INDIA

HOLD

Graphite India

CENTRUM

Metals

Result Update 24 October 2017

Earnings on fire but valuations also towering

We continue to remain positive on prospects of Graphite India (GIL) as we see the electrode industry remaining in an upcycle for next 4-5 years but see valuations getting stretched post a super strong recent rally in the stock (up 230% in 4 months since our IC). We believe that industry as well as GIL would have a super normal profitability levels in FY19E (EBITDA/t well above US$2500/t) but the same would normalise to more realistic and sustainable levels from FY20E (EBITDA of ~US$1800/t). Industry demand-supply outlook remains highly favorable in both near and medium term led by closures, consolidation and reduced Chinese exports of both steel & electrodes. However, constraints of limited needle coke supply and EAF CoP increase at higher electrode prices would limit gains in due course leading to reversion towards more sustainable profitability for both electrode and EAF producers. GIL remains the best bet to play the electrode upcycle with healthy balance sheet, strong adj. FCF generation, high dividend payout and strong management pedigree but valuations limit absolute upside and we downgrade to Hold with a TP of Rs435.

- **Capacity utilisation remains high, realisation pick-up starts to show up:** Capacity utilisation for Q2 stood at 89% and realisations jumped to ~US$3500/t as GIL was able to renegotiate its export contract book higher post electrode pricing pick-up. GIL would see further realisation improvements in H2.
- **EBITDA pick up led by strong gross margins:** EBITDA rose 266% QoQ to Rs1299mn as gross margins surged 690bps QoQ to 71.6% led by higher realisations. EBITDA margins stood at at a robust 28.1% and EBITDA/t stood at ~US$1135/t in Q2 but is expected to increase further from H2FY18E led by higher electrode prices.
- **Earnings revised higher materially as strongest upcycle in store:** We expect strong expansion in GIL's gross profit/t led by better pricing aided by a tight demand-supply balance. We expect strongest upcyle of last few decades in store for electrode industry and have revised our EBITDA/t estimates higher to build in higher realisations and gross profit spreads. We now expect consolidated EBITDA/t of GIL to expand materially to US$1223/$2677 in FY18E/19E (vs. our estimates of US$455/1121 earlier). However, we believe that EBITDA/t would start normalising from FY20E and our FY20E EBITDA/t estimate stands at US$1790/t.
- **Valuation and risks – Need for looking beyond FY19E supernormal profitability, downgrade to Hold:** The stock has seen a relentless up move and is up 230% since our **IC report titled "Electrifying growth ahead"** dated 20 June 2017. We believe that investors need to look beyond FY19E supernormal profitability and we value GIL on our conservative AOCF/EV yield methodology using five year average adj. cash flows (FY16-20E) to arrive at our revised TP of Rs435. Downgrade to Hold. Key downside risk is margin pressure due to raw material volatility while upside risk is similar spreads in FY20E as that of FY19E.

Y/E Mar (Rs mn)	Q2FY18	Q2FY17	YoY(%)	Q1FY18	QoQ(%)	Q2FY18E	Var(%)
Net sales	**4,619**	**3,196**	***44.5***	**3,510**	***31.6***	**4585**	***0.7***
Total RM consumed	1,310	1,345	*(2.7)*	1,240	*5.6*	1807	*(27.5)*
Employee costs	450	371	*21.3*	411	*9.4*	414	*8.7*
Other expenses	485	440	*10.1*	451	*7.5*	540	*(10.2)*
EBITDA	**1299**	**141**	***822.1***	**355**	***265.9***	**807**	***61.0***
EBITDA margin (%)	***28.1***	***4.5***		***10.1***		***17.6***	
Depreciation	120	97	*24.4*	120	*-0.3*	130	*(7.7)*
Other income	192	220	*(12.4)*	211	*-8.9*	200	*(3.8)*
PBT	**1356**	**246**	***451.6***	**436**	***210.7***	**867**	***56.5***
Tax	457	87	*428.3*	142	*221.8*	295	*55.1*
PAT	**899**	**159**	***464.2***	**294**	***205.4***	**572**	***57.2***

Source: Company, Centrum Research

Target Price	435
CMP*	Rs454
Downside	*4.2%*
Previous Target	*250*
Previous Rating	*Buy*

Key Data	
Bloomberg Code	*GRIL IN*
Curr Shares O/S (mn)	195.4
Diluted Shares O/S(mn)	195.4
Mkt Cap (Rsbn/USDbn)	88.7/1.4
52 Wk H / L (Rs)	492.8/70
5 Year H / L (Rs)	492.8/57
Daily Vol. (3M NSE Avg.)	3658356

Price Performance (%)*	**1M**	**6M**	**1Yr**
JSTL IN	*28.7*	*263.3*	*470.5*
NIFTY	*2.6*	*10.9*	*17.3*

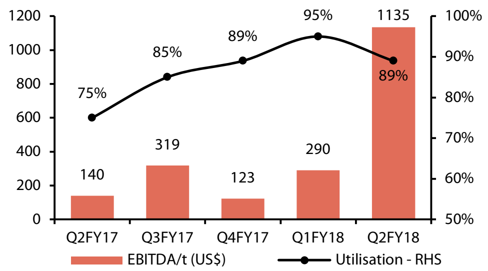
**as on 23 October 2017; Source: Bloomberg, Centrum Research*

Shareholding pattern *(%)**

	Sep-17	Jun-17	Mar-17	Dec-16
Promoter	*65.2*	*65.2*	*65.2*	*65.2*
FIIs	*4.7*	*10.3*	*12.6*	*12.5*
Dom. Inst.	*9.1*	*8.1*	*8.3*	*7.4*
Public & Others	*20.9*	*16.4*	*13.9*	*14.9*

