0	-105	-2.24%
Billet Q235 150*150mm	3,080.0	-250	-7.51%

Rebar and HRC spot prices



CHINESE STEEL EXPORT PRICES

China Export Prices USD/tonne

Product	Specification	Export tax (+)/Vate rebate (-)	Change
		30/11/2018	
Rebar	BS4449 460B 12-25mm, + chrome	-13%	505 -5
Wire Rod	SAE1008 6.5-10mm +chrome	-9%	520 -10
Hot-rolled coil	SS400/Q235 4.0-10.mm	-9%	495 -5
Cold-rolled coil	SPCC 1.0mm	-13%	540 -10
Medium & Heavy plate	A-level Ship plate 12-25mm	0%	540 -10
Galvanised	ST02Z/SGCC 1.0mm	-13%	570 -20

Note: Calculation formula for converting export prices of rebar, cold-rolled steel and galvanizing into prices in China's spot market = FOB * exchange rate * 1.16 / (1.16 - 0.13); Calculation formula for converting export prices of wire rod and hot-rolled steel into prices in China's spot market = FOB * exchange rate * 1.16 / (1.16 - 0.09); Calculation formula for converting export prices of medium-thick plate into prices in China's spot market = FOB * exchange rate

CHINESE STEEL INVENTORIES

Steel Inventories³ (unit: 1000 tonnes)

Product	30/11/2018	23/11/2018	Change	Change %
Rebar	2,980	3,108	-128	-4.12%
Wirerod	1,002	1,031	-29	-2.81%
Hot-rolled Coil	2,124	2,156	-32	-1.48%
Medium & Thick Plate	1,079	1,096	-17	-1.55%
Cold-rolled Coil	1,155	1,148	7	0.61%
Total	8,340	8,539	-199	-2.33%

³ SMM statistics cover inventories of major steel products in China's major markets: hot-rolled steel inventories in 33 major cities; rebar and wire inventories in 35 major cities; cold-rolled steel and medium-thick plate inventories in 31 major cities.

CHINESE STEEL MILL PROFITABILITY

SMM Tracking of Steel Mill P&L - Rebar and Hot-rolled Coil (RMB/tonne)

Category	Price	Change (WoW)	Note
MMI (Fe 62%), USD/mt excluding tax	69.99	-5.59	Mmi CFR Equivalent index for 12th October
Coke	2,160	-350	2nd grade met coke, Tangshan, incl. tax
Steel Scrap	1,970	-230	steel scrap (6mm) in Zhangjiagang, excl. tax
Billet Cost	2,871	-293	Q234, incl. tax
Rebar cost - Blast furnace	3,140	-294	calculated based on theoretical weight, incl. tax
Rebar profit - Blast furnace	560	134	based on Shanghai prices, incl. tax
Hot-rolled coil cost - Blast furnace	3,196	-293	based on actual weight, incl. tax
Hot-rolled coil profit - Blast furnace	394	153	based on Shanghai prices, incl. tax

Note: 1. Costs in the table are calculated based on today's market prices and factored our management, sales, financial and depreciations fees.

2. The cost refers to average cost in the industry based on SMM's survey of small, medium and large mills in China

Daily Iron Ore Index Report

December 06, 2018

IRON ORE INDEX SPECIFICATIONS, COMPILATION RATIONALE AND DATA EXCLUSIONS

Iron Ore Index Specifications (Port and Seaborne)					Iron Ore Index Compilation Rational and Data Exclusions			
	65% Fe Fines	62% Fe Fines	58% Fe Fines	62.5% Fe Lump	<p>MMi iron ore indices are compiled from data provided by companies that are part of the iron ore supply chain and involved in spot market transactions. The indices are calculated using detailed transaction-level data submitted to MMi by these companies. This data is normalised to the appropriate specifications and screened to remove outliers before volume-weighted average prices are calculated from the remaining core set of data.</p> <p>For more details on MMi's iron ore methodology please download the guide published on our website at: www.mmiprices.com</p>			
Fe %	65.00	62.00	58.00	62.50				
Alumina %	1.40	2.25	2.25	1.50				
Silica%	1.50	4.00	5.50	3.50				
Phosphorus %	0.06	0.09	0.05	0.08				
Sulphur %	0.01	0.02	0.02	0.02				
Moisture %	8.00	8.00	9.00	4.00				
Sizing	Granular size below 10mm for at least 90% of cargo; maximum of 40% below 150 micron			Size below 6.3mm max 15% Size above 31.15mm max 25%	Data Exclusions*			
						62%	58%	65%
					Port Index	0	0	0
Pricing Point	Qingdao Port (FOT and CFR respectively)			FOT Qingdao Port	Seaborne index	0		0
Timing (Seaborne)	Loading within 4 weeks, Delivery within 8 weeks			Delivery within 2 weeks	Lump Index 62.5	0		
Payment Terms	L/C at sight			L/C at sight or CAD	* Number of price submissions for iron ore indices that were excluded from index calculations today as they were anomalous and could not be verified			

IRON ORE DOMESTIC CONCENTRATE INDEX CALCULATION METHODOLOGY

The compilation method for price index generally refers to the compilation method of CPI price index and other price indices, breakdown the price data and calculate the average value according to a certain method, taking the vertical axis as the regional composite index (average of different grade index) and the horizontal axis as the grade composite index (average of different regional index), a total composite index for domestic ore can be output ultimately. The process system is also adopted in the calculation i.e. each sub-index can be obtained as well.

