VESUVIUS PLC

26 July 2018

Half Year Results for the six months ended 30 June 2018

Record first half performance across all Regions and Business Units

Vesuvius plc, a global leader in molten metal flow engineering, announces its unaudited results for the six months ended 30 June 2018.

Financial summary

	H1 2018 (£m)	H1 2017 (£m)	Year-on-year change	Underlying change[1]
Revenue	897.0	831.5	+7.9%	+12.1%
Trading Profit[2]	99.6	86.3	+15.4%	+20.3%
Return on Sales[2]	*11.1%*	*10.4%*	*+70bps*	*+80bps*
Operating Profit	90.0	67.7	+32.9%	
Headline Profit Before Tax[2]	97.4	79.4	+22.7%	
Profit Before Tax	87.8	60.8	+44.4%	
Profit	70.0	46.4	+50.9%	
Headline Earnings[2]	68.7	53.3	+28.9%	
Headline EPS[2] (pence)	25.4	19.7	+28.9%	
Statutory EPS (pence)	24.4	15.7	+55.4%	
Operating cash flow[2]	76.7	67.4	+13.8%	
Net Debt	281.8	321.8	-12.4%	
Dividend (pence)	6.00	5.50	+9.1%	

[1] Underlying basis is at constant currency and excludes separately reported items and the impact of acquisitions
[2] For definitions of non-GAAP measures, refer to Note 16 in the condensed financial statements

Key Points

- Record H1 trading profit at £99.6m (+20.3% on an underlying basis)
- Improved return on sales at 11.1% (+80bps on an underlying basis)
- Key steel and foundry end markets favourable in H1 2018 and remain positively oriented
- Raw material cost inflation successfully addressed through sales price increases
- Elimination of Flow Control intercompany supply headwind
- Implementation of previously announced restructuring programmes on track
- Increase in targeted annual savings from the new restructuring programme announced in March, from £15m p.a. to £22m p.a.
- Working capital to revenue ratio at 24.1% versus 26.2% at the end of H1 2017
- Net Debt / LTM EBITDA at 1.3x versus 1.6x at the end of H1 2017
- Interim dividend increased by 9.1% to 6.00 pence per share

Patrick André, Chief Executive of Vesuvius, commented:

"We had a strong H1 2018, delivering our best half year revenue, trading profit and return on sales since we became an independent company in 2012. We continued to outperform underlying markets thanks to the growth in demand for our value-creating solutions, supported by our increasing investment in R&D. We are cautiously optimistic regarding H2 2018 performance as the environment in our key end markets remains positive. This strength in underlying markets and our continuing implementation of self-help measures underpins our confidence that our full year trading profit (EBITA) will be marginally above the current consensus market expectation of c.£189m[1]. Looking beyond 2018, we believe in our ability to deliver further organic improvement in our profit margins as we implement our strategy and deliver on our restructuring programmes."

(1) Compiled from analyst notes for Trading Profit (EBITA) before separately reported items, as at 25 July 2018.

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Vesuvius management will make a presentation to analysts and investors on 26 July 2018 at 9.15 (GMT) in the Old School Building of J.P. Morgan, 60 Embankment, London EC4Y 0JP. For those unable to attend in person, an audio webcast and conference call will also be available (UK participant dial in +44(0)33 0336 9411; US participant dial in +1 929 477 0324; confirmation code 9065033). This presentation will be broadcast live on Vesuvius' website, http://investors.vesuvius.com/investor-relations and an archive version of the presentation will be available on the website later that day.

About Vesuvius plc

Vesuvius is a global leader in molten metal flow engineering principally serving the steel and foundry industries.

We develop innovative and customised solutions, often used in extremely demanding industrial environments, which enable our customers to improve their manufacturing processes, enhance product quality and reduce costs. These include flow control solutions, advanced refractories and other consumable products and increasingly, related technical services including data capture.

We have a worldwide presence. We serve our customers through a network of low-cost manufacturing plants located close to their own facilities, and embed our industry experts within their operations, who are all supported by our global technology centres.

Our core competitive strengths are our market and technology leadership, strong customer relationships, well established presence in developing markets and our global reach, all of which facilitate the expansion of our addressable markets.

Our ultimate goal is to create value for our customers, and to deliver sustainable, profitable growth for our shareholders giving a superior return on their investment whilst providing each of our employees with a safe workplace where he or she is recognised, developed and properly rewarded.

Forward looking statements

This announcement contains certain forward looking statements which may include reference to one or more of the following: the Group's financial condition, results of operations, cash flows, dividends, financing plans, business strategies, operating efficiencies or synergies, budgets, capital and other expenditures, competitive positions, growth opportunities for existing products, plans and objectives of management and other matters.

Statements in this announcement that are not historical facts are hereby identified as "forward looking statements". Such forward looking statements, including, without limitation, those relating to the future business prospects, revenue, working capital, liquidity, capital needs, interest costs and income, in each case relating to Vesuvius, wherever they occur in this announcement, are necessarily based on assumptions reflecting the views of Vesuvius and involve a number of known and unknown risks, uncertainties and other factors that could cause actual results, performance or achievements to differ materially from those expressed or implied by the forward looking statements. Such forward looking statements should, therefore, be considered in light of various important factors that could cause actual results to differ materially from estimates or projections contained in the forward looking statements. These include without limitation: economic and business cycles; the terms and conditions of Vesuvius' financing arrangements; foreign currency rate fluctuations; competition in Vesuvius' principal markets; acquisitions or disposals of businesses or assets; and trends in Vesuvius' principal industries.

The foregoing list of important factors is not exhaustive. When considering forward looking statements, careful consideration should be given to the foregoing factors and other uncertainties and events, as well as factors described in documents the Company files with the UK regulator from time to time including its annual reports and accounts.

You should not place undue reliance on such forward looking statements which speak only as of the date on which they are made. Except as required by the Rules of the UK Listing Authority and the London Stock Exchange and applicable law, Vesuvius undertakes no obligation to update publicly or revise any forward looking statements, whether as a result of new information, future events or otherwise. In light of these risks, uncertainties and assumptions, the forward looking events discussed in this announcement might not occur.

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Vesuvius plc

Half Year Results for the six months ended 30 June 2018

Vesuvius continued to make further strategic and operational progress in the first half of 2018 in line with our objectives. We benefited in the first five months of the year from 4.3% growth in global steel production (as reported by the World Steel Association – June figures not available at time of publishing). We also experienced positive momentum in the majority of Foundry end markets, with continued improvements in heavy trucks, mining equipment, construction and agricultural equipment.

We continued to deliver attractive top-line growth in our key developing markets of China, India, South America, Mexico and EEMEA (Eastern Europe, Middle-East and Africa), supported by increased customer interest in our value-creating solutions. Even in the relatively mature regions of Europe and the US, we delivered strong top-line growth. This performance was supported by increased sales penetration, new product launches, increased focus on strategic customers and selling price increases.

£m	H1 2018 Reported	Acquisitions /Disposals	H1 2018 Underlying	H1 2017 Reported	Currency	Acquisitions/ Disposals	H1 2017 Underlying	Reported % change	Underlying % change
Revenue	**897.0**	-	**897.0**	831.5	31.6	-	799.9	+7.9%	+12.1%
Trading Profit	**99.6**	-	**99.6**	86.3	3.5	-	82.8	+15.4%	+20.3%
Return on Sales %	**11.1%**	-	**11.1%**	10.4%	-	-	10.3%	+70bps	+80bps

Group trading performance

Group revenue was £897m, an increase of 7.9% versus H1 2017 on a reported basis. Underlying Group revenue, adjusted for the effects of currency translation, increased by 12.1% (volume 5.9%, price 6.2%). Trading profit for the half year was £99.6m (H1 2017: £86.3m), up 15.4% on a reported basis and up 20.3% on an underlying basis. Return on sales increased by 70 basis points on a reported basis and 80 basis points on an underlying basis to 11.1% in H1 2018 (H1 2017: 10.3% underlying).

