

Daily Iron Ore Index Report

January 08, 2019

IRON ORE PORT STOCK INDEX (IOPI)

January 08, 2019		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	Low ²	High ²	Price	Change	Change %	MTD	YTD	Low ²	High ²
IOPI62	62% Fe Fines	578	1	0.2%	572	572	443	603	75.34	0.26	0.3%	74.45	74.45	61.36	77.89
IOPI58	58% Fe Fines	427	2	0.5%	417	417	304	427	54.66	0.37	0.7%	53.23	53.23	40.67	54.66
IOPI65	65% Fe Fines	664	1	0.2%	660	660	541	784	87.12	0.28	0.3%	86.43	86.43	75.83	101.71

IRON ORE SEABORNE INDEX (IOSI)

January 08, 2019		CFR Qingdao, USD/dry tonne						
Index	Fe Content	Price	Change	Change %	MTD	YTD	Low ³	High ³
IOSI62	62% Fe Fines	75.05	-0.50	-0.7%	73.50	73.50	62.95	86.20
IOSI65	65% Fe Fines	89.30	-0.95	-1.1%	88.29	88.29	83.20	101.50

MARKET COMMENTARY

Iron ore port stock prices were relatively stable as traders continued to respond to the mills demands. According to SMM, some mills will increase their procurement volumes following the New Year Holiday, and thus iron ore prices find some support. The Tangshan government has issued another heavy pollution weather warning from 8th January to 14th January though weather is currently holding up well. Seaborne demand continues to hold up as trades continue to flow following holiday break.

IRON ORE PORT LUMP INDEX (IOPLI)

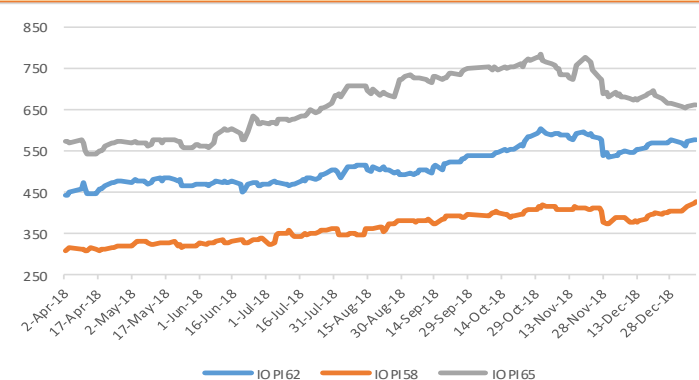
Week Ending January 4		FOT Qingdao (inc. 16% VAT), RMB/wet tonne							CFR Qingdao Equivalent (exc. 16% VAT), USD/dry tonne ¹						
Index	Fe Content	Price	W-o-W	Change %	MTD	YTD ³	Low ³	High ³	Price	W-o-W	Change %	MTD	YTD ³	Low ³	High ³
IOPLI62	62.5% Fe Lump	783	31	4.1%	783	783	565	789	98.85	4.12	4.3%	98.85	98.85	76.63	98.85

