

Daily Iron Ore Index Report

January 16, 2019

IRON ORE PORT STOCK INDEX (IOPI)

January 16, 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	573	-2	-0.3%	574	574	443	603	75.53	-0.36	-0.5%	75.07	75.07	61.36	77.89
IOPI58	58% Fe Fines	457	8	1.8%	430	430	304	573	59.45	1.04	1.8%	55.24	55.24	40.67	59.45
IOPI65	65% Fe Fines	670	6	0.9%	660	660	541	784	88.97	0.74	0.8%	86.92	86.92	75.83	101.71

IRON ORE SEABORNE INDEX (IOSI)

January 16, 2019		CFR Qingdao, USD/dry tonne						
Index	Fe Content	Price	Change	Change %	MTD	YTD	Low ³	High ³
IOSI62	62% Fe Fines	75.10	0.25	0.3%	74.33	74.33	62.95	86.20
IOSI65	65% Fe Fines	88.45	0.30	0.3%	88.50	88.50	83.20	101.50

MARKET COMMENTARY

Seventy-three vessels carrying 10.67 million mt of iron ore are expected to arrive at major Chinese ports in the week ending Thursday January 17, up 1.14 million mt from the previous week, SMM data showed. For the same week, iron ore shipments departing Australian ports are expected to rise by 560,000 mt from the prior week to 14.91 million mt as port maintenance ended. Low-grade iron ore maintains its recent strong showing, SSF traded at 400yuan/mt in Tangshan today, with the price spread between Carajas Fines and SSF close to its record low of 281yuan/mt (MMI started tracking low-grad brands in June 2018). This compares to a spread of 466yuan/mt back in early August 2018.

IRON ORE PORT LUMP INDEX (IOPLI)

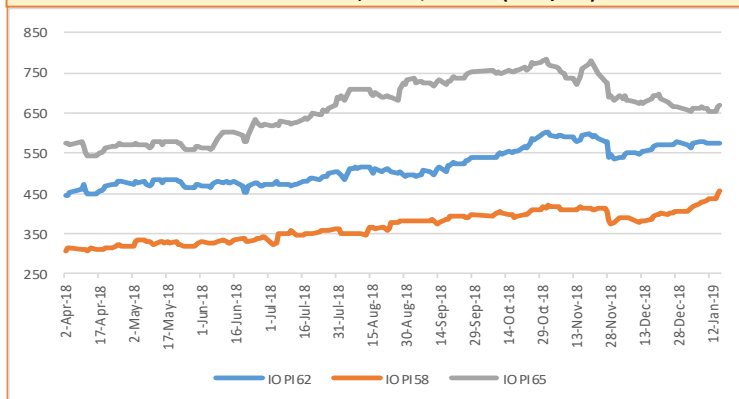
Week Ending January 11		FOT Qingdao (inc. 16% VAT), RMB/wet tonne							CFR Qingdao Equivalent (exc. 16% VAT), USD/dry tonne ¹						
Index	Fe Content	Price	W-o-W	Change %	MTD	YTD	Low ³	High ³	Price	W-o-W	Change %	MTD	YTD	Low ³	High ³
IOPLI62	62.5% Fe Lump	785	2	0.3%	784	784	565	789	100.10	1.25	1.3%	99.48	99.48	76.63	98.85

IRON ORE DOMESTIC CONCENTRATE SPOT PRICE ASSESSMENTS AND COMPOSITE INDEX

Week Ending January 11th, 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	694	0.7%	579	718	101.61	1.10%	84.77	105.12
Hebei	Qian'an	65% Fe Concentrate	Dry	750	-0.7%	630	815	109.80	-0.29%	92.24	119.32
Liaoning	Anshan	65% Fe Concentrate	Wet	535	0.0%	445	565	78.33	0.38%	65.15	82.72
Shandong	Zibo	65% Fe Concentrate	Dry	740	0.0%	620	815	108.34	0.38%	90.77	119.32
Week Ending January 11th, 2018				This week	Change %	Low ⁵	High ⁵				
China Mines Concentrate Composite Index RMB/WT				623.27	-0.3%	534.50	676.26				