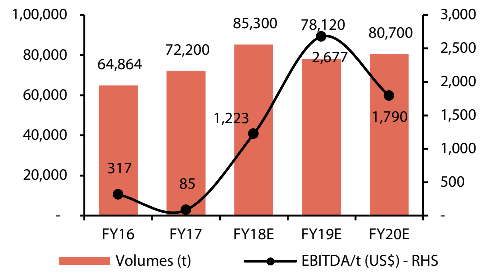
*Source: BSE, *as on 23 October 2017*

Utilization & Margin trend



Source: Company, Centrum Research Estimates

GIL Volumes and EBITDA/t (Cons)



Source: Company, Centrum Research Estimates

Earnings Revision

Particulars (Rs mn)	FY18E			FY19E		
	New	Old	Chg (%)	New	Old	Chg (%)
Sales	24,751	18,514	*33.7*	39,805	29,849	*33.4*
EBITDA	6,678	2,482	*169.0*	13,385	6,071	*120.5*
EBITDA Margin (%)	*27.0*	*13.4*		*33.6*	*20.3*	
PAT-adj.	4,455	1,689	*163.7*	8,971	4,080	*119.9*

Source: Centrum Research Estimates

Abhisar Jain, CFA, *abhisar.jain@centrum.co.in, 91 22 4215 9928*

Y/E Mar (Rs mn)	Revenue	YoY (%)	EBITDA	EBITDA (%)	Adj. PAT	YoY (%)	EPS (Rs)	RoE (%)	RoCE (%)	PE (x)	EV/EBITDA(x)
FY16	15,323	*(10.4)*	1,346	*8.8*	828	*31.1*	4.2	*4.6*	*4.1*	18.0	9.6
FY17	14,678	*(4.2)*	396	*2.7*	705	*(14.9)*	3.6	*3.9*	*3.6*	22.8	29.8
FY18E	24,751	*68.6*	6,678	*27.0*	4,455	*532.2*	22.8	*22.4*	*18.7*	19.9	12.5
FY19E	39,805	*60.8*	13,385	*33.6*	8,971	*101.4*	45.9	*36.8*	*30.0*	9.9	6.1
FY20E	33,665	(15.4)	9,243	27.5	6,490	(27.7)	36.4	21.7	28.8	13.7	8.2

Source: Company, Centrum Research Estimates

Strongest cycle of last 20 years in store but FY19E EBITDA/t expected to be an abnormal peak and sustainable levels would be lower

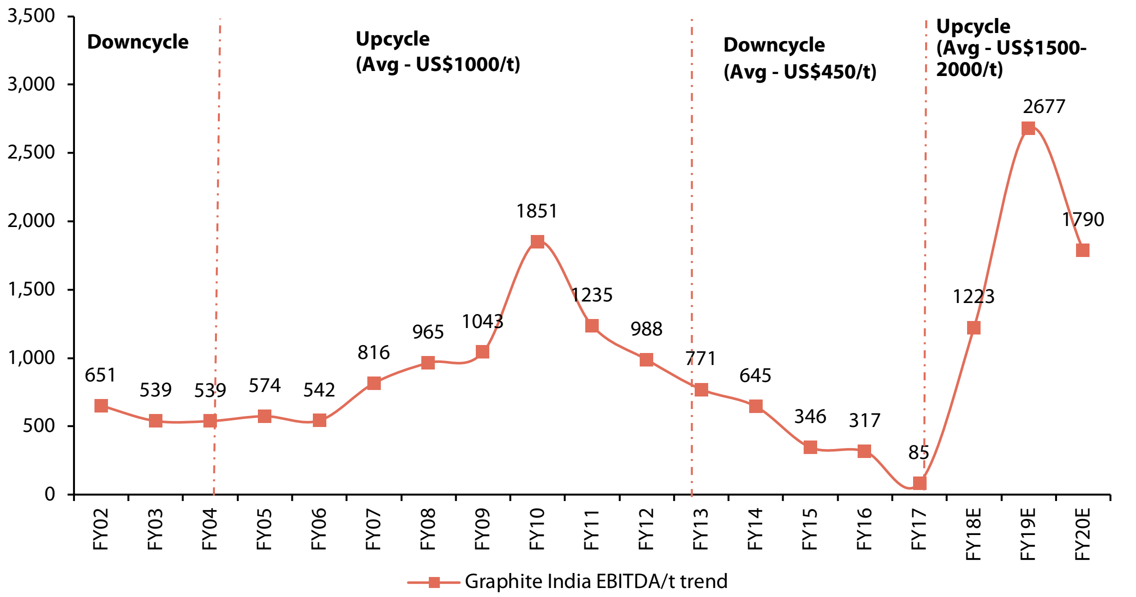
Highly favorable demand-supply balance and severe electrode shortage is leading to supernormal profitability in FY19E

As postulated by us in our IC report (link), the demand-supply scenario for Graphite electrode is expected to remain in favour of producers led by strong supply discipline (cutbacks & consolidation) and strong demand outlook led by EAF restarts in both China and Ex-China markets as Chinese steel and electrode exports get tapered down. While these trends continue to be long term triggers, the short term demand-supply has got further stretched due to lower needle coke supplies (diversion to Li-ion batteries, production outages and maintenance shutdowns) and high level of shutdowns in China due to environmental concerns. This has led to a situation where spot graphite electrode prices have gone up to ~US$30000/t (~15x from the lows of CY16) and FY19E contracts are also getting settled at a base price of US$7500-8000/t with an upside clause based on needle coke contract settlements later. This is expected to result in supernormal gross spreads and hence supernormal EBITDA/t for electrode producers in FY19E if the current trend sustains for next 6-12 months.

We firmly believe that upcycle would be a long one but profitability for producers would not be supernormal on a sustainable basis and would rationalise from FY20E

Based on our study of last 20 year cycles for the industry, we firmly believe that upcycle in the electrode industry would be a long one (at least 4-5 years long) but we are not confident of supernormal profitability levels (which would likely be achieved in FY19E) remaining sustainable throughout the upcycle. Our analysis (which is centred on careful prediction around how both demand & supply could adjust to new industry dynamics) suggests that profitability would start normalising from FY20E and would settle at more linear and much lower levels as compared to FY19E (though we are confident that even these levels would be significantly higher than the last upcyle average of ~US$1000/t). We expect GIL's consolidated EBITDA/t to be at US$1223/2677/1790 in FY18E/19E/20E.