Foreign exchange

The net impact of average H1 2018 exchange rates compared to H1 2017 averages has been a H1 2018 headwind of approximately £3.5m, the main driver being a 9.5% strengthening in Sterling against the US Dollar as well as appreciation against emerging markets currencies (Brazil, Mexico, Argentina, South Africa). All things being equal, if month end June 2018 rates were to persist for the remainder of the year, we expect that this would reduce our otherwise expected full year 2018 Trading Profit by approximately 3%. This expectation is reflected in the trading profit (EBITA) guidance in our outlook statement.

Restructuring

The implementation of our two restructuring programmes is on-track and progressing well, with savings of £6.2m delivered in H1 2018, made up of £1.7m from our new programme first announced in March 2018 and £4.5m from our original restructuring programme which was launched in 2015. Three European plant closures were announced in July 2018 as part of the new restructuring programme.

We announce today an expansion of the new restructuring programme, to deliver further operational and cost efficiencies in Advanced Refractories NAFTA, Flow Control NAFTA, and Foundry Europe. The targeted annual savings of our new programme are being increased from £15m p.a. (2018-2020) to £22m p.a.. This £7m annual increase, which will be delivered in 2020-2021, will have a one-off cash cost of £3.3m and £10m in capital expenditure will also be necessary to support its implementation. The total cash costs of this new restructuring programme are now £19.3m, of which £4.8m has already been incurred, with associated capex of £15m.

From our original restructuring programme (2015-2020), we have now delivered £47.7m of savings from the total target of £60m. All costs related to this restructuring programme had already been incurred by year-end 2017.

In parallel to these restructuring programmes, Vesuvius is reinforcing its focus on operational excellence and continuous improvement across its manufacturing operations.

Working Capital

We made significant progress in our efforts to reduce working capital, with a Working Capital/Revenues ratio of 24.1% at the end of June 2018, versus 26.2% in June 2017 and 24.9% at year-end 2017. Trade working capital increased by £49.6m on a constant

currency basis in H1 2018 due to increased revenues and summer inventory build-up. Looking at the key components of trade working capital, debtor and creditor days were major areas of success, falling 6% and increasing 12% year-on-year, respectively.

Financial position

Our Net Debt / LTM EBITDA ratio was 1.3x at 30 June 2018 versus 1.6x at the end of H1 2017. However, Net Debt at 30 June 2018 was up slightly at £281.8m, versus £274.3m at year-end 2017 as Free Cash Flow of £42.1m was offset by items including a £33.8m final dividend payment for 2017 and the £8.3m purchase of shares by the Employee Share Ownership Plan Trust to satisfy the future vesting of long-term incentives.

The weighted average maturity of Vesuvius' committed debt facilities now stands at approximately five years.

Quality, health and safety

Vesuvius places great emphasis on the importance of quality, health and safety in the workplace and in the communities in which we operate. Reliability in quality and delivery is vital to our customers as they use Vesuvius' products in critical areas of their own processes. The level of risk attached to a catastrophic failure is often such that, for people and equipment, no compromise can be accepted. Our Lost Time Injury Frequency Rate has declined from 1.8 LTIs per million hours worked in H1 2017 to 1.6 LTIs in H1 2018, and we have seen a marked reduction of our LTI Severity rate from 70 to 63 Lost Days per million hours worked.

Interim dividend

The Board has declared an interim dividend of 6.00 pence per share (2017: 5.50 pence per share) which represents an increase of 9.1%. The interim dividend will be paid on 21 September 2018 to shareholders on the register at the close of business on 10 August 2018. Any shareholder wishing to participate in the Vesuvius Dividend Reinvestment Plan needs to have submitted their election to do so by 31 August 2018.

Outlook

We are cautiously optimistic regarding H2 2018 performance as the environment in our key end markets remains positive. This strength in underlying markets and our continuing implementation of self-help measures underpins our confidence that our full year trading profit (EBITA) will be marginally above the current consensus market expectation of c.£189m(1). Looking beyond 2018, we believe in our ability to deliver further organic improvement in our profit margins as we implement our strategy and deliver on our restructuring programmes.

(1) Compiled from analyst notes for Trading Profit (EBITA) before separately reported items, as at 25 July 2018.

Operational Review

Vesuvius comprises two Divisions, Steel and Foundry. The Steel Division operates as three business lines, Steel Flow Control, Advanced Refractories and Digital Services.

Steel Division

According to the World Steel Association, global steel production in the first five months of 2018 increased 4.3% compared with the first five months of 2017 (June figures not available at time of publishing). Production in the majority of major steel producing countries was up year-on-year. Steel volume growth in the developed markets of Europe (EU28) and the United States was 1.8% and 2.8%, respectively. The growth momentum also continued in our key strategic markets of China (+5.4%), India (+4.7%), Brazil (+1.4%) and Mexico (+4.8%).

Revenue in Vesuvius' Steel Division increased by 8.6% on a reported basis. On an underlying basis, Steel Division revenue was up 13.1%. This higher growth rate relative to global steel production is a result of two factors: (1) higher penetration of Vesuvius products from increased customer interest in our value-creating solutions, which enable our customers to improve their manufacturing efficiency whilst at the same time raising the quality of their finished products; and (2) selling price increases to offset raw material and other cost inflation. We were particularly pleased with our continued momentum in China where we benefited from the trend towards higher quality steel requiring Vesuvius' higher quality products.

On a reported basis, our trading profit improved 21.7% year-on-year. On an underlying basis, trading profit increased 26.5%, with return on sales increasing by 110bps.

Steel Division	H1 2018 (£m)	H1 2017 (£m)	Change (%)	Underlying change (%)
Steel Flow Control Revenue	326.8	305.3	+7.1%	+11.4%
Advanced Refractories Revenue	266.9	241.3	+10.6%	+15.1%
Digital Services Revenue	17.2	16.1	+6.8%	+15.0%
Total Steel Revenue	**610.9**	**562.7**	**+8.6%**	**+13.1%**
Total Steel Trading Profit	**63.0**	**51.7**	**+21.7%**	**+26.5%**
Total Steel Return on Sales	***10.3%***	***9.2%***	***+110bps***	***+110bps***

Steel Flow Control

Steel Flow Control supplies the stoppers and tubes used to channel and control the flow of molten steel from ladle to tundish and from tundish to mould; slide gate refractories for ladles and tundishes; slide gate systems; tundish and mould fluxes; and control devices to monitor and regulate steel flow into the mould. These products have been designed to resist extreme thermomechanical stress and corrosive environments. The majority of these products are consumed during the process of making steel and, consequently, demand is primarily linked to steel production volumes. Continuing innovation allows us to offer enriched solutions that create additional value in our customers' processes.

Steel Flow Control Revenue	H1 2018 (£m)	H1 2017 (£m)	Change (%)	Underlying change (%)
Americas	103.4	104.6	-1.0%	+10.5%
Europe, Middle East & Africa (EMEA)	136.0	118.6	+14.8%	+13.4%
Asia-Pacific	87.4	82.1	+6.4%	+9.3%
Total Steel Flow Control Revenue	**326.8**	**305.3**	**+7.1%**	**+11.4%**

Year-on-year, underlying revenue in Steel Flow Control increased 11.4%. All regions outperformed underlying steel production volume growth, with EMEA being our fastest growing region in the first half of 2018, with underlying revenues up 13.4%.