¹ Exchange rate applied: RMB/USD = 6.7615 ² Since March 1 2018 ³ Since June 1 2018
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 16, 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	574	574	574	64.29	63.41	65.25	72.55	75.07	75.07	75.07
IOPI58	58% Fe Fines	385	401	401	392	430	430	430	44.14	44.86	45.84	50.47	55.24	55.24	55.24
IOPI65	65% Fe Fines	732	760	760	681	660	660	660	82.19	85.29	92.13	99.05	86.92	86.92	86.92

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

January 16, 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	74.33	74.33	74.33
IOSI65	65% Fe Fines	96.48	98.97	94.05	85.95	88.50	88.50	88.50

FREIGHT RATES

January 15th 2019		FREIGHT RATES - DRY BULK US\$/wet tonne				
Route	Designation	Change	Change %	Low ⁵	High ⁵	
W. Australia - Qingdao	C5	5.86	-0.46	-7.26%	5.109	10.002
Tubarao - Qingdao	C3	17.21	-0.35	-1.97%	12.705	24.76

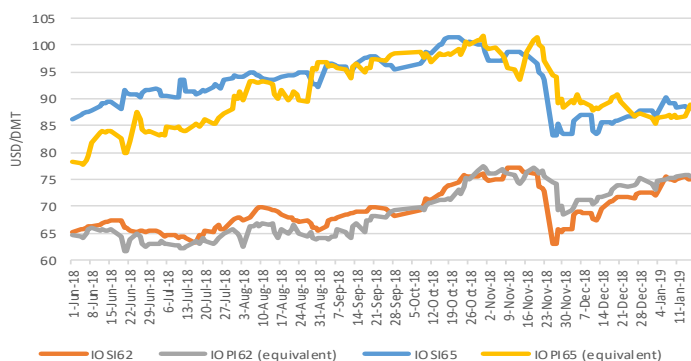
IRON ORE PORT LUMP INDEX MONTHLY, QUARTERLY AND YEAR-TO-DATE AVERAGES

Week Ending January 11		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	September	October	November	December	MTD	QTD	YTD
IOPLI62	62.5% Fe Lump	695	720	771	749	784	784	784	87.49	89.65	96.21	94.22	99.48	99.48	99.48

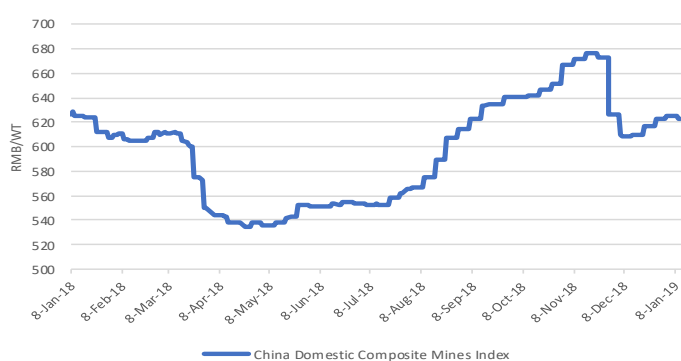
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IRON ORE INDEX COMPARISONS



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



IRON ORE BRAND SPOT PRICE ASSESSMENTS

January 16, 2019	PORT STOCK INDEX (RMB/WT)			January 16, 2019	SEABORNE INDEX (USD/DMT)		
	Price	Change	Diff to IOPI62		Price	Change	Diff to IOSI62
Roy Hill	535	-5	-38	Roy Hill	70.70	0.26	-4.40
SIMEC Fines	492	-1	-81	SIMEC Fines	67.90	0.26	-7.20
PB Fines	556	-1	-17	PB Fines	74.60	0.34	-0.50
Newman Fines	576	-1	3	Newman Fines	77.50	0.25	2.40
MAC Fines	545	-2	-28	MAC Fines	70.80	0.36	-4.30
Jimblebar Blended Fines	513	2	-60	Jimblebar Blended Fines	66.52	0.51	-8.58
Carajas Fines	673	6	100	Carajas Fines	88.47	0.77	13.37
Brazilian SSF	566	5	-7	Brazilian SSF	77.60	0.25	2.50
Brazilian Blend Fines	579	1	6	Brazilian Blend Fines	78.35	0.25	3.25
RTX Fines	512	4	-61	RTX Fines	67.37	0.46	-7.73