IRON ORE DOMESTIC CONCENTRATE SPOT PRICE ASSESSMENTS AND COMPOSITE INDEX

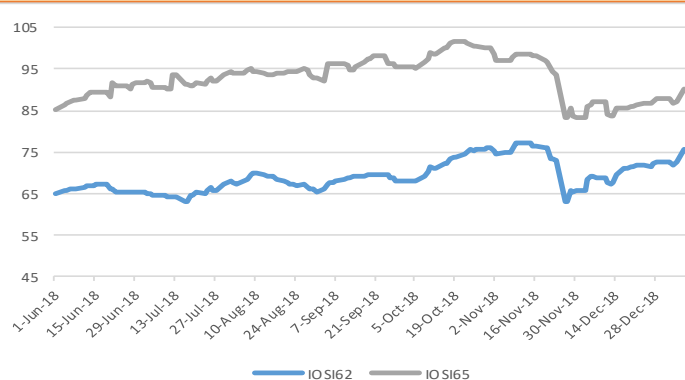
Week Ending January 4th, 2018				RMB/tonne (excluding tax) ⁴				USD/tonne (excluding tax) ⁴			
Province	Region	Product	Basis	This week	Change %	Low ²	High ²	This week	Change %	Low ²	High ²
Hebei	Hanxing	66% Fe Concentrate	Dry	689	1.3%	579	718	100.50	1.77%	84.45	104.73
Hebei	Qian'an	65% Fe Concentrate	Dry	755	0.0%	630	815	110.12	0.44%	91.89	118.87
Liaoning	Anshan	65% Fe Concentrate	Wet	535	0.0%	445	565	78.03	0.44%	64.91	82.41
Shandong	Zibo	65% Fe Concentrate	Dry	740	0.0%	620	815	107.93	0.44%	90.43	118.87
Week Ending January 4th, 2018				This week	Change %	Low ⁵	High ⁵				
China Mines Concentrate Composite Index RMB/WT				625.29	0.3%	534.50	676.26				

¹ Exchange rate applied: RMB/USD = 6.8402 Since March 1 ³ Since June 1
⁴ Weekly exchange rate applied: RMB/USD 6.8560 ⁵ Last 12 months

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

January 08, 2019		FOT Qingdao (inc. 16% VAT), RMB/wet tonne							CFR Qingdao Equivalent (exc. 16% VAT), USD/dry tonne ¹						
Index	Fe Content	September	October	November	December	January	QTD	YTD	September	October	November	December	January	QTD	YTD
IOPI62	62% Fe Fines	513	564	564	559	572	572	572	64.29	63.41	65.25	72.55	74.45	74.45	74.45
IOPI58	58% Fe Fines	385	401	401	392	417	417	417	44.14	44.86	45.84	50.47	53.23	53.23	53.23
IOPI65	65% Fe Fines	732	760	760	681	660	660	660	82.19	85.29	92.13	99.05	86.43	86.43	86.43

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

January 08, 2019		CFR Qingdao, USD/dry tonne						
Index	Fe Content	September	October	November	December	January	QTD	YTD
IOSI62	62% Fe Fines	68.79	72.31	72.91	69.96	73.50	73.50	73.50
IOSI65	65% Fe Fines	96.48	98.97	94.05	85.95	88.29	88.29	88.29

FREIGHT RATES

January 7th 2019		FREIGHT RATES - DRY BULK US\$/wet tonne				
Route	Designation	Change	Change %	Low ⁵	High ⁵	
W. Australia - Qingdao	C5	6.61	0.01	0.08%	5.109	10.002
Tubarao - Qingdao	C3	17.02	0.33	1.96%	12.705	24.76

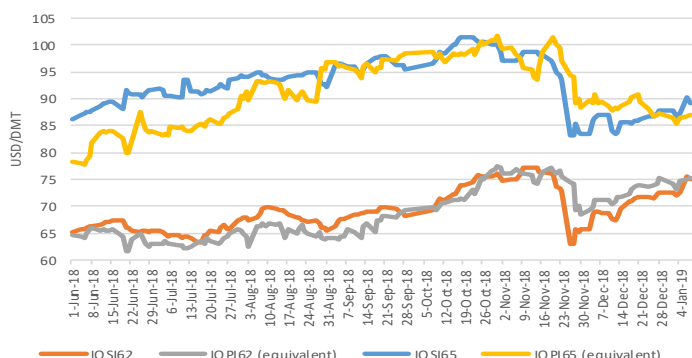
IRON ORE PORT LUMP INDEX MONTHLY, QUARTERLY AND YEAR-TO-DATE AVERAGES

Week Ending January 4		FOT Qingdao (inc. 16% VAT), RMB/wet tonne							CFR Qingdao Equivalent (exc. 16% VAT), USD/dry tonne ¹						
Index	Fe Content	September	October	November	December	MTD	QTD	YTD ³	September	October	November	December	MTD	QTD	YTD ²
IOPLI62	62.5% Fe Lump	695	720	771	749	783	783	783	87.49	89.65	96.21	94.22	98.85	98.85	98.85