In the Americas, Steel Flow Control's underlying revenues increased 10.5%, against a 3.1% increase in steel production volumes. Steel production in EMEA increased 3.7%, and Vesuvius outperformed the market with underlying revenue up 13.4%. Our outperformance relative to steel production is due to selling price increases to offset raw material and other cost inflation, and market share gains.

Underlying revenue increased by 9.3% in Asia-Pacific, compared to a 4.6% increase in steel production volumes in the region. Revenues increased faster than underlying steel volumes in the key regional markets of China, India and South-East Asia.

Advanced Refractories

Products of the Advanced Refractories business include specialist refractory materials for lining steelmaking vessels such as blast furnaces, ladles and tundishes, which are subject to extreme temperatures, corrosion and abrasion. These materials are in the form of powder mixes, which are spray-applied or cast onto the vessel to be lined ("monolithics") and refractory shapes (e.g. bricks, pads and dams). Vesuvius is one of the world's largest manufacturers of monolithic refractory linings. Advanced Refractories delivers installation technologies, products adapted to fit customers' processes and effective and efficient logistics services. These factors are combined with significant R&D, a deep knowledge of customers' processes and project management capability to deliver market-leading solutions for customers.

Advanced Refractories Revenue	H1 2018 (£m)	H1 2017 (£m)	Change (%)	Underlying change (%)
Americas	81.9	75.0	+9.2%	+18.7%
Europe, Middle East & Africa (EMEA)	129.8	110.0	+18.0%	+19.0%
Asia-Pacific	55.2	56.3	-2.0%	+2.6%
Total Advanced Refractories Revenue	**266.9**	**241.3**	**+10.6%**	**+15.1%**

Year-on-year, revenue in Advanced Refractories increased 10.6% to £266.9m on a reported basis, whilst underlying revenue increased 15.1%. This outperformance relative to steel volume growth was supported by selling price increases to offset raw material and other cost inflation as well as market share gains.

We achieved underlying revenue growth in each of our key regions with the Americas up 18.7%, EMEA up 19.0% and Asia-Pacific up 2.6%. The particularly high growth levels in the Americas and EMEA were due to market share gains and selling price increases to offset raw material and other cost inflation. In addition, the US has experienced an increased penetration of value-creating solutions due to a greater focus on productivity by steel mills. However, we have experienced some market share loss in North Asia and certain European countries as priority was given to recouping raw material and other cost inflation.

Digital Services

Digital Services offers digitalised solutions to our customers to make their underlying processes more efficient and reliable. Digital Services complements existing product lines by providing new services to our existing customers. Digital Services focuses on the capture and interpretation of key manufacturing data, complementing Vesuvius' strong presence and expertise in molten metal engineering to create new technologies and integrate them into expert process management systems.

Digital Services Revenue	H1 2018 (£m)	H1 2017 (£m)	Change (%)	Underlying change (%)
Americas	10.3	9.8	+5.3%	+21.3%
Europe, Middle East & Africa (EMEA)	6.8	6.3	+7.6%	+5.2%
Asia-Pacific	0.1	0.0	n.m.	n.m.
Total Digital Services Revenue	**17.2**	**16.1**	**+6.8%**	**+15.0%**

Digital Services generated revenues of £17.2m, an increase of 6.8% year-on-year on a reported basis. On an underlying basis, revenues increased 15.0%. This reflects market share gains in all key regions and increased penetration of our products.

The development of a technical services offering for our customers, complementary to our consumables offering, remains a key element of our Group strategy. To ensure that we continue to maximise the opportunities to leverage our existing customer relationships to expand this area of business, the ongoing support of our Steel Flow Control and Advanced Refractories business units is critical.

As a result, a digital business has been created within the Steel Flow Control Business Unit. This business will be specifically responsible for developing value-creating solutions around the tundish and the mould in the continuous casting part of the steel process. In parallel, Advanced Refractories is developing its combined robotics and laser offering. New product development will take place within the Digital Services business unit.

As a result of the above, several of our data collection technologies have been included within our Steel Flow Control and Advanced Refractory business units since 1 January 2018. The Digital Services financials have been restated for the H1 2017 period to ensure comparability with H1 2018 performance.

Foundry Division

Vesuvius' Foundry Division, trading as Foseco, is a world leader in the supply of consumable products, solutions and associated services related to the foundry industry. The foundry process is highly sequential and is critically dependent on consistency of product quality and productivity optimisation. The Foundry Division's products, solutions and use of advanced computer simulation techniques allow foundries to reduce defects and hence reduce labour-intensive fettling and machining, minimise metal usage requirements, influence the metal solidification process and automate moulding and casting, thus reducing cost, energy usage and mould size. The conditioning of molten metal, the nature of the mould used and, especially, the design of the way metal flows into the mould are key parameters in a foundry, determining both the quality of the finished castings and the labour, energy and metal usage efficiency of the foundry. Vesuvius' products and associated services to foundries improve these parameters.

Foundry Division	**H1 2018 (£m)**	**H1 2017 (£m)**	**Change (%)**	**Underlying change (%)**
Foundry Revenue	286.1	268.8	+6.4%	+10.2%
Foundry Trading Profit	36.6	34.6	+5.9%	+11.0%
Foundry Return on Sales	***12.8%***	***12.9%***	***-5bps***	***+10bps***

There was positive momentum in the majority of Foundry end markets during the first half of 2018, with particular strength in heavy trucks, mining equipment, construction and agricultural equipment.

Revenue in the Foundry Division increased 6.4% to £286.1m in the first half of 2018 on a reported basis, whilst underlying revenue increased by 10.2%. Underlying trading profit and return on sales improved by 11.0% and 10bps, respectively. Reported return on sales was negatively impacted by FX headwinds due to GBP being stronger on average in H1 2018 versus H1 2017. Our performance in the first half of 2018 benefited from market share gains and growth in the key product lines of feeding systems, filters and coatings. Trading Profit benefited from the ongoing organisational restructuring in North America, which is now focused on a flatter, leaner structure, although overall profitability was impacted by raw material cost increases, which have not yet been fully recovered in all regions.

Foundry Revenue	**H1 2018 (£m)**	**H1 2017 (£m)**	**Change (%)**	**Underlying change (%)**
Americas	58.1	56.1	+3.7%	+15.4%
Europe, Middle East & Africa (EMEA)	134.2	121.9	+10.0%	+9.1%
Asia-Pacific	93.8	90.8	+3.3%	+8.6%
Total Foundry Revenue	**286.1**	**268.8**	**+6.4%**	**+10.2%**

In the Americas, underlying revenue increased 15.4% supported by growth in the heavy truck and mining markets as well as increases in iron casting output related to construction and agricultural equipment. We were successful in gaining market share across all our key product lines.

Underlying revenue in EMEA increased 9.1% year-on-year as a result of growth across the majority of foundry end markets with particular strength in heavy trucks and general engineering as well as some improvements in the European steel foundries, albeit from a low base.

In Asia-Pacific, underlying revenue increased by 8.6%, with sales increasing in all major markets. Our revenues in China were up c.16%, due to growth in heavy truck production and engineering machinery supported by our success in enhancing our local sales force and marketing organisation. In India, where our revenues were up c.2%, we prioritised passing through raw material and other cost inflation and management of customer credit risk. In North Asia we have experienced some delay in passing through price increases to customers to compensate raw material and other cost inflation, which will be addressed in H2 2018.

Financial Review

The following review considers a number of our financial KPIs and sets out other relevant financial information.

Basis of Preparation

We have continued to adopt a columnar presentation format for our accounts separately identifying headline performance results, as we consider that this gives a better view of the underlying results of the ongoing business.