January 16, 2019	PORT STOCK INDEX (RMB/WT)		
	Price	Change	Diff to IOPI58
SSF	392	5	-65
FMG Blended Fines	452	8	-5
Robe River	496	19	39
Western Fines	399	2	-58
Atlas Fines	392	3	-65
Yandi	485	5	28

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%	21.00	3.00	1% Fe	High Grade Fe 60 - 63%	3.00	0.00
	High Grade Fe 63 - 64%	18.00	0.00		High Grade Fe 63 - 64%	2.50	0.25
	High Grade Fe 64 - 65%	18.00	0.00		High Grade Fe 64 - 65%	2.50	0.25
	High Grade Fe 65 - 65.5%	18.00	0.00		High Grade Fe 65 - 65.5%	2.50	0.25
	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	0.00
	High Fe Grade Al 2.25-4%	18.00	-3.00		High Fe Grade Al 2.25-4%	1.00	-0.25
	Low Fe Grade Al <2.25%	72.00	0.00				
	Low Fe Grade Al 2.25-4%	30.00	0.00				
1% Silica	High Fe Grade Si <4%	7.00	2.00	1% Silica	High Fe Grade Si <4%	1.25	0.00
	High Fe Grade Si 4-6.5%	21.00	-3.00		High Fe Grade Si 4 - 6.5%	0.50	0.00
	Low Fe Grade	22.00	3.00				
0.01% Phosphorus	High Fe Grade 0.09%<P<0.115%	2.00	-1.00	0.01% Phosphorus	High Fe Grade 0.09%<P<0.115%	0.25	0.00
	High Fe Grade 0.115%<P<0.15%	6.00	-1.00		High Fe Grade 0.115%<P<0.15%	1.50	0.00
	Low Fe Grade 0.09%<P<0.1%	2.00	-1.00				

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

Port	Value	Change	Port	Value	Change	Port	Value	Change	Port	Value	Change
Bayuquan	-30.00	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	-10.00	0.00	Jingtang	-10.00	0.00	Majishan	0.00	0.00	Shekou	0.00	0.00
Dalian	-5.00	0.00	Lanqiao	0.00	0.00	Nantong	-20.00	0.00	Tianjin	-20.00	0.00

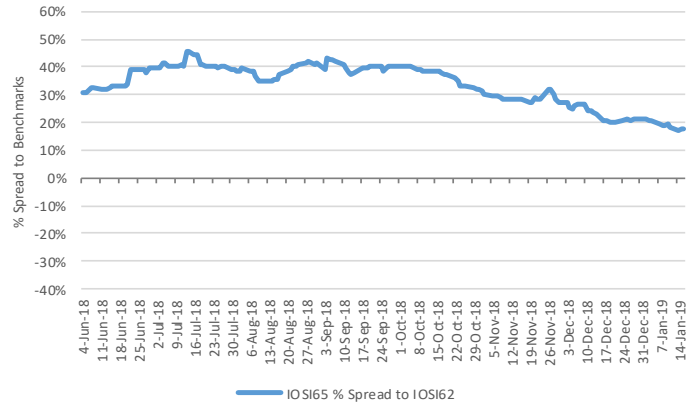
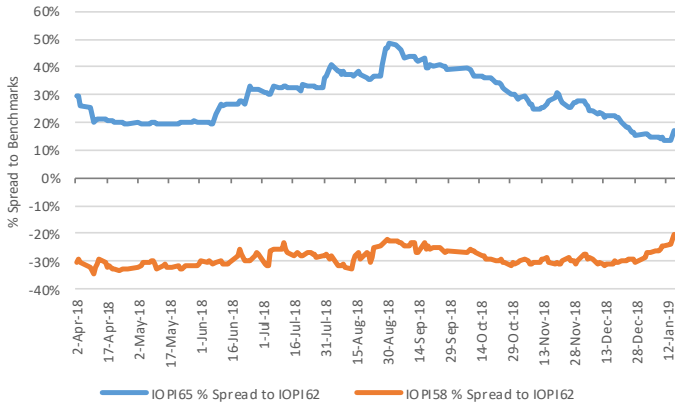
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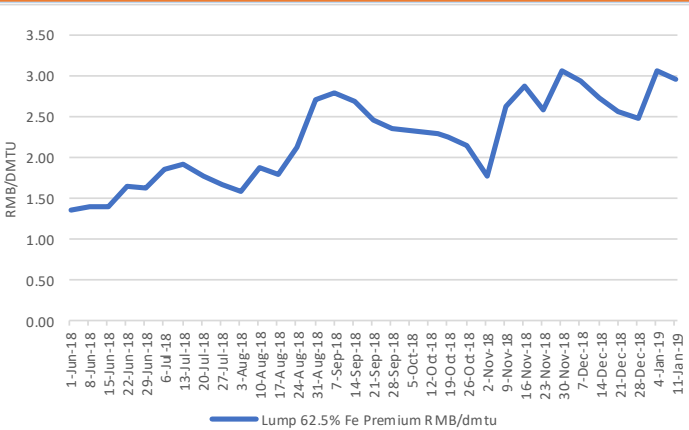
IRON ORE INDEX PREMIUMS/DISCOUNTS