Exhibit 1: GIL EBITDA/t trend (Cons – US$/t)



Source: Company, Centrum Research Estimates

Our study of last 20 year cycles throws the following inferences:-

- Cycles are generally long and last between 5-10 years. Previous upcycle lasted from FY04 to FY13
- Supplies once shut fully at a high cost location don't come back and instead are created at other low cost locations and hence take time to alter supply situation materially
- Needle coke supplies are harder to create and predict but coal based needle coke supplies have been gaining prominence off late

- Earnings are sustainable at higher levels (but not at supernormal levels which are expected for FY19E) in an upcycle
- Earnings trend in various cycles – In Upcycle of CY04-13, average EBITDA/t for GIL was ~US$1000/t with a peak of US$1850/t. In down cycles average EBITDA/t falls below US$500/t and this was the case in last two down cycles.

Factors which could support higher profitability in the ongoing upcycle

- Reduced Chinese supply of both steel & electrodes and higher scrap generation in China
- Limited needle coke availability restricting the eventual electrode supplies
- Higher gross spreads for the EAF industry based on favorable steel cycle and protectionist duties on finished steel in several economies

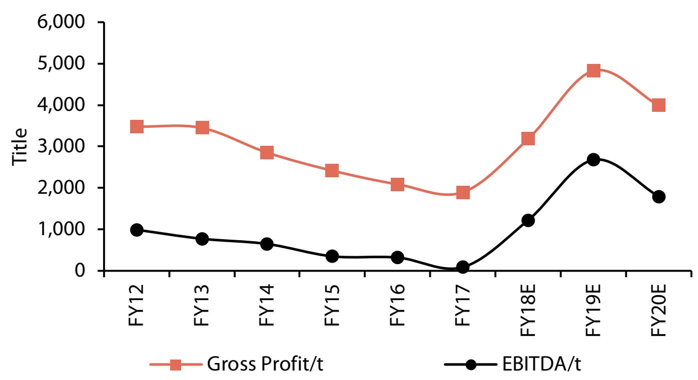
Factors which could limit profitability in the ongoing upcycle

- Higher negotiating power with needle coke suppliers due to stronger oligopoly
- Lower gross spreads for the EAF industry in case the steel cycle reverses and thereby limiting their ability to pay higher electrode prices
- Restart of Chinese electrode capacities

Sharp improvement in spreads, earnings remain highly sensitive to spreads

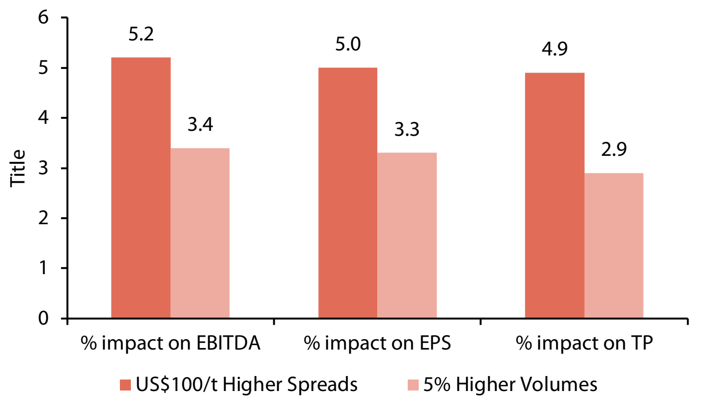
We expect sharp improvements in spreads to ~US$4800/t in FY19E before normalising at ~US$4000/t in FY20E. This is expected to be driven by new contracts which are expected to be executed with a pass through for needle coke price increases and hence ensures higher & sustainable spreads. We note that earnings remain highly sensitive to volumes and spreads and every US$100/t additional spreads results in ~5% increase in EBITDA/EPS/TP while every 5% increase in volumes lead to ~3% increase in EBITDA/EPS/TP.

Exhibit 2: Spreads and EBITDA/t to reach all time high levels in FY19E



Source: Company, Centrum Research Estimates

Exhibit 3: Earnings sensitivity to volumes & spreads remain high



Source: Centrum Research Estimates

Earnings revised higher materially to factor in higher contract prices and higher spreads

We revise our earnings estimates higher materially as we factor in the positive impact of sharp increase in realisations. For FY18E, realisations are expected to average ~US$4000/t as GIL has been able to renegotiate existing contracts at higher realisations and also benefitted by selling a portion of its volumes at various spot levels. For FY19E, GIL has started contracting volumes at a base price of US$7500-8000/t with an upside clause based on needle coke contract settlements later which is likely to ensure a very strong profitability on per tonne basis. We expect EBITDA of Rs6.7bn/Rs13.4bn and PAT of Rs4.4bn/Rs9bn in FY18E/19E.

Exhibit 4: Earnings Revision

	FY18E			FY19E		
	Revised	**Previous**	***% Chg***	**Revised**	**Previous**	***% Chg***
Net Sales (Rsmn)	24,751	18,514	*33.7*	39,805	29,849	*33.4*
EBITDA (Rsmn)	6,678	2,482	*169.0*	13,385	6,071	*120.5*
EBITDA %	*27.0*	*13.4*		*33.6*	*20.3*	
PAT (Rsmn)	4,455	1,689	*163.7*	8,971	4,080	*119.9*

Source: Company, Centrum Research Estimates

Valuation – Need for looking beyond FY19E's supernormal profitability, downgrade to Hold

The stock has seen a relentless up move and is up 230% since our **IC report titled "Electrifying growth ahead"** dated 20 June 2017. We believe that investors need to look beyond FY19E's supernormal profitability and factor in the valuations on more sustainable earnings which would emerge from FY20E. Since GIL's business is highly cyclical in nature and there have been several instances of significant renegotiation in contracts (both up and down), we believe that investors should look at average earnings and cash flows from a valuation perspective. We value GIL on our conservative AOCF/EV yield methodology using five year average adj. cash flows (FY16-20E) to arrive at our revised TP of Rs435. Downgrade to Hold. Key downside risk is margin pressure due to raw material volatility while upside risk is similar spreads in FY20E as that of FY19E leading to higher average earnings and cash flows.