Dividend

The Board has recommended an interim dividend of 6.00 pence per share to be paid on 21 September 2018 to shareholders on the register at 10 August 2018.

It remains the Board's intention to deliver long-term dividend growth, provided this is supported by underlying earnings, cash flows, capital expenditure requirements and the prevailing market outlook.

Key Performance Indicators

We have identified a number of KPIs against which we have consistently reported. As with prior years, we measure our results on an underlying basis, where we adjust to ensure appropriate comparability between periods, irrespective of currency fluctuations and any business acquisitions and disposals.

This is done by:

- Restating the previous period's results at the same foreign exchange (FX) rates used in the current period
- Removing the results of disposed businesses in both the current and prior years
- Removing the results of businesses acquired in both the current year and prior years

Therefore, for 2018, as there are no business acquisitions or disposals that require adjustment, we have:

- Retranslated 2017 results at the FX rates used in calculating the 2018 results

KPI: R&D Spend

We believe that our market-leading product technology and services deliver fundamental value to our customers and that the primary mechanism to deliver that value is to invest significantly in research and development. In H1 2018, we spent £16.8m (2017: half year £17.2m; full year £33.2m) on R&D activities, which represents 1.9% of our revenue (2017: half year 2.1%; full year 2.0%).

KPI: Underlying revenue growth

Reported revenue for H1 2017 was £831.5m, which after FX translation effects, equated to £799.9m on an underlying basis. The reported revenue for H1 2018 of £897m is an increase on an underlying basis of 12.1% year-on-year. The growth has been as a result of strong end-market demand, market share gains and sales price increases.

KPI: Trading profit and return on sales

We continue to measure underlying trading profit of the Group as well as trading profit as a percentage of sales, which we refer to as our Return on Sales or RoS.

Trading profit of £99.6m increased by 20.3% on an underlying basis versus H1 2017 whilst RoS was 11.1%, an 80bps improvement over H1 2017 on a constant currency basis. The improved trading profit is due in part to the higher revenue, along with the ongoing delivery of benefits from the restructuring programme

The Steel Division recorded RoS of 10.3%, an increase from 9.2% in H1 2017 and 8.7% for full year 2017. Foundry reported a 12.8% RoS (2017: half year 12.9%; full year 12.2%).

£m	H1 2018 Trading profit			H1 2017 Trading profit				% change	
	As reported	Acquisition /Disposals	Underlying	As reported	Currency	Acquisition /Disposals	Underlying	Reported	Underlying
Steel	**63.0**	**-**	**63.0**	51.7	(1.9)	-	49.8	21.7%	26.5%
Foundry	**36.6**	**-**	**36.6**	34.6	(1.6)	-	33.0	5.9%	11.0%
Total Group	**99.6**	**-**	**99.6**	86.3	(3.5)	-	82.8	15.4%	20.3%

KPI: Headline PBT and Headline EPS

Headline profit before tax (PBT) and headline earnings per share (EPS) are used to measure the underlying financial performance of the Group. The main difference between trading profit and PBT is net finance costs.

Net finance costs in H1 2018 of £4.8m were £2.5m below H1 2017. The reduction in finance costs was largely due to the refinancing in December 2017 of maturing $110m US Private Placement notes ('USPP') at lower interest rates.

Our Headline PBT was £97.4m, 22.7% higher than last year on a reported basis. Including amortisation (£9.6m) and restructuring charges (£nil), our PBT of £87.8m was 44.4% higher than H1 2017. Headline EPS from continuing operations at 25.4p is 28.9% higher than H1 2017.

KPI: Free cash flow and working capital

Fundamental to ensuring that we have adequate capital to execute our corporate strategy is converting our profits into cash, partly through strict management of our working capital. Free cash flow from continuing operations was £42.2m in H1 2018 (2017: half year £26.4m), an improvement against a backdrop of revenue growth that inevitably requires some cash investment in working capital. Our cash conversion in H1 2018 was 77% (2017: half year 78%; full year 104%).

We measure working capital both in terms of actual cash flow movements, and as a percentage of sales revenue. Trade working capital as a percentage of sales in H1 2018 was 24.1% (2017: half year 26.2%; full year 24.9%), measured on a 12-month moving average basis. In absolute terms on a constant currency basis, trade working capital increased by £49.6m in H1 2018 due to increased revenues and summer inventory build-up.

Operating cash flow and cash conversion

	Unaudited half year 2018 £m	Unaudited half year 2017 £m	Full year 2017 £m
Cash generated from continuing operations	**77.0**	62.3	176.6
Add: Outflows relating to restructuring charges	**10.4**	15.6	27.3
Add: Net retirement benefit obligations	**(0.1)**	1.1	4.8
Less: Capital expenditure	**(11.6)**	(13.2)	(39.0)
Add: Proceeds from the sale of property, plant and equipment	**1.0**	1.6	1.8
Operating cash flow	**76.7**	67.4	171.5
Trading profit	**99.6**	86.3	165.5
Cash conversion	**77%**	78%	104%

KPI: Return on net assets (RONA)

RONA is our principal measure of capital efficiency. We do not exclude the results of businesses acquired and disposed from this calculation, as capital efficiency is an important consideration in our portfolio decisions. It is calculated by dividing trading profit plus our share of profits from joint ventures by our average operating assets (property, plant and equipment, and trade working capital).

As with most of our KPIs, we measure this on a 12-month moving average basis at constant currency to ensure that we focus on sustainable underlying improvements. Our RONA for H1 2018 was 27.3% (2017: half year 23.6%; full year 24.2%).

KPI: Interest cover and net debt

As at 30 June 2018, the Group had committed borrowing facilities of £566.4m (2017: half year £564.3m; full year £563.4m), of which £117.1m was undrawn (2017: half year £123.1m; full year £153.7m). In December 2017 we refinanced maturing $110m US Private Placement notes ('USPP') with a €100m USPP issuance at lower interest rates.

Net debt at 30 June 2018 was £281.8m, a £7.5m increase from 31 December 2017, as Free Cash Flow of £42.1m was offset by items including a £33.8m final dividend payment for 2017 and the £8.3m purchase of shares by the Employee Share Ownership Plan Trust to satisfy the future vesting of long-term incentives.

The Group's debt facilities have two financial covenants: the ratios of net debt to EBITDA (maximum three times limit) and EBITDA to interest (minimum four times limit). These ratios are monitored regularly to ensure that the Group has sufficient financing available to run the business and fund future growth. At H1 2018, the net debt to EBITDA ratio was 1.3x, an improvement over last year (2017: half year 1.6x) and EBITDA to interest was 20.2x (2017: half year 14.4x; full year 15.8x).

Financial Risk Factors

The Group undertakes regular risk reviews and, as a minimum, a full risk assessment process twice a year. As in previous years this included input from the Board in both the assessment of risk and the proposed mitigation. As referred to in our Principal Risks and Uncertainties, we consider the main financial risks faced by the Group as being demand volatility and the impact of financial uncertainty, leading to reduced revenue and profit as well as potential customer default, and a lack of liquidity, brought on by market volatility. Important but lesser risk exists in interest rate movements and cost inflation, but neither is expected to have a material impact on the business after considering the controls we have in place.

Our key mitigation of demand volatility is to manage the Group's exposure through balancing our portfolio of business geographically and by end-market and to invest in product innovation. We do so through targeted capital investment in new and growing businesses and a combination of capital and human resource in emerging markets. The second main financial risk of a lack of liquidity is mitigated by financing using both the bank and private placement markets. The Group also seeks to avoid a concentration of debt maturities in any one period to spread its refinancing risk. The Group's undrawn committed bank facilities at 30 June 2018 were £117.1m. Counterparty risk and customer default are mitigated by our relatively widespread customer base – with no customer being greater than 10% of revenue – and credit control procedures.