January 16, 2019	PORT STOCK INDEX (RMB/WT)	
Fe Content	Spread to IOPI62	% Spread to IOPI62
58% Fe Fines	-116	-20.24%
65% Fe Fines	97	16.93%

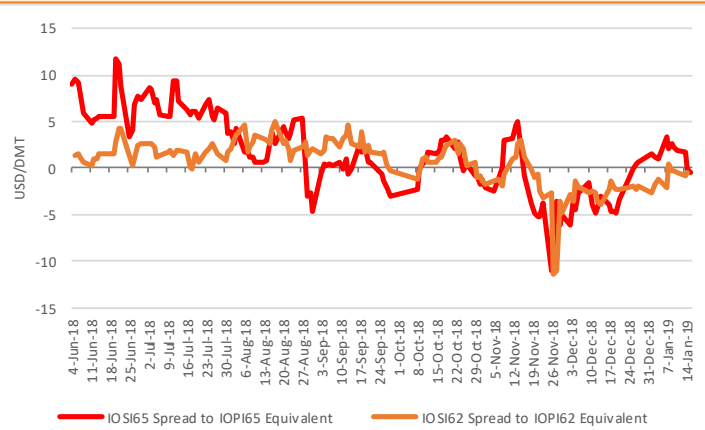
January 16, 2019	SEABORNE INDEX (USD/DMT)	
Fe Content	Spread to IOSI62	% Spread to IOSI62
65% Fe Fines	13.35	17.78%



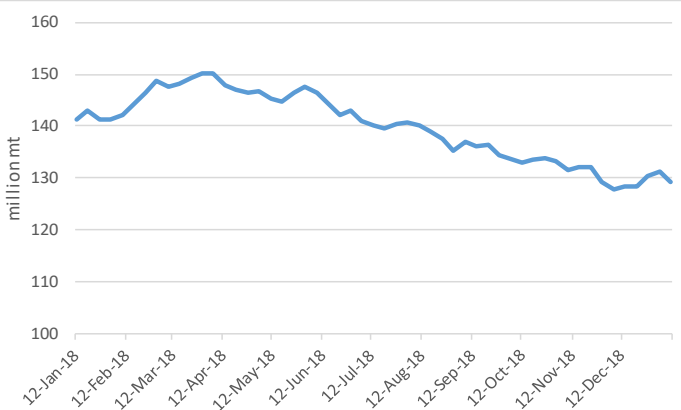
WEEKLY IRON ORE PORT STOCK LUMP PREMIUM (62.5% FE LUMP—62% FE FINES)