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IRON ORE INDEX COMPARISONS



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



IRON ORE BRAND SPOT PRICE ASSESSMENTS

January 08, 2019	PORT STOCK INDEX (RMB/WT)			January 08, 2019	SEABORNE INDEX (USD/DMT)		
	Price	Change	Diff to IOPI62		Price	Change	Diff to IOSI62
Roy Hill	546	1	-32	Roy Hill	69.52	-0.53	-5.53
SIMEC Fines	482	1	-96	SIMEC Fines	65.67	-0.53	-9.38
PB Fines	560	1	-18	PB Fines	74.22	-0.68	-0.83
Newman Fines	564	1	-14	Newman Fines	77.70	-0.52	2.65
MAC Fines	541	2	-37	MAC Fines	69.67	-0.73	-5.38
Jimblebar Blended Fines	517	1	-61	Jimblebar Blended Fines	64.05	-1.02	-11.00
Carajas Fines	665	3	87	Carajas Fines	88.40	-1.45	13.35
Brazilian SSF	536	1	-42	Brazilian SSF	76.30	-1.12	1.25
Brazilian Blend Fines	572	1	-6	Brazilian Blend Fines	78.05	-0.87	3.00
RTX Fines	508	1	-70	RTX Fines	65.65	-0.92	-9.40

January 08, 2019	PORT STOCK INDEX (RMB/WT)		
	Price	Change	Diff to IOPI58
SSF	366	2	-61
FMG Blended Fines	423	2	-4
Robe River	456	2	29
Western Fines	375	2	-52
Atlas Fines	367	2	-60
Yandi	459	2	32

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%	12.00	0.00	1% Fe	High Grade Fe 60 - 63%	3.50	0.00
	High Grade Fe 63 - 64%	23.00	0.00		High Grade Fe 63 - 64%	2.25	0.00
	High Grade Fe 64 - 65%	23.00	0.00		High Grade Fe 64 - 65%	2.25	0.00
	High Grade Fe 65 - 65.5%	23.00	0.00		High Grade Fe 65 - 65.5%	2.25	0.00
	Low Grade Fe	16.00	0.00				
1% Alumina	High Fe Grade Al <2.25%	27.00	0.00	1% Alumina	High Fe Grade Al <2.25%	3.00	-0.50
	High Fe Grade Al 2.25-4%	34.00	0.00		High Fe Grade Al 2.25-4%	1.50	0.50
	Low Fe Grade Al <2.25%	72.00	0.00				
	Low Fe Grade Al 2.25-4%	28.00	0.00				
1% Silica	High Fe Grade Si <4%	2.00	0.00	1% Silica	High Fe Grade Si <4%	1.25	-0.25
	High Fe Grade Si 4-6.5%	35.00	0.00		High Fe Grade Si 4 - 6.5%	1.00	0.00
	Low Fe Grade	19.00	0.00				
0.01% Phosphorus	High Fe Grade 0.09%<P<0.115%	4.00	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%	2.00	0.00		High Fe Grade 0.115%<P<0.15%	1.75	0.00
	Low Fe Grade 0.09%<P<0.1%	6.00	0.00				

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

Port	Value	Change	Port	Value	Change	Port	Value	Change	Port	Value	Change
Bayuquan	-35.00	0.00	Fangcheng	-5.00	0.00	Lanshan	0.00	0.00	Qingdao	0.00	0.00
Beilun	5.00	0.00	Jiangyin	-10.00	0.00	Lianyungang	0.00	0.00	Rizhao	0.00	0.00
Caofeidian	-10.00	0.00	Jingtang	-10.00	0.00	Majishan	0.00	0.00	Shekou	0.00	0.00
Dalian	-10.00	0.00	Lanqiao	0.00	0.00	Nantong	-10.00	0.00	Tianjin	0.00	0.00