Restructuring

We continued to make good progress in implementing our original restructuring programme which was launched in 2015, mainly in Flow Control, with £4.5m savings delivered in H1 2018. The total recurring savings delivered since launching the programme are now £47.7m. In H1 2018, we reported £nil of restructuring costs (2017: half year £8.9m; full year £36.3m). The costs in 2017 were predominantly made up of redundancy and plant closure costs, along with related consulting fees. These costs included the final costs related to the previously announced restructuring plan as well as £4.8m of costs related to a completely new restructuring plan announced in March 2018, targeting the Foundry Division in Europe and NAFTA, the Advanced Refractories Business Unit in Europe, and Group corporate functions. Recurring savings delivered in H1 2018 relating to this new restructuring plan were £1.7m. The cash outflow in H1 2018 was £10.4m (2017: half year £15.6m; full year £27.3m). We are carrying a restructuring provision forward into H2 2018 of £12.4m.

Taxation

A key measure of tax performance is the effective tax rate, which the Group calculates on the income tax associated with headline performance, divided by the headline profit before tax and before the Group's share of post-tax profit of joint ventures (H1 2018: £94.8m, H1 2017: £79.0m, full year 2017: £151.6m). The Group's effective tax rate, based on the income tax costs associated with headline performance of £24.6m (2017: half year £22.1m; full year £36.4m), was 26.0% in H1 2018 (2017: half year 28.0%; full year 24.0%). This was lower than forecast due largely to the impact of a weaker than expected peso on our Mexican tax position and the release of provisions due to favourable tax litigation outcomes. The effective tax rate in H1 2018 is higher compared to full year 2017, as in 2017 the Group was also favourably impacted by better performance in countries where we had tax losses.

The Group's effective tax rate is sensitive to changes in the geographic mix of profits and level of profits and reflects a combination of higher rates in certain jurisdictions such as India, Mexico, Germany and Belgium, nil effective rates in the UK and US due to the availability of unutilised tax losses, and rates that lie somewhere in between. The Group's total income tax costs include a credit of £6.3m (2017: half year £6.0m credit; full year £18.0m charge) relating to separately reported items comprising: £nil (2017: half year £0.9m credit; full year £4.3m credit) in relation to restructuring charges; a credit of £1.9m (2017: half year £5.1m credit; full year £6.0m credit) relating to the amortisation of intangible assets and a credit of £4.4m (2017: half year £nil; full year £28.3m charge) in respect of the recognition of US temporary differences.

The net income tax charge reflected in the Condensed Group Statement of Comprehensive Income amounted to £1.2m (2017: half year £0.7m; full year £3.1m), of which £1.2m (2017: half year £0.7m; full year £2.4m) related to tax on net actuarial gains and

losses on employee benefits plans and £nil (2017: half year £nil; full year £0.7m) related to UK tax in respect of foreign exchange differences arising on hedged positions.

The US Tax Cuts and Jobs Act ('TCJA') enacted in the US in December 2017 had a material impact on the value of the deferred tax asset the Group recognises in the US, reducing the asset by £25.7m in the full year 2017 (2017: half year £nil), of which £24.5m (2017: half year £nil) was charged to the Group Income Statement and £1.2m (2017: half year £nil) was charged to the Group Statement of Comprehensive Income.

TCJA was enacted in some haste, and not all the provisions were clear in their intended operation at the time of the announcement of the 2017 results of Vesuvius. Following further clarification of their interpretation, particularly in relation to the Global Intangible Low-Taxed Income ('GILTI') provisions, the Group increased the US deferred tax asset in the first half of 2018 by £4.4m, which was credited to the Group Income Statement.

We previously reported that we expected the Group's effective tax rate from 2018 onwards to be adversely impacted by US tax reform, particularly the provisions of the Base Erosion and Anti-Abuse Tax ('BEAT'). Our further analysis of these provisions indicates that this adverse impact will not materialise in 2018.

Consistent with previous periods, movement in US deferred tax is separately reported due to its highly judgemental nature. This removes the impact of distortion in the effective tax rate caused by changes to this asset, which in given years can be material.

Capital expenditure

Capital expenditure in H1 2018 of £12.7m (2017: half year £14.6m; full year £44.3m) comprised £10.1m in the Steel Division (2017: half year £12.1m; full year £34.0m) and £2.6m in the Foundry Division (2017: half year £2.5m; full year £10.3m). Capital expenditure on revenue-generating customer installation assets, primarily in Steel, was £4.0m (2017: half year £4.5m; full year £10.7m).

Pensions

The Group has a limited number of historical defined benefit plans located mainly in the UK, USA, Germany and Belgium. The main plans in the UK and USA are largely closed to further benefits accrual and 58.5% of the liabilities in the UK have already been insured. The total net deficit attributed to these defined benefit obligations at 30 June 2018 was £8.3m (2017: half year £23.3; full year £16.5m), representing an improvement of £8.2m. The key movements giving rise to this were actuarial gains of £30.4m, and offsetting losses on assets of £22.1m, arising from changes to actuarial assumptions (mainly due to increased discount rates).

The majority of the ongoing pension plans are defined contribution plans, where our only obligation is to make contributions, with no further commitments on the level of post-retirement benefits. During H1 2018, cash contributions of £5.6m (2017: half year £6.0m; full year £12.6m) were made into the defined contribution plans and charged to trading profit.

Principal Risks and Uncertainties

Risk Management
The Board is responsible for setting the Group's risk appetite and ensuring that appropriate risk management systems are in place. The Group undertakes a continuous process of risk identification and review, which includes both a top-down and bottom-up process, independently gathering views on risk from each business unit, and from operational, functional and senior executive management, and the Board of Directors. Building on the process conducted in 2016, where a clean sheet review of the Group's principal risks was undertaken, the Group's assessment of principal risks has been reviewed and considered against a further group of emerging risks and uncertainties identified through our 2017 Board process. This process was undertaken again as part of the half-year review.

Risk Mitigation
The risks identified are actively managed in order to mitigate exposure. Senior management 'owners' are identified for each principal risk to manage the mitigations of that specific risk and contribute to the analysis of its likelihood and materiality. This is reported to the Board. The risks are analysed in the context of our business structure which gives protection against a number of principal risks we face with diversified currencies, a widespread customer base, local production matching the diversity of our markets and intensive training of our employees. Additionally, we seek to mitigate risk through contractual measures. Where cost-effective, the risk is transferred to insurers.

Board Monitoring
The Board defines the Group's risk appetite, considering the nature and extent of the principal risks that the Group should take. The Board's oversight of principal risks also involves a Board review of the processes by which the Group manages those risks, establishing a clear understanding at Board level of the individuals and groups in the business formally responsible for the management of specific risks.

Principal Risks
The risks identified are those the Board considers to be the most relevant to the Group in relation to their potential impact on the achievement of its strategic objectives. All of the risks could materially affect the Group, its businesses, future operations and financial condition and could cause actual results to differ materially from expected or historical results. These risks are not the only ones that the Group will face. Some risks are not yet known and some currently not deemed to be material could become so.

Changes to Risk in 2018
There are a number of potential risks and uncertainties which could have a material impact on the Group's performance over the remaining six months of the financial year and could cause actual results to differ materially from expected and historical results. The directors consider that, with the exception of "Complex and changing regulatory environment", the principal risks and uncertainties have not materially changed since the publication of the annual report for the year-ended 31 December 2017. Our regulatory environment has continued to evolve in terms of tax regulations and, more recently, trade-related regulations. Steps to mitigate these risks include increased tax and compliance management, along with back-up planning.