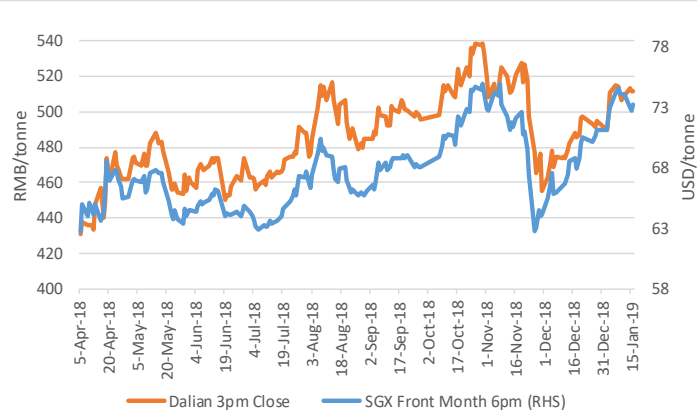
IRON ORE SEABORNE TO PORT STOCK SPREADS



TOTAL IRON ORE INVENTORIES AT CHINA PORTS



FUTURE TRADING—FRONT MONTH CLOSING PRICE



IRON ORE PORT INVENTORIES

Week Ending January 11, 2019 (million tonnes)				
Province	This week	Change %	Low ⁴	High ⁴
Jingtang	13.89	1.09%	13.29	19.00
Qingdao	17.50	-1.69%	16.09	19.97
Caofeidian	17.90	-5.79%	16.70	25.30
Tianjin	9.40	-1.05%	8.50	11.00
Rizhao	14.20	-1.39%	14.00	19.00
Total (35 Ports)	129.30	-1.48%	127.72	150.04

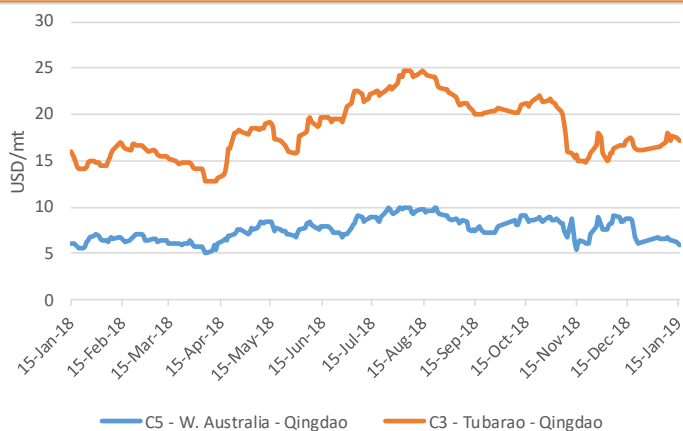
IRON ORE FUTURES CONTRACTS

Closing Date	DCE			SGX		
	16 Jan 3pm close	Change	Change %	16 Jan 6 pm	Change	Change %
Contract	11905			Feb'19		
Closing Price	512.0	0.0	0.00%	73.26	0.42	0.58%
Vol traded ('000 lots)	74.45	-17.5	-19.04%	6.31	-2.08	-24.83%
Open positions ('000 lots)	86.95	0.1	0.15%	109.85	0.19	0.18%
Day Low	510.0	5.5	1.09%	72.72	0.80	1.11%
Day High	516.0	2.0	0.39%	73.26	0.30	0.41%

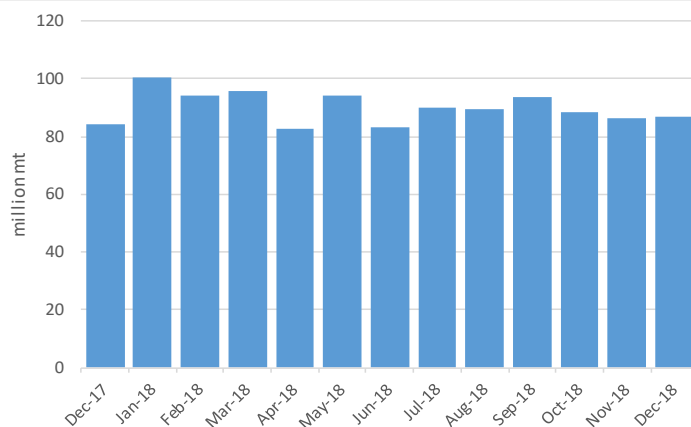
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DRY BULK FREIGHT RATES