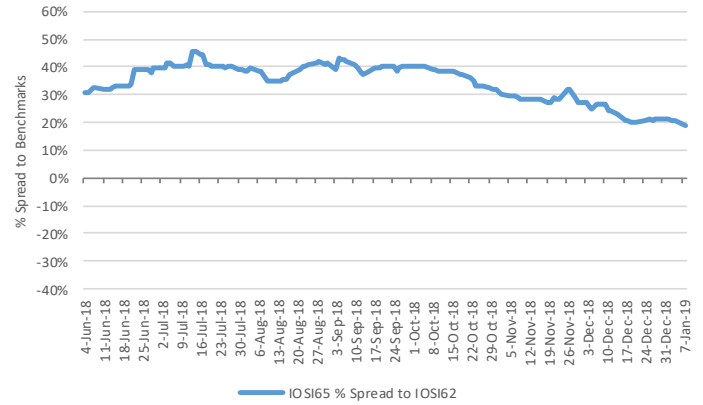
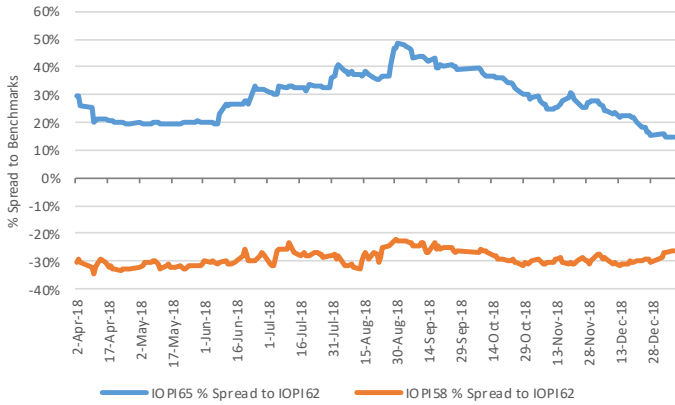
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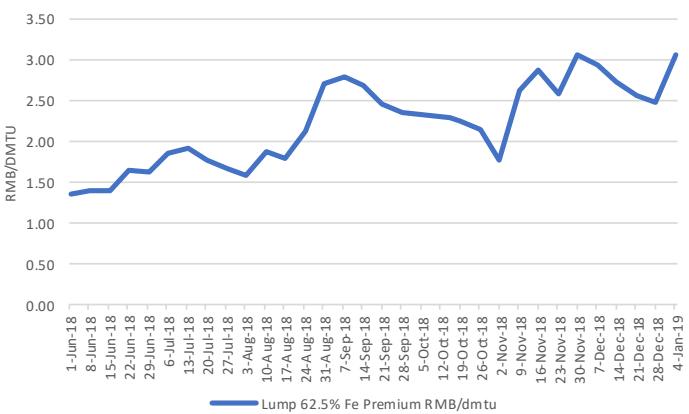
IRON ORE INDEX PREMIUMS/DISCOUNTS

January 08, 2019	PORT STOCK INDEX (RMB/WT)	
Fe Content	Spread to IOPI62	% Spread to IOPI62
58% Fe Fines	-151	-26.12%
65% Fe Fines	86	14.88%

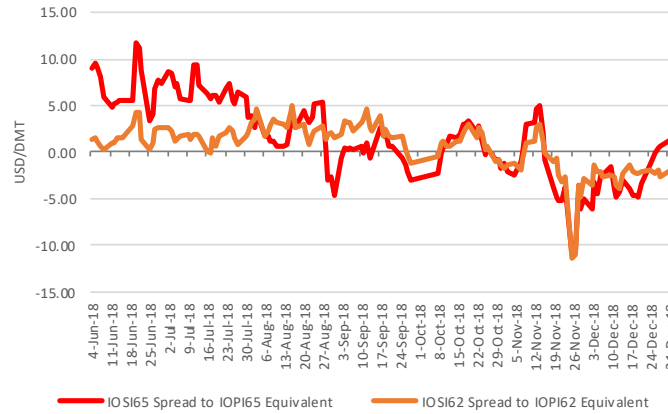
January 08, 2019	SEABORNE INDEX (USD/DMT)	
Fe Content	Spread to IOSI62	% Spread to IOSI62
65% Fe Fines	14.25	18.99%