Exhibit 5: Cash flow-based valuation

	Avg CF basis
5 Year avg. AOCF/EV Yield - % (FY13-17)	11.3
Implied EV/AOCF Multiple (x)	8.8
Ascribed AOCF/EV yield - % (50% premium)	5.7
Ascribed EV/AOCF Multiple (x)	17.7
Avg. AOCF (Rs mn) - FY16-20	4094
EV (Rs mn)	72279
Add: Net Cash (FY19E)	12981
Fair value mkt cap	85260
No. of shares (mn)	195.4
Fair Value/share (Rs)	**435**

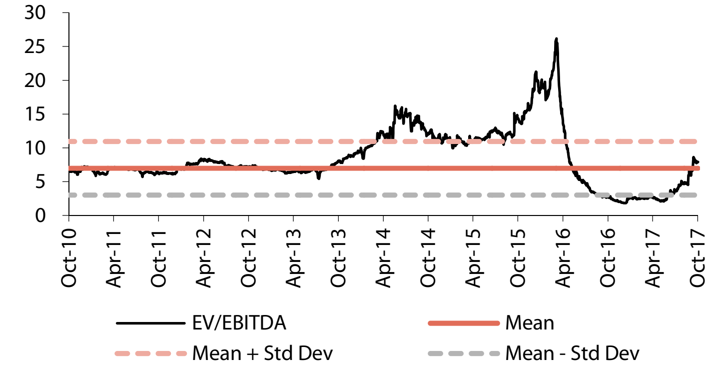
Source: Company, Centrum Research Estimates

Exhibit 6: Sensitivity Analysis (FY19E)

Sensitivity to key variables	% change	% impact on EBITDA	% impact on PAT
Electrode volume	1	1.1	1.3
Electrode Realization	1	3.4	3.7

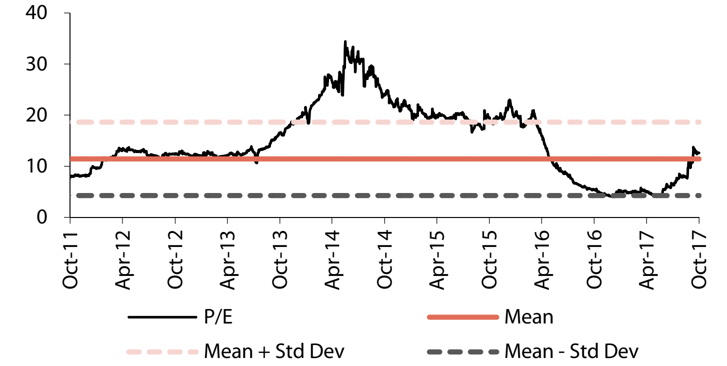
Source: Company, Centrum Research Estimates

Exhibit 7: 1 year forward EV/EBITDA chart



Source: Bloomberg, Company, Centrum Research Estimates

Exhibit 8: 1 year forward P/E chart



Source: Bloomberg, Company, Centrum Research Estimates

Exhibit 9: Valuation– Peer comparison

Company	Mkt. Cap	CAGR FY17-FY19E (%)			EBITDA Margin (%)			P/E (x)			EV/EBITDA (x)			RoE (%)			Div Yield (%)		
		Rev.	EBITDA	PAT	FY17	FY18E	FY19E	FY17	FY18E	FY19E	FY17	FY18E	FY19E	FY17	FY18E	FY19E	FY17	FY18E	FY19E
Domestic(Rs mn)																			
Graphite India	**88,720**	**64.7**	**481.7**	**256.8**	**2.7**	**27.0**	**33.6**	**22.8**	**19.9**	**9.9**	**29.8**	**12.5**	**6.1**	**3.9**	**22.4**	**36.8**	**2.4**	**1.8**	**2.5**
Vesuvius India#	26,386	14.8	15.6	20.2	18.3	18.3	18.5	20.5	24.6	20.8	10.8	13.6	11.4	16.7	17.9	18.3	0.7	0.8	1.0
IFGL Refractories	9,665	9.1	13.4	18.0	12.4	12.9	13.4	11.5	21.4	16.4	5.5	9.1	7.4	8.3	6.7	8.3	1.4	0.9	1.2
Orient Refractories	18,273	16.1	14.1	16.1	19.8	18.9	19.1	17.9	23.8	19.9	10.8	14.9	12.3	28.7	26.0	26.2	2.5	1.3	1.5
International#(US$ mn)																			
SGL Carbon SE	1,919	8.3	26.6		9.7	11.2	13.2	(33.1)	132.2	44.7	12.8	16.4	16.3	3.4	4.5	9.0	0.0	0.1	0.3
Tokai Carbon Co	2,152	19.3	52.5	40.0	16.3	24.9	26.7	7.0	12.2	11.5	4.6	7.0	6.0	9.2	16.3	16.3	3.7	2.2	2.5
Showa Denko KK	4,738	7.5	15.7	44.1	13.4	15.4	15.5	8.0	11.1	9.3	5.1	6.5	6.0	8.6	14.0	15.9	4.0	1.6	1.5
Nippon Carbon Co	495	24.8	57.2	78.0	12.7	19.1	20.2	21.8	15.7	14.3	8.0	7.7	7.8				2.2	1.0	1.0

Source: Bloomberg Estimates, Centrum Research Estimates, #FY17=CY16 for Vesuvius India and global cos