The risks and uncertainties are summarised below:

Risk and context	Potential impact	Mitigation
Demand volatility *Vesuvius' expectations of future trading are based upon an assessment of end-market conditions, which are subject to some uncertainty. Vesuvius' end-markets are historically somewhat cyclical in nature.*	• Unplanned drop in demand and/or revenue due to reduced production • Margin reduction • Customer failure leading to increased bad debts • Loss of market share to competition • Cost pressures at customers leading to use of cheaper solutions	• Geographic diversification of revenues • Product innovation and service offerings securing long-term revenue streams and maintaining performance differential • Increase in service and product lines by the development of the Technical Services offering • R&D includes assessment of emerging technologies • Manufacturing capacity rationalisation and flexible cost base

Risk and context	Potential impact	Mitigation
		• Diversified customer base: no customer is greater than 10% of revenue • Robust credit and working capital control to mitigate the risk of default by counterparties
Protectionism & Globalisation *Local, national or regional political requirements conflict with the quality and efficiency delivered by scale and standardisation.*	• Restricted access to market due to enforced preference of local suppliers • Increased barriers to entry for new businesses or expansion • Increased costs from import duties or taxation • Loss of market share	• Highly diversified manufacturing footprint with manufacturing sites located in 26 countries • Strong local management with delegated authority to run their businesses and manage customer relationships • Cost flexibility • Tax risk management and control framework together with a strong control of inter-company trading
Financial uncertainty *Fluctuations in the value of currencies, interest rates, or rates of inflation may adversely impact the Group's financial position or results of operations. Availability of sufficient capital is critical to allow Vesuvius to deliver its business plan.*	• Customer and other counterparty default • Restricted access to capital hampering ability to fund growth • Reduction in earnings from increased interest charges • Reduced market liquidity and increased cost of capital	• Capital allocation discipline • Capital structuring, including fixed rate borrowing and matching of debt to cash flow earnings currency • Alignment of cost structure with revenue where possible • Effective planning of the debt refinancing profile to avoid exposure to short-term market disruptions
Complex and changing regulatory environment *Vesuvius is subject to worldwide legal and regulatory regimes, some of which impose extra-jurisdictional obligations on companies and are continually updated.*	• Revenue reduction from reduced end-market access • Disruption of supply chain and route to market • Increased internal control processes • Increased frequency of regulatory investigations • Reputational damage	• Globally disseminated Code of Conduct highlighting ethical approach to business • Worldwide confidential Speak-up procedure • Compliance programmes and training across the Group • Independent Internal Audit function • Experienced Internal Legal function
Business interruption *The Group is subject to operational risks including natural catastrophe, terrorist action, fire / explosion, environmental regulation, industrial action, supply chain issues and cyber risk.*	• Loss of a major plant temporarily or permanently impairing our ability to serve our customers • Damage to or restriction in ability to use assets • Denial of access to critical systems of control processes • Disruption of manufacturing processes • Inability to source critical raw materials	• Diversified manufacturing footprint. • Disaster recovery planning • Business continuity planning with strategic maintenance of excess capacity • Physical and IT control systems security, access and training • Cyber risks integrated into wider risk-management structure • Well established global Insurance programme • Group-wide safety management programmes • Dual sourcing strategy and development of substitutes

Risk and context	Potential impact	Mitigation
Failure to secure Innovation *Not maintaining and/or developing the necessary sustainable differentiation in products, systems and services by driving innovative solutions. Competitive advantage derived from proprietary intellectual property is lost through inadequate protection.*	• Product substitution by customers • Increased competitive pressure through lack of differentiation of Vesuvius offering • Commoditisation of product portfolio through lack of development • Lack of response to changing customer needs • Loss of intellectual property protection	• Enduring and significant investment in R&D, with market-leading research • A shared strategy for innovation across the Group, deployed via our R&D centres • Stage gate process from innovation to commercialisation to foster innovation and increase alignment with strategy • Programmes of Manufacturing and Process Excellence • Quality programme, focused on quality and consistency • Stringent intellectual property registration and defence
Attracting talent and performance management *Failure to attract sufficient new talent to the Group based on industry perception and competition. Failure to maintain and develop a talent pipeline and internal succession options for middle and senior management positions.*	• Organisational culture of high performance is not achieved • Staff turnover in growing economies and regions • Stagnation of ideas and development opportunities • Loss of expertise and critical business knowledge • Reduced management pipeline for succession to senior positions	• Internal focus on talent development and training, with tailored career-stage programmes and clear performance management strategies • Contacts with universities to identify and develop talent • Career path planning and global opportunities for high potential staff • Internal programmes for the structured transfer of technical and other knowledge • Clearly elucidated values to underpin business culture
Quality, Health & Safety *Vesuvius works in highly challenging manufacturing environments, providing products, systems and services that are mission critical and for which reliability is paramount.*	• Injury to staff and contractors • Product or application failures lead to adverse financial impact or loss of reputation as technology leader • Health & safety breach, manufacturing downtime or damage to infrastructure from incident at customer plant • Customer claims from product quality issues	• Active safety programmes, with ongoing wide-ranging monitoring and safety training • Quality management programmes including stringent quality control standards, monitoring and reporting • Experienced technical staff knowledgeable in the application of our products and technology • Targeted global Insurance programme • Experienced Internal Legal function controlling third party contracting

Directors' responsibility statement

We confirm that to the best of our knowledge:

(a) The Condensed Group Financial Statements have been prepared in accordance with IAS 34*, Interim Financial Reporting*, as adopted by the EU; and

(b) This half-yearly financial report includes a fair review of the information required by:

- DTR 4.2.7R of the *Disclosure and Transparency Rules*, being an indication of important events that have occurred during the first six months of the financial year and their impact on the condensed set of financial statements; and a description of the principal risks and uncertainties for the remaining six months of the financial year; and
- DTR 4.2.8R of the *Disclosure and Transparency Rules*, being related parties' transactions that have taken place in the first six months of the current financial year and that have materially affected the financial position or the performance of the Group during that period; and any changes in the related parties' transactions described in the last annual report that could do so.

On behalf of the Board

Guy Young
Chief Financial Officer
25 July 2018

Vesuvius plc Board of Directors:

John McDonough CBE, Chairman
Patrick André, Chief Executive
Guy Young, Chief Financial Officer
Douglas Hurt, Non-executive Director, Senior Independent Director and Chairman of the Audit Committee
Jane Hinkley, Non-executive Director and Chairman of the Remuneration Committee
Christer Gardell, Non-executive Director
Hock Goh, Non-executive Director
Holly Koeppel, Non-executive Director

Independent review report to Vesuvius plc

Our conclusion

We have reviewed Vesuvius plc's Condensed Group Financial Statements (the "interim financial statements") in the half year results of Vesuvius plc for the 6 month period ended 30 June 2018. Based on our review, nothing has come to our attention that causes us to believe that the interim financial statements are not prepared, in all material respects, in accordance with International Accounting Standard 34, 'Interim Financial Reporting', as adopted by the European Union and the Disclosure Guidance and Transparency Rules sourcebook of the United Kingdom's Financial Conduct Authority.

What we have reviewed

The interim financial statements comprise:
the Condensed Group Balance Sheet as at 30 June 2018;
the Condensed Group Income Statement and Condensed Group Statement of Comprehensive Income for the period then ended;
the Condensed Group Statement of Cash Flows for the period then ended;
the Condensed Group Statement of Changes in Equity for the period then ended; and
the explanatory notes to the interim financial statements.