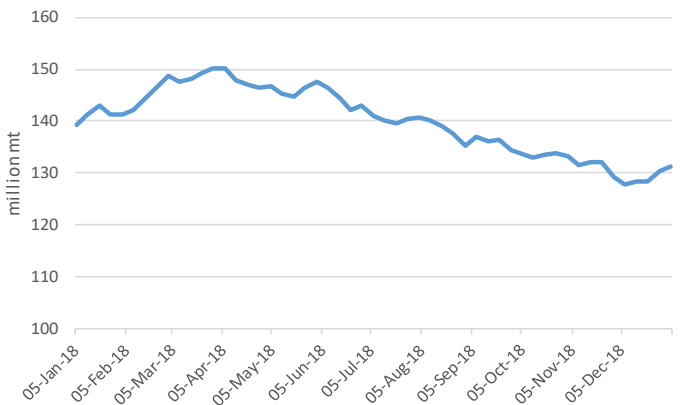
WEEKLY IRON ORE PORT STOCK LUMP PREMIUM (62.5% FE LUMP—62% FE FINES)



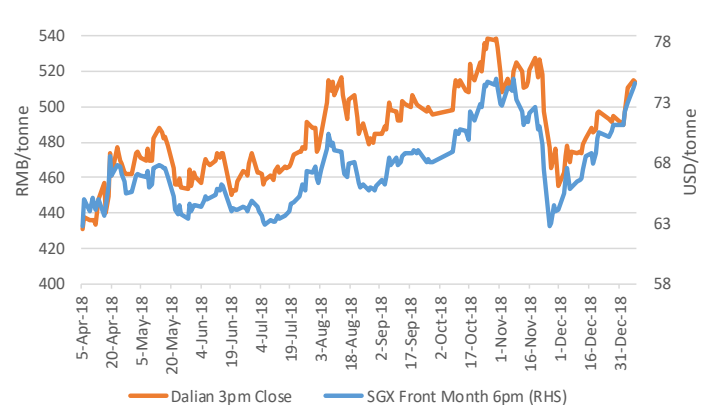
IRON ORE SEABORNE TO PORT STOCK SPREADS



TOTAL IRON ORE INVENTORIES AT CHINA PORTS



FUTURE TRADING—FRONT MONTH CLOSING PRICE



IRON ORE PORT INVENTORIES

Week Ending January 04, 2019 (million tonnes)				
Province	This week	Change %	Low ⁴	High ⁴
Jingtang	13.74	1.03%	13.29	19.00
Qingdao	17.80	4.71%	16.09	19.97
Caofeidian	19.00	-1.55%	16.70	25.30
Tianjin	9.50	-1.04%	8.50	11.00
Rizhao	14.40	2.86%	14.00	19.00
Total (35 Ports)	131.24	0.58%	127.72	150.04