Quarterly financials, operating metrics and key performance indicators

Exhibit 10: Quarterly Financials

Particulars (Rs mn)	Q3FY16	Q4FY16	Q1FY17	Q2FY17	Q3FY17	Q4FY17	Q1FY18	Q2FY18
Net sales	**3,482**	**3,416**	**2,752**	**3,146**	**3,308**	**3,734**	**3,510**	**4,619**
Other Operating Income	84.5	76.7	0	50.6	67.7	0	0	0
Total Income	**3,566**	**3,493**	**2,752**	**3,196**	**3,376**	**3,734**	**3,510**	**4,619**
Accretion to Stocks in trade & work in progress	388.0	653.2	(73.3)	(4.9)	(79.9)	359.0	(42.3)	(160.3)
Cost of Raw Materials consumed	1,217	1,044	1,302	1,350	1,261	1,260	1,282	1,470
Consumption of Stores & Spares	274	245	212	300	320	352	344	346
Power & Fuel	474	406	526	599	625	633	709	729
Staff Cost	347	317	351	371	388	411	411	450
Other Operational expenses	439	507	329	440	499	573	451	485
Operating Profit (Core EBITDA)	**427**	**322**	**105**	**141**	**364**	**147**	**355**	**1,299**
Depreciation	111	110	97	97	96	126	120	120
EBIT	**315**	**212**	**8**	**44**	**268**	**20**	**235**	**1,179**
Interest	13	20	14	18	21	11	10	15
Other Revenue/Income	72	84	178	220	129	312	211	192
Profit Before Tax	**375**	**276**	**172**	**246**	**375**	**321**	**436**	**1,356**
Tax	145	90	38	87	142	(144)	142	457
Profit After Tax	**229**	**186**	**110**	**159**	**234**	**620**	**294**	**899**
Growth (%)								
Revenue	*12.1*	*(16.2)*	*(13.0)*	*0.8*	*(5.0)*	*9.3*	*27.6*	*46.8*
EBITDA	*2.2*	*(10.9)*	*(68.5)*	*(69.6)*	*(14.8)*	*(54.4)*	*237.9*	*822.1*
PAT	*12.5*	*31.0*	*(32.7)*	*(42.5)*	*1.9*	*233.0*	*168.0*	*464.2*
Margin (%)								
EBITDA	*12.0*	*9.2*	*3.8*	*4.4*	*10.8*	*3.9*	*10.1*	*28.1*
EBIT	*8.8*	*6.1*	*0.3*	*1.4*	*7.9*	*0.5*	*6.7*	*25.5*
PAT	*6.4*	*5.3*	*4.0*	*5.0*	*6.9*	*16.6*	*8.4*	*19.5*
Key Drivers								
Average Capacity Utilization (Electrodes - standalone) %	*76*	*70*	*68*	*75*	*85*	*89*	*95*	*89*
EBITDA/t (US$)	*426*	*340*	*116*	*140*	*319*	*123*	*290*	*1135*

Source: Company, Centrum Research

Exhibit 11: Key Assumptions

	FY16	FY17	FY18E	FY19E	FY20E
Electrode Volumes (tonne)					
India Operations	55,600	63,200	73,600	62,400	64,000
Germany Operations	9,264	9,000	11,700	12,600	13,500
Total	64,864	72,200	85,300	75,000	77,500
Electrode Realisations (US$/t)*	3,052	2,558	4,000	7,500	6,000
Needle Coke (US$/t)*	900	700	1,000	3,000	2,300
USD/INR	65.5	64.5	64.0	64.0	64.0

*Source: Company, Centrum Research Estimates; * Projected for FY15-17 as company doesn't report exact nos*

Financials

Exhibit 12: Income Statement

Y/E March (Rs mn)	FY16	FY17	FY18E	FY19E	FY20E
Revenues	**15,323**	**14,678**	**24,751**	**39,805**	**33,665**
Materials cost	6,461	5,851	7,368	15,667	13,074
% of revenues	*42.2*	*39.9*	*29.8*	*39.4*	*38.8*
Employee cost	2,012	2,225	2,687	2,707	3,076
% of revenues	*13.1*	*15.2*	*10.9*	*6.8*	*9.1*
Others	5,504	6,206	8,018	8,046	8,272
% of revenues	*35.9*	*42.3*	*32.4*	*20.2*	*24.6*
EBITDA	**1,346**	**396**	**6,678**	**13,385**	**9,243**
EBITDA margin (%)	*8.8*	*2.7*	*27.0*	*33.6*	*27.5*
Depreciation & Amortisation	492	464	570	594	625
EBIT	**854**	**-68**	**6,107**	**12,791**	**8,617**
Interest expenses	95	79	84	64	44
PBT from operations	**759**	**-147**	**6,024**	**12,727**	**8,574**
Other income	494	865	625	663	1,113
Exceptional items	0	0	0	0	0
PBT	**1,254**	**718**	**6,649**	**13,390**	**9,686**
Taxes	426	13	2,194	4,419	3,196
Effective tax rate (%)	*33.9*	*1.8*	*33.0*	*33.0*	*33.0*
Reported PAT	**828**	**705**	**4,455**	**8,971**	**6,490**
Adjusted PAT	**828**	**705**	**4,455**	**8,971**	**6,490**