The interim financial statements included in the half year results have been prepared in accordance with International Accounting Standard 34, 'Interim Financial Reporting', as adopted by the European Union and the Disclosure Guidance and Transparency Rules sourcebook of the United Kingdom's Financial Conduct Authority.

As disclosed in note 1 to the interim financial statements, the financial reporting framework that has been applied in the preparation of the full annual financial statements of the Group is applicable law and International Financial Reporting Standards (IFRSs) as adopted by the European Union.

Responsibilities for the interim financial statements and the review

Our responsibilities and those of the directors

The half year results, including the interim financial statements, is the responsibility of, and has been approved by, the directors. The directors are responsible for preparing the half year results in accordance with the Disclosure Guidance and Transparency Rules sourcebook of the United Kingdom's Financial Conduct Authority.

Our responsibility is to express a conclusion on the interim financial statements in the half year results based on our review. This report, including the conclusion, has been prepared for and only for the company for the purpose of complying with the Disclosure Guidance and Transparency Rules sourcebook of the United Kingdom's Financial Conduct Authority and for no other purpose. We do not, in giving this conclusion, accept or assume responsibility for any other purpose or to any other person to whom this report is shown or into whose hands it may come save where expressly agreed by our prior consent in writing.

What a review of interim financial statements involves

We conducted our review in accordance with International Standard on Review Engagements (UK and Ireland) 2410, 'Review of Interim Financial Information Performed by the Independent Auditor of the Entity' issued by the Auditing Practices Board for use in the United Kingdom. A review of interim financial information consists of making enquiries, primarily of persons responsible for financial and accounting matters, and applying analytical and other review procedures.

A review is substantially less in scope than an audit conducted in accordance with International Standards on Auditing (UK) and, consequently, does not enable us to obtain assurance that we would become aware of all significant matters that might be identified in an audit. Accordingly, we do not express an audit opinion.

We have read the other information contained in the half year results and considered whether it contains any apparent misstatements or material inconsistencies with the information in the interim financial statements.

PricewaterhouseCoopers LLP
Chartered Accountants
London
25 July 2018

Condensed Group Income Statement

For the six months ended 30 June 2018

Continuing operations	Notes	Half year 2018 (Unaudited) Headline performance[1] £m	Half year 2018 (Unaudited) Separately reported items[1] £m	Half year 2018 (Unaudited) Total £m	Half year 2017 (Unaudited) Headline performance[1] £m	Half year 2017 (Unaudited) Separately reported items[1] £m	Half year 2017 (Unaudited) Total £m	Full year 2017 Headline performance[1] £m	Full year 2017 Separately reported items[1] £m	Full year 2017 Total £m
Revenue	2	**897.0**	-	**897.0**	831.5	-	831.5	**1,683.9**	-	**1,683.9**
Manufacturing costs		**(637.8)**	-	**(637.8)**	(596.9)	-	(596.9)	**(1,219.8)**	-	**(1,219.8)**
Administration, selling & distribution costs		**(159.6)**	-	**(159.6)**	(148.3)	-	(148.3)	**(298.6)**	-	**(298.6)**
Trading profit	2, 16	**99.6**	-	**99.6**	86.3	-	86.3	**165.5**	-	**165.5**
Amortisation of acquired intangible assets		-	**(9.6)**	**(9.6)**	-	(9.7)	(9.7)	-	**(19.5)**	**(19.5)**
Restructuring charges	3	-	-	-	-	(8.9)	(8.9)	-	**(36.3)**	**(36.3)**
Operating profit/(loss)	2	**99.6**	**(9.6)**	**90.0**	86.3	(18.6)	67.7	**165.5**	**(55.8)**	**109.7**
Finance expense		**(7.0)**	-	**(7.0)**	(8.9)	-	(8.9)	**(17.5)**	-	**(17.5)**
Finance income		**2.2**	-	**2.2**	1.6	-	1.6	**3.6**	-	**3.6**
Net finance costs	4	**(4.8)**	-	**(4.8)**	(7.3)	-	(7.3)	**(13.9)**	-	**(13.9)**
Share of post-tax income of joint ventures		**2.6**	-	**2.6**	0.4	-	0.4	**1.3**	-	**1.3**
Profit/(loss) before tax	2	**97.4**	**(9.6)**	**87.8**	79.4	(18.6)	60.8	**152.9**	**(55.8)**	**97.1**
Income tax (charge)/credits	5	**(24.6)**	**6.3**	**(18.3)**	(22.1)	6.0	(16.1)	**(36.4)**	**(18.0)**	**(54.4)**
Profit/(loss) from:										
Continuing operations		**72.8**	**(3.3)**	**69.5**	57.3	(12.6)	44.7	**116.5**	**(73.8)**	**42.7**
Discontinued operations		-	**0.5**	**0.5**	-	1.7	1.7	-	**1.7**	**1.7**
Profit/(loss)		**72.8**	**(2.8)**	**70.0**	57.3	(10.9)	46.4	**116.5**	**(72.1)**	**44.4**
Profit/(loss) attributable to:										
Owners of the parent		**68.7**	**(2.8)**	**65.9**	53.3	(10.9)	42.4	**110.1**	**(72.1)**	**38.0**
Non-controlling interests		**4.1**	-	**4.1**	4.0	-	4.0	**6.4**	-	**6.4**
Profit/(loss)		**72.8**	**(2.8)**	**70.0**	57.3	(10.9)	46.4	**116.5**	**(72.1)**	**44.4**
Earnings per share — pence	6									
Continuing operations — basic				**24.2**			15.1			**13.4**
— diluted				**24.1**			15.0			**13.4**
Total operations — basic				**24.4**			15.7			**14.1**
— diluted				**24.2**			15.6			**14.0**

(1) Headline performance is defined in Note 16.1 and separately reported items are defined in Note 1.5.

Condensed Group Statement of Comprehensive Income

For the six months ended 30 June 2018

	Notes	**Unaudited Half year 2018 £m**	Unaudited Half year 2017 £m	Full year 2017 £m
Profit		**70.0**	46.4	44.4
Items that will not be reclassified subsequently to income statement:				
Remeasurement of defined benefit assets/liabilities		**8.3**	5.4	8.4
Income tax relating to items not reclassified	5	**(1.2)**	(0.7)	(2.4)
Items that may be reclassified subsequently to income statement:				
Exchange differences on translation of the net assets of foreign operations		**(17.9)**	(23.6)	(38.3)
Exchange translation differences arising on net investment hedges		**(3.3)**	6.4	9.8
Income tax relating to items that may be reclassified	5	**-**	-	(0.7)
Other comprehensive loss, net of income tax		**(14.1)**	(12.5)	(23.2)
Total comprehensive income		**55.9**	33.9	21.2
Total comprehensive income attributable to:				
Owners of the parent		**53.7**	30.1	15.3
Non-controlling interests		**2.2**	3.8	5.9
Total comprehensive income		**55.9**	33.9	21.2
Total comprehensive income attributable to owners of the parent arises from:				
Continuing operations		**53.2**	26.1	13.6
Discontinued operations		**0.5**	4.0	1.7
Total comprehensive income attributable to owners of the parent		**53.7**	30.1	15.3