AVERAGE IRON ORE SPECIFICATIONS APPLIED FOR BRAND PRICE ASSESSMENTS

PORT STOCK BRANDS						SEABORNE BRANDS					
December 06, 2018	SPECIFICATIONS APPLIED FOR 62% BRAND ASSESSMENTS						SPECIFICATIONS APPLIED FOR 62% BRAND ASSESSMENTS				
	Fe	Alumina	Silica	Phos	Moisture		Fe	Alumina	Silica	Phos	Moisture
Roy Hill	60.76%	2.35%	4.31%	0.060%	8.58%	Roy Hill	60.70%	2.30%	4.90%	0.055%	8.00%
SIMEC Fines	60.00%	2.30%	6.30%	0.060%	6.00%	SIMEC Fines	60.00%	2.30%	6.30%	0.060%	6.00%
PB Fines	61.57%	2.32%	3.58%	0.100%	9.46%	PB Fines 62%	62.00%	2.60%	4.30%	0.090%	10.00%
Newman Fines	62.29%	2.48%	4.17%	0.090%	7.99%	Newman Fines	62.80%	2.20%	4.30%	0.080%	6.40%
MAC Fines	60.89%	2.23%	4.56%	0.090%	7.39%	MAC Fines	61.00%	2.70%	4.70%	0.110%	9.30%
Jimblebar Blended Fines	61.30%	2.93%	4.18%	0.120%	7.02%	Jimblebar Blended Fines	61.79%	2.67%	4.08%	0.115%	7.16%
Carajas Fines	64.77%	1.21%	2.32%	0.060%	8.20%	Carajas Fines	65.10%	1.50%	1.70%	0.080%	8.50%
Brazilian SSF	62.00%	1.00%	6.50%	0.040%	6.00%	Brazilian SSF	62.00%	1.00%	6.50%	0.040%	6.00%
Brazilian Blend Fines	62.92%	1.43%	4.86%	0.060%	8.35%	Brazilian Blend Fines	62.50%	1.50%	5.00%	0.070%	7.00%
RTX Fines	61.00%	3.10%	4.50%	0.135%	7.50%	RTX Fines	61.00%	3.10%	4.50%	0.135%	7.50%
December 06, 2018	SPECIFICATIONS APPLIED FOR 58% BRAND ASSESSMENTS										
	Fe	Alumina	Silica	Phos	Moisture						
SSF	56.52%	3.03%	6.19%	0.050%	9.41%						
FMG Blended Fines	58.27%	2.70%	5.60%	0.060%	7.40%						
Robe River	56.63%	2.88%	1.85%	0.040%	9.09%						
Western Fines	57.67%	2.81%	7.06%	0.060%	7.43%						
Atlas Fines	56.59%	2.55%	7.14%	0.080%	8.46%						
Yandi	57.30%	1.37%	6.31%	0.040%	9.15%						

BLOOMBERG TICKERS

PORT STOCK INDICES		
	FOT Qingdao (RMB/wet tonne)	CFR Qingdao Equivalent (USD/dry tonne)
IOP162	IRCNQ001	IRCNQ004
IOP158	IRCNQ002	IRCNQ005
IOP165	IRCNQ003	IRCNQ006

CONTACT US

MMI Singapore Office Details: Level 28, Manulife Tower, 8 Cross Street Singapore. Tel: + 65 6850 7629 E: jarek@mmiprices.com

SMM Singapore Office Details: Level 28, Manulife Tower, 8 Cross Street Singapore. Tel: + 65 6850 7630 E: service.en@smm.cn

SMM Shanghai Office Details: 9th FL, Building 9, Lujiazui Software Park, No.20, Lane 91, Pudong, Shanghai Tel: +86 021 5155 0306 E: service.en@smm.cn

Visit www.mmiprices.com for full index price histories and archive of daily reports

This information has been prepared by Metals Market Index ("MMI"). Use of the information presented here is at your sole risk, and any content, material and/or data presented or otherwise obtained through your use of the information in this document is at your own discretion and risk and you will be solely responsible for any damage to you personally or your company or organisation or business associates whatsoever which in anyway results from the use, reliance or application of such content material and/or information. Certain data has been obtained from various sources and any copyright existing in such data shall remain the property of the source. Except for the foregoing, MMi retains all copyright within this document. The copying or redistribution of any part of this document without the express written authority of MMi is forbidden.