Source: Company, Centrum Research Estimates

Exhibit 13: Key Ratios

Y/E March	FY16	FY17	FY18E	FY19E	FY20E
Growth Ratio (%)					
Revenue	*(10.4)*	*(4.2)*	*68.6*	*60.8*	*(15.4)*
EBITDA	*(1.6)*	*(70.6)*	*1,588.4*	*100.4*	*(30.9)*
Adjusted PAT	*31.1*	*(14.9)*	*532.2*	*101.4*	*(27.7)*
Margin Ratios (%)					
EBITDA	*8.8*	*2.7*	*27.0*	*33.6*	*27.5*
PBT from operations	*5.0*	*(1.0)*	*24.3*	*32.0*	*25.5*
Adjusted PAT	*5.4*	*4.8*	*18.0*	*22.5*	*19.3*
Return Ratios (%)					
ROE	4.6	3.9	22.4	36.8	21.7
ROCE	*4.1*	*3.6*	*18.7*	*30.0*	*19.1*
ROIC	*3.4*	*-0.4*	*24.0*	*39.2*	*28.8*
Turnover Ratios (days)					
Gross block turnover ratio (x)	1.1	1.0	1.6	2.4	1.9
Debtors	113	110	80	75	75
Inventory	178	150	110	105	105
Creditors	41	54	45	45	45
Cash conversion cycle	250	205	145	135	135
Solvency Ratio (x)					
Net debt-equity	(0.1)	(0.2)	(0.2)	(0.2)	(0.4)
Debt-equity	0.2	0.1	0.1	0.1	0.0
Interest coverage ratio	0.1	(1.2)	0.0	0.0	0.0
Gross debt/EBITDA	2.2	6.6	0.3	0.1	0.1
Current Ratio	2.8	2.9	2.9	3.0	4.0
Per share Ratios (Rs)					
Adjusted EPS	4.2	3.6	22.8	45.9	33.2
BVPS	91.5	95.1	108.6	141.1	164.7
CEPS	6.8	6.0	25.7	49.0	36.4
DPS	3.9	2.0	8.0	11.5	8.3
Dividend payout %	*112.4%*	*64.5%*	*40.7%*	*29.1%*	*29.1%*
Valuation (x)* Avg MCap					
P/E (adjusted)	18.0	22.8	19.9	9.9	13.7
P/BV	0.8	0.9	4.2	3.2	2.8
EV/EBITDA	9.6	29.8	12.5	6.1	8.2
Dividend yield %	*5.2*	*2.4*	*1.8*	*2.5*	*1.8*
5 Yr Avg AOCF/EV yield %	*14.4*	*20.6*	*3.6*	*3.4*	*5.4*

*Source: Company, Centrum Research Estimates, *Avg. mcap basis*

Exhibit 14: Balance Sheet

Y/E March (Rs mn)	FY16	FY17	FY18E	FY19E	FY20E
Equity Share Capital	391	391	391	391	391
Reserves & surplus	17,489	18,185	20,826	27,189	31,792
Shareholders' fund	17,880	18,576	21,217	27,580	32,183
Total Debt	3,023	2,592	2,092	1,592	1,092
Def tax liab. (net)	863	821	850	850	850
Total Liabilities	**21,766**	**21,989**	**24,159**	**30,022**	**34,125**
Gross Block	14,165	15,394	16,294	16,969	17,869
Less: Acc. Depreciation	8,253	8,717	9,287	9,881	10,506
Net Block	5,912	6,677	7,007	7,088	7,363
Capital WIP	655	321	421	496	596
Net Fixed Assets	6,567	6,998	7,428	7,584	7,958
Investments	4,751	6,310	6,310	6,310	6,310
Inventories	7,485	6,021	7,459	11,451	9,684
Sundry debtors	4,742	4,415	5,425	8,179	6,917
Cash	211	515	825	1,848	7,763
Loans & Advances	357	116	678	1,091	922
Other assets	957	1,034	1,152	1,770	1,518
Total Current Asset	13,752	12,101	15,539	24,339	26,806
Trade payables	1,724	2,184	3,051	4,908	4,150
Other current Liab.	1,378	984	1,695	2,727	2,306
Provisions	201	249	368	574	490
Net Current Assets	10,448	8,684	10,424	16,131	19,859
Total Assets	**21,766**	**21,989**	**24,159**	**30,022**	**34,125**

Source: Company, Centrum Research Estimates

Exhibit 15: Cash Flow

Y/E March (Rs mn)	FY16	FY17	FY18E	FY19E	FY20E
Operating profit before WC	1,706	363	6,678	13,385	9,243
Changes in working capital	1,626	2,070	(1,402)	(4,684)	2,187
Cash flow from operations	**2,817**	**2,420**	**3,082**	**4,283**	**8,233**
Adj. OCF (OCF - Interest)	2,722	2,341	2,998	4,219	8,190
Net Capex	550	895	1,000	750	1,000
Adj. FCF	2,171	1,446	1,998	3,469	7,190
Cash flow from investments	**(871)**	**(1,184)**	**(375)**	**(88)**	**113**
Cash flow from financing	**(1,911)**	**(964)**	**(2,397)**	**(3,172)**	**(2,431)**
Net change in cash	**35**	**271**	**310**	**1,023**	**5,915**

Source: Company, Centrum Research Estimates

Appendix A

Disclaimer

Centrum Broking Limited ("Centrum") is a full-service, Stock Broking Company and a member of The Stock Exchange, Mumbai (BSE) and National Stock Exchange of India Ltd. (NSE). Our holding company, Centrum Capital Ltd, is an investment banker and an underwriter of securities. As a group Centrum has Investment Banking, Advisory and other business relationships with a significant percentage of the companies covered by our Research Group. Our research professionals provide important inputs into the Group's Investment Banking and other business selection processes.

Recipients of this report should assume that our Group is seeking or may seek or will seek Investment Banking, advisory, project finance or other businesses and may receive commission, brokerage, fees or other compensation from the company or companies that are the subject of this material/report. Our Company and Group companies and their officers, directors and employees, including the analysts and others involved in the preparation or issuance of this material and their dependants, may on the date of this report or from, time to time have "long" or "short" positions in, act as principal in, and buy or sell the securities or derivatives thereof of companies mentioned herein. Centrum or its affiliates do not own 1% or more in the equity of this company Our sales people, dealers, traders and other professionals may provide oral or written market commentary or trading strategies to our clients that reflect opinions that are contrary to the opinions expressed herein, and our proprietary trading and investing businesses may make investment decisions that are inconsistent with the recommendations expressed herein. We may have earlier issued or may issue in future reports on the companies covered herein with recommendations/ information inconsistent or different those made in this report. In reviewing this document, you should be aware that any or all of the foregoing, among other things, may give rise to or potential conflicts of interest. We and our Group may rely on information barriers, such as "Chinese Walls" to control the flow of information contained in one or more areas within us, or other areas, units, groups or affiliates of Centrum. Centrum or its affiliates do not make a market in the security of the company for which this report or any report was written. Further, Centrum or its affiliates did not make a market in the subject company's securities at the time that the research report was published.