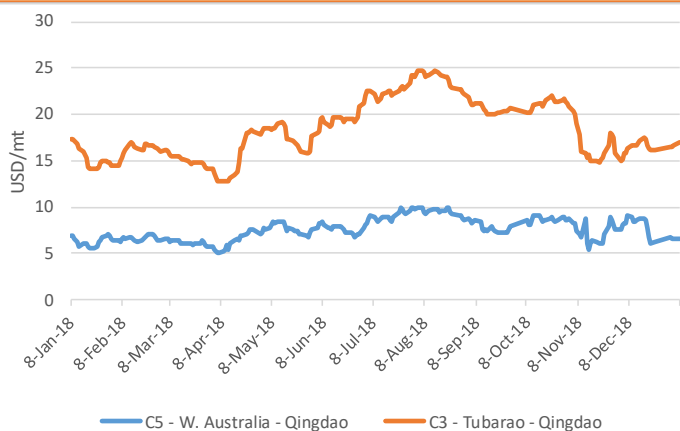
IRON ORE FUTURES CONTRACTS

Closing Date	DCE			SGX		
	08 Jan 3pm close	Change	Change %	08 Jan 6 pm	Change	Change %
Contract	11905			Jan'18		
Closing Price	514.0	-1.0	-0.19%	74.60	0.30	0.40%
Vol traded ('000 lots)	83.62	-6.0	-6.65%	4.15	0.41	11.04%
Open positions ('000 lots)	90.01	4.4	5.17%	122.55	0.45	0.37%
Day Low	509.0	2.5	0.49%	73.95	0.85	1.16%
Day High	516.0	1.0	0.19%	74.60	0.30	0.40%

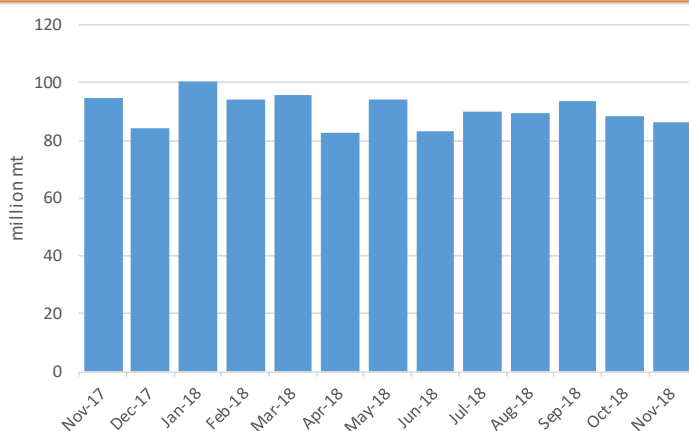
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DRY BULK FREIGHT RATES



TOTAL CHINA IRON ORE IMPORT VOLUMES

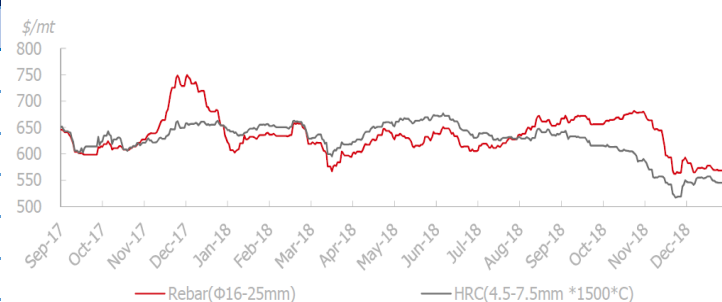


Steel Spot Market Prices - China

Steel Spot Market RMB/tonne

Product	4/1/2019	Change	Change %
ReBar HRB400 φ18mm	3,873.0	-39	-1.00%
Wirerod Q300 φ6.5mm	4,002.0	-38	-0.94%
HRC Q235/SS400 5.5mm*1500°C	3,706.0	-40	-1.07%
CRC SPCC/ST12 1.0mm*1250*2500	4,183.0	-37	-0.88%
Medium & Heavy Plate Q235B 20mm	3,833.0	-7	-0.18%
GI ST02Z 1.0mm*1000°C	4,545.0	-25	-0.55%
Billet Q235 150*150mm	3,300.0	0	0.00%

Rebar and HRC spot prices



Source: SMM

CHINESE STEEL EXPORT PRICES

China Export Prices USD/tonne

Product	Specification	Export tax (+)/Vate rebate (-)	Change
			4/1/2019
Rebar	BS4449 460B 12-25mm, + chrome	-13%	475 0
Wire Rod	SAE1008 6.5-10mm +chrome	-9%	495 0
Hot-rolled coil	SS400/Q235 4.0-10.mm	-9%	490 0
Cold-rolled coil	SPCC 1.0mm	-13%	535 0
Medium & Heavy plate	A-level Ship plate 12-25mm	0%	505 -5
Galvanised	ST02Z/SGCC 1.0mm	-13%	550 0