TOTAL CHINA IRON ORE IMPORT VOLUMES

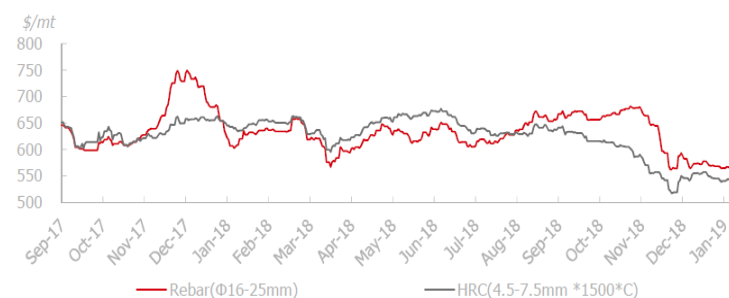


Steel Spot Market Prices - China

Steel Spot Market RMB/tonne

Product	11/1/2019	Change	Change %
ReBar HRB400 φ18mm	3,856.0	-17	-0.44%
Wirerod Q300 φ6.5mm	3,915.0	-87	-2.17%
HRC Q235/SS400 5.5mm*1500*C	3,703.0	-3	-0.08%
CRC SPCC/ST12 1.0mm*1250*2500	4,193.0	10	0.24%
Medium & Heavy Plate Q235B 20mm	3,860.0	27	0.70%
GI ST02Z 1.0mm*1000*C	4,570.0	25	0.55%
Billet Q235 150*150mm	3,420.0	120	3.64%

Rebar and HRC spot prices



Source: SMM

CHINESE STEEL EXPORT PRICES

China Export Prices USD/tonne

Product	Specification	Export tax (+)/Vate rebate (-)	Change
11/1/2019			
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%	500 10
Cold-rolled coil	SPCC 1.0mm	-13%	535 0
Medium & Heavy plate	A-level Ship plate 12-25mm	0%	505 0
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	11/1/2019	4/1/2019	Change	Change %
Rebar	3,654	3,369	285	8.46%
Wirerod	1,247	1,192	55	4.61%
Hot-rolled Coil	1,902	1,847	55	2.98%
Medium & Thick Plate	888	888	0	0.00%
Cold-rolled Coil	1,066	1,066	0	0.00%
Total	8,756	8,361	395	4.72%

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	75.34	2.30	Mmi CFR Equivalent index for 12th October
Coke	1,970	-100	2nd grade met coke, Tangshan, incl. tax
Steel Scrap	2,150	10	steel scrap (6mm) in Zhangjiagang, excl. tax
Billet Cost	2,846	-35	Q234, incl. tax
Rebar cost - Blast furnace	3,099	-39	calculated based on theoretical weight, incl. tax
Rebar profit - Blast furnace	591	19	based on Shanghai prices, incl. tax
Hot-rolled coil cost - Blast furnace	3,170	-36	based on actual weight, incl. tax
Hot-rolled coil profit - Blast furnace	460	16	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 16, 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%	0.060%	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	61.66%	2.43%	3.50%	0.100%	9.29%	PB Fines 62%	62.00%	2.60%	4.30%	0.090%	10.00%
Newman Fines	62.44%	2.25%	4.35%	0.090%	7.80%	Newman Fines	62.80%	2.20%	4.30%	0.080%	6.40%
MAC Fines	61.08%	2.11%	4.67%	0.080%	7.81%	MAC Fines	61.00%	2.70%	4.70%	0.110%	9.30%
Jimblebar Blended Fines	61.12%	2.89%	4.37%	0.120%	7.03%	Jimblebar Blended Fines	61.79%	2.67%	4.08%	0.115%	7.16%
Carajas Fines	65.13%	1.37%	1.73%	0.080%	7.93%	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	62.60%	1.82%	4.73%	0.070%	8.38%	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 16, 2019	SPECIFICATIONS APPLIED FOR 58% BRAND ASSESSMENTS										
	Fe	Alumina	Silica	Phos	Moisture						
SSF	56.55%	3.09%	6.20%	0.050%	9.22%						
FMG Blended Fines	58.23%	2.68%	5.65%	0.060%	7.45%						
Robe River	56.63%	2.88%	1.85%	0.040%	9.09%						
Western Fines	57.81%	2.92%	7.37%	0.060%	7.46%						
Atlas Fines	56.59%	2.55%	7.14%	0.080%	8.46%						
Yandi	57.26%	1.40%	6.44%	0.040%	9.11%						

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

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