This report is for information purposes only and this document/material should not be construed as an offer to sell or the solicitation of an offer to buy, purchase or subscribe to any securities, and neither this document nor anything contained herein shall form the basis of or be relied upon in connection with any contract or commitment whatsoever. This document does not solicit any action based on the material contained herein. It is for the general information of the clients of Centrum. Though disseminated to clients simultaneously, not all clients may receive this report at the same time. Centrum will not treat recipients as clients by virtue of their receiving this report. It does not constitute a personal recommendation or take into account the particular investment objectives, financial situations, or needs of individual clients. Similarly, this document does not have regard to the specific investment objectives, financial situation/circumstances and the particular needs of any specific person who may receive this document. The securities discussed in this report may not be suitable for all investors. The securities described herein may not be eligible for sale in all jurisdictions or to all categories of investors. The countries in which the companies mentioned in this report are organized may have restrictions on investments, voting rights or dealings in securities by nationals of other countries. The appropriateness of a particular investment or strategy will depend on an investor's individual circumstances and objectives. Persons who may receive this document should consider and independently evaluate whether it is suitable for his/ her/their particular circumstances and, if necessary, seek professional/financial advice. Any such person shall be responsible for conducting his/her/their own investigation and analysis of the information contained or referred to in this document and of evaluating the merits and risks involved in the securities forming the subject matter of this document.

The projections and forecasts described in this report were based upon a number of estimates and assumptions and are inherently subject to significant uncertainties and contingencies. Projections and forecasts are necessarily speculative in nature, and it can be expected that one or more of the estimates on which the projections and forecasts were based will not materialize or will vary significantly from actual results, and such variances will likely increase over time. All projections and forecasts described in this report have been prepared solely by the authors of this report independently of the Company. These projections and forecasts were not prepared with a view toward compliance with published guidelines or generally accepted accounting principles. No independent accountants have expressed an opinion or any other form of assurance on these projections or forecasts. You should not regard the inclusion of the projections and forecasts described herein as a representation or warranty by or on behalf of the Company, Centrum, the authors of this report or any other person that these projections or forecasts or their underlying assumptions will be achieved. For these reasons, you should only consider the projections and forecasts described in this report after carefully evaluating all of the information in this report, including the assumptions underlying such projections and forecasts.

The price and value of the investments referred to in this document/material and the income from them may go down as well as up, and investors may realize losses on any investments. Past performance is not a guide for future performance. Future returns are not guaranteed and a loss of original capital may occur. Actual results may differ materially from those set forth in projections. Forward-looking statements are not predictions and may be subject to change without notice. Centrum does not provide tax advice to its clients, and all investors are strongly advised to consult regarding any potential investment. Centrum and its affiliates accept no liabilities for any loss or damage of any kind arising out of the use of this report. Foreign currencies denominated securities are subject to fluctuations in exchange rates that could have an adverse effect on the value or price of or income derived from the investment. In addition, investors in securities such as ADRs, the value of which are influenced by foreign currencies effectively assume currency risk. Certain transactions including those involving futures, options, and other derivatives as well as non-investment-grade securities give rise to substantial risk and are not suitable for all investors. Please ensure that you have read and understood the current risk disclosure documents before entering into any derivative transactions.

This report/document has been prepared by Centrum, based upon information available to the public and sources, believed to be reliable. No representation or warranty, express or implied is made that it is accurate or complete. Centrum has reviewed the report and, in so far as it includes current or historical information, it is believed to be reliable, although its accuracy and completeness cannot be guaranteed. The opinions expressed in this document/material are subject to change without notice and have no obligation to tell you when opinions or information in this report change.

This report or recommendations or information contained herein do/does not constitute or purport to constitute investment advice in publicly accessible media and should not be reproduced, transmitted or published by the recipient. The report is for the use and consumption of the recipient only. This publication may not be distributed to the public used by the public media without the express written consent of Centrum. This report or any portion hereof may not be printed, sold or distributed without the written consent of Centrum.

The distribution of this document in other jurisdictions may be restricted by law, and persons into whose possession this document comes should inform themselves about, and observe, any such restrictions. Neither Centrum nor its directors, employees, agents or representatives shall be liable for any damages whether direct or indirect, incidental, special or consequential including lost revenue or lost profits that may arise from or in connection with the use of the information.

This document does not constitute an offer or invitation to subscribe for or purchase or deal in any securities and neither this document nor anything contained herein shall form the basis of any contract or commitment whatsoever. This document is strictly confidential and is being furnished to you solely for your information, may not be distributed to the press or other media and may not be reproduced or redistributed to any other person. The distribution of this report in other jurisdictions may be restricted by law and persons into whose possession this report comes should inform themselves about, and observe any such restrictions. By accepting this report, you agree to be bound by the fore going limitations. No representation is made that this report is accurate or complete.

The opinions and projections expressed herein are entirely those of the author and are given as part of the normal research activity of Centrum Broking and are given as of this date and are subject to change without notice. Any opinion estimate or projection herein constitutes a view as of the date of this report and there can be no assurance that future results or events will be consistent with any such opinions, estimate or projection.

This document has not been prepared by or in conjunction with or on behalf of or at the instigation of, or by arrangement with the company or any of its directors or any other person. Information in this document must not be relied upon as having been authorized or approved by the company or its directors or any other person. Any opinions and projections contained herein are entirely those of the authors. None of the company or its directors or any other person accepts any liability whatsoever for any loss arising from any use of this document or its contents or otherwise arising in connection therewith.