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	4/1/2019	28/12/2018	Change	Change %
Rebar	3,369	3,141	228	7.26%
Wirerod	1,192	1,065	127	11.92%
Hot-rolled Coil	1,847	1,762	85	4.82%
Medium & Thick Plate	888	925	-37	-4.00%
Cold-rolled Coil	1,066	1,071	-5	-0.47%
Total	8,361	7,965	396	4.97%

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	73.04	-1.09	Mmi CFR Equivalent index for 12th October
Coke	2,070	0	2nd grade met coke, Tangshan, incl. tax
Steel Scrap	2,140	-10	steel scrap (6mm) in Zhangjiagang, excl. tax
Billet Cost	2,881	-11	Q234, incl. tax
Rebar cost - Blast furnace	3,138	-14	calculated based on theoretical weight, incl. tax
Rebar profit - Blast furnace	572	-6	based on Shanghai prices, incl. tax
Hot-rolled coil cost - Blast furnace	3,206	-11	based on actual weight, incl. tax
Hot-rolled coil profit - Blast furnace	444	-19	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

IRON ORE INDEX SPECIFICATIONS, COMPILATION RATIONALE AND DATA EXCLUSIONS

Iron Ore Index Specifications (Port and Seaborne)					Iron Ore Index Compilation Rationale and Data Exclusions			
	65% Fe Fines	62% Fe Fines	58% Fe Fines	62.5% Fe Lump				
Fe %	65.00	62.00	58.00	62.50	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. For more details on MMI's iron ore methodology please download the guide published on our website at: www.mmiprices.com			
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*			
Pricing Point	Qingdao Port (FOT and CFR respectively)			FOT Qingdao Port	Port Index	62%	58%	65%
Timing (Seaborne)	Loading within 4 weeks, Delivery within 8 weeks			Delivery within 2 weeks	Seaborne Index	0	0	0
Payment Terms	L/C at sight			L/C at sight or CAD	Lump Index 62.5	0		

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					
January 08, 2019	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%	0.057%	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	61.59%	2.34%	3.61%	0.098%	9.31%	PB Fines 62%	62.00%	2.60%	4.30%	0.090%	10.00%
Newman Fines	62.20%	2.46%	4.25%	0.092%	8.01%	Newman Fines	62.80%	2.20%	4.30%	0.080%	6.40%
MAC Fines	60.83%	2.29%	4.73%	0.089%	7.46%	MAC Fines	61.00%	2.70%	4.70%	0.110%	9.30%
Jimblebar Blended Fines	61.29%	2.87%	4.25%	0.112%	6.89%	Jimblebar Blended Fines	61.79%	2.67%	4.08%	0.115%	7.16%
Carajas Fines	64.98%	1.32%	1.98%	0.071%	8.02%	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	62.67%	1.55%	4.86%	0.068%	8.47%	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%
January 08, 2019	SPECIFICATIONS APPLIED FOR 58% BRAND ASSESSMENTS										
	Fe	Alumina	Silica	Phos	Moisture						
SSF	56.53%	3.10%	6.17%	0.050%	9.20%						
FMG Blended Fines	58.24%	2.68%	5.64%	0.059%	7.45%						
Robe River	56.63%	2.88%	1.85%	0.035%	9.09%						
Western Fines	57.78%	2.92%	7.37%	0.061%	7.46%						
Atlas Fines	56.59%	2.55%	7.14%	0.080%	8.46%						
Yandi	57.26%	1.39%	6.43%	0.039%	9.07%						

BLOOMBERG TICKERS

PORT STOCK INDICES			
	FOT Qingdao (RMB/wet tonne)		CFR Qingdao Equivalent (USD/dry tonne)
IOPI62	IRCNQ001		IRCNQ004
IOPI58	IRCNQ002		IRCNQ005
IOPI65	IRCNQ003		IRCNQ006

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