Centrum and its affiliates have not managed or co-managed a public offering for the subject company in the preceding twelve months. Centrum and affiliates have not received compensation from the companies mentioned in the report during the period preceding twelve months from the date of this report for service in respect of public offerings, corporate finance, debt restructuring, investment banking or other advisory services in a merger/acquisition or some other sort of specific transaction.

As per the declarations given by them, Mr. Abhisar Jain research, analyst and and/or any of his family members do not serve as an officer, director or any way connected to the company/companies mentioned in this report. Further, as declared by him, he has not received any compensation from the above companies in the preceding twelve months. He does not hold any shares by him or through his relatives or in case if holds the shares then will not to do any transactions in the said scrip for 30 days from the date of release such report. Our entire research professionals are our employees and are paid a salary. They do not have any other material conflict of interest of the research analyst or member of which the research analyst knows of has reason to know at the time of publication of the research report or at the time of the public appearance.

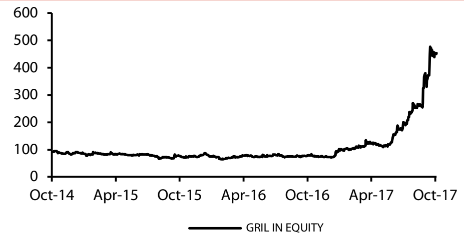
While we would endeavour to update the information herein on a reasonable basis, Centrum, its associated companies, their directors and employees are under no obligation to update or keep the information current. Also, there may be regulatory, compliance or other reasons that may prevent Centrum from doing so.

Non-rated securities indicate that rating on a particular security has been suspended temporarily and such suspension is in compliance with applicable regulations and/or Centrum policies, in circumstances where Centrum is acting in an advisory capacity to this company, or any certain other circumstances.

This report is not directed to, or intended for distribution to or use by, any person or entity who is a citizen or resident of or located in any locality, state, country or other jurisdiction where such distribution, publication, availability or use would be contrary to law or regulation or which would subject Centrum Broking Limited or its group companies to any registration or licensing requirement within such jurisdiction. Specifically, this document does not constitute an offer to or solicitation to any U.S. person for the purchase or sale of any financial instrument or as an official confirmation of any transaction to any U.S. person unless otherwise stated, this message should not be construed as official confirmation of any transaction. No part of this document may be distributed in Canada or used by private customers in United Kingdom.

The information contained herein is not intended for publication or distribution or circulation in any manner whatsoever and any unauthorized reading, dissemination, distribution or copying of this communication is prohibited unless otherwise expressly authorized. Please ensure that you have read "Risk Disclosure Document for Capital Market and Derivatives Segments" as prescribed by Securities and Exchange Board of India before investing in Indian Securities Market.

Graphite India price chart



Source: Bloomberg, Centrum Research

Disclosure of Interest Statement		
1	Business activities of Centrum Broking Limited (CBL)	Centrum Broking Limited (hereinafter referred to as "CBL") is a registered member of NSE (Cash, F&O and Currency Derivatives Segments), MCX-SX (Currency Derivatives Segment) and BSE (Cash segment), Depository Participant of CDSL and a SEBI registered Portfolio Manager.
2	Details of Disciplinary History of CBL	CBL has not been debarred/ suspended by SEBI or any other regulatory authority from accessing /dealing in securities market.
3	Registration status of CBL:	CBL is in the process of preparing application for submission to SEBI

		Graphite India	Vesuvius India	IFGL Refractories	Orient Refractories
4	Whether Research analyst's or relatives' have any financial interest in the subject company and nature of such financial interest	No	No	No	No
5	Whether Research analyst or relatives have actual / beneficial ownership of 1% or more in securities of the subject company at the end of the month immediately preceding the date of publication of the document.	No	No	No	No
6	Whether the research analyst or his relatives has any other material conflict of interest	No	No	No	No
7	Whether research analyst has received any compensation from the subject company in the past 12 months and nature of products / services for which such compensation is received	No	No	No	No
8	Whether the Research Analyst has received any compensation or any other benefits from the subject company or third party in connection with the research report	No	No	No	No
9	Whether Research Analysts has served as an officer, director or employee of the subject company	No	No	No	No
10	Whether the Research Analyst has been engaged in market making activity of the subject company.	No	No	No	No

Rating Criteria

Rating	Market cap < Rs20bn	Market cap > Rs20bn but < 100bn	Market cap > Rs100bn
Buy	Upside > 20%	Upside > 15%	Upside > 10%
Hold	Upside between -20% to +20%	Upside between -15% to +15%	Upside between -10% to +10%
Sell	Downside > 20%	Downside > 15%	Downside > 10%

Member (NSE and BSE)

Regn No.:
CAPITAL MARKET SEBI REGN. NO.: BSE: INB011454239
CAPITAL MARKET SEBI REGN. NO.: NSE: INB231454233
DERIVATIVES SEBI REGN. NO.: NSE: INF231454233
(TRADING & CLEARING MEMBER)
CURRENCY DERIVATIVES: MCX-SX INE261454230
CURRENCY DERIVATIVES:NSE (TM & SCM) – NSE 231454233

Depository Participant (DP)
CDSL DP ID: 120 – 12200
SEBI REGD NO. : CDSL : IN-DP-CDSL-661-2012

PORTFOLIO MANAGER

SEBI REGN NO.: INP000004383

Website: www.centrum.co.in
Investor Grievance Email ID: investor.grievances@centrum.co.in

Compliance Officer Details:
Kavita Ravichandran
(022) 4215 9842; Email ID: Compliance@centrum.co.in

Centrum Broking Ltd. (CIN :U67120MH1994PLC078125)

Registered Office Address	Corporate Office & Correspondence Address
Bombay Mutual Building , 2nd Floor, Dr. D. N. Road, Fort, Mumbai - 400 001	Centrum House 6th Floor, CST Road, Near Vidya Nagari Marg, Kalina, Santacruz (E), Mumbai 400 098. Tel: (022) 4215 9000