Condensed Group Statement of Cash Flows

For the six months ended 30 June 2018

	Notes	**Unaudited Half year 2018 £m**	Unaudited Half year 2017 £m	Full year 2017 £m
Cash flows from operating activities				
Cash generated from operations	9	**76.9**	62.3	175.8
Interest paid		**(7.4)**	(8.2)	(15.6)
Interest received		**2.5**	1.4	3.5
Net interest paid		**(4.9)**	(6.8)	(12.1)
Income taxes paid		**(19.5)**	(19.3)	(38.2)
Net cash inflow from operating activities		**52.5**	36.2	125.5
Cash flows from investing activities				
Capital expenditure		**(11.6)**	(13.2)	(39.0)
Proceeds from the sale of property, plant and equipment		**1.0**	1.6	1.8
Acquisition of subsidiaries and joint ventures, net of cash acquired		**(0.4)**	0.8	-
Dividends received from joint ventures		**1.3**	1.7	1.7
Net cash (outflow) from investing activities		**(9.7)**	(9.1)	(35.5)
Net cash inflow before financing activities		**42.8**	27.1	90.0
Cash flows from financing activities				
Proceeds from borrowings	8	**35.9**	50.0	103.5
Repayment of borrowings	8	**(1.8)**	(13.6)	(92.2)
Borrowing facility arrangement costs	8	**-**	-	(1.0)
Settlement of forward foreign exchange contracts		**0.3**	(6.3)	(10.4)
Purchase of ESOP Shares		**(8.3)**		
Dividends paid to equity shareholders	7	**(33.8)**	(30.8)	(45.6)
Dividends paid to non-controlling shareholders		**(1.0)**	(1.0)	(2.5)
Net cash (outflow) from financing activities		**(8.7)**	(1.7)	(48.2)
Net increase in cash and cash equivalents	8	**34.1**	25.4	41.8
Cash and cash equivalents at beginning of period		**140.0**	101.0	101.0
Effect of exchange rate fluctuations on cash and cash equivalents		**(2.7)**	(1.7)	(2.8)
Cash and cash equivalents at end of period		**171.4**	124.7	140.0
Free cash flow from continuing operations (Note 16.10)				
Net cash inflow from operating activities		**52.6**	36.2	126.3
Net retirement benefit obligations		**(0.1)**	1.1	4.8
Capital expenditure		**(11.6)**	(13.2)	(39.0)
Proceeds from the sale of property, plant and equipment		**1.0**	1.6	1.8
Dividends received from joint ventures		**1.3**	1.7	1.7
Dividends paid to non-controlling shareholders		**(1.0)**	(1.0)	(2.5)
Free cash flow from continuing operations	16	**42.2**	26.4	93.1
Discontinued operations		**(0.1)**	-	(0.8)
Free cash flow	16	**42.1**	26.4	92.3

Condensed Group Balance Sheet

As at 30 June 2018

	Notes	**Unaudited Half year 2018 £m**	Unaudited Half year 2017* £m	Full year 2017* £m
Assets				
Property, plant and equipment		**297.5**	311.3	**311.3**
Intangible assets		**729.7**	761.5	**743.0**
Employee benefits - net surpluses	10	**98.2**	81.9	**92.4**
Interests in joint ventures and associates		**19.0**	16.1	**17.5**
Investments		**1.4**	2.5	**1.4**
Income tax recoverable		**0.4**	1.0	**0.4**
Deferred tax assets		**64.4**	89.3	**61.0**
Other receivables		**30.3**	29.6	**30.9**
Derivative financial instruments	15	**0.3**	-	**0.2**
Total non-current assets		**1,241.2**	1,293.2	**1,258.1**
Cash and short-term deposits	8	**193.0**	152.2	**161.9**
Inventories		**254.4**	225.7	**222.8**
Trade and other receivables		**446.0**	428.4	**422.2**
Income tax recoverable		**3.8**	2.4	**5.2**
Derivative financial instruments	15	**0.1**	-	**0.1**
Total current assets		**897.3**	808.7	**812.2**
Total assets		**2,138.5**	2,101.9	**2,070.3**
Equity				
Issued share capital		**27.8**	27.8	**27.8**
Retained earnings		**2,402.9**	2,388.0	**2,370.3**
Other reserves		**(1,388.7)**	(1,358.4)	**(1,369.4)**
Equity attributable to the owners of the parent		**1,042.0**	1,057.4	**1,028.7**
Non-controlling interests		**46.6**	44.9	**45.4**
Total equity		**1,088.6**	1,102.3	**1,074.1**
Liabilities				
Interest-bearing borrowings	8	**451.5**	360.0	**410.5**
Employee benefits - net liabilities	10	**106.5**	105.2	**108.9**
Other payables		**17.0**	18.0	**17.3**
Provisions	14	**35.4**	37.6	**34.4**
Deferred tax liabilities		**41.5**	44.8	**42.7**
Total non-current liabilities		**651.9**	565.6	**613.8**
Interest-bearing borrowings	8	**23.3**	114.0	**25.7**
Trade and other payables		**316.0**	266.9	**292.6**
Income tax payable		**37.2**	35.4	**34.3**
Provisions	14	**21.4**	16.9	**29.8**
Derivative financial instruments	15	**0.1**	0.8	**-**
Total current liabilities		**398.0**	434.0	**382.4**
Total liabilities		**1,049.9**	999.6	**996.2**
Total equity and liabilities		**2,138.5**	2,101.9	**2,070.3**

*Restated as a result of a change in accounting policy (Note 1.6) and the recording of a provision for which a related asset exists (Note 1.1).

Condensed Group Statement of Changes in Equity

For the six months ended 30 June 2018

	Issued share capital £m	Other reserves £m	Retained earnings £m	Owners of the parent £m	Non-controlling interests £m	Total equity £m
As at 1 January 2017	**27.8**	**(1,341.4)**	**2,370.0**	**1,056.4**	**42.1**	**1,098.5**
Profit	**-**	**-**	**42.4**	**42.4**	**4.0**	**46.4**
Remeasurement of defined benefit liabilities/assets	-	**-**	**5.4**	**5.4**	**-**	**5.4**
Income tax relating to items not reclassified	-	**-**	**(0.7)**	**(0.7)**	**-**	**(0.7)**
Exchange differences on translation of the net assets of foreign operations	-	**(23.4)**	**-**	**(23.4)**	**(0.2)**	**(23.6)**
Exchange differences on translation of net investment hedges	-	**6.4**	**-**	**6.4**	**-**	**6.4**
Other comprehensive income/(loss), net of income tax	**-**	**(17.0)**	**4.7**	**(12.3)**	**(0.2)**	**(12.5)**
Total comprehensive income (loss)	**-**	**(17.0)**	**47.1**	**30.1**	**3.8**	**33.9**
Recognition of share-based payments	-	**-**	**1.7**	**1.7**	**-**	**1.7**
Dividends paid (Note 7)	-	**-**	**(30.8)**	**(30.8)**	**(1.0)**	**(31.8)**
Total transactions with owners	**-**	**-**	**(29.1)**	**(29.1)**	**(1.0)**	**(30.1)**
As at 30 June 2017	**27.8**	**(1,358.4)**	**2,388.0**	**1,057.4**	**44.9**	**1,102.3**
Profit	**-**	**-**	**(4.4)**	**(4.4)**	**2.4**	**(2.0)**
Remeasurement of defined benefit liabilities/assets	-	-	3.0	3.0	-	3.0
Income tax relating to items not reclassified	-	-	(1.7)	(1.7)	-	(1.7)
Exchange differences on translation of the net assets of foreign operations	-	(14.4)	-	(14.4)	(0.3)	(14.7)
Exchange differences on translation of net investment hedges	-	3.4	-	3.4	-	3.4
Income tax relating to items that may be reclassified	-	-	(0.7)	(0.7)	-	(0.7)
Other comprehensive income/(loss), net of income tax	**-**	**(11.0)**	**0.6**	**(10.4)**	**(0.3)**	**(10.7)**
Total comprehensive income (loss)	**-**	**(11.0)**	**(3.8)**	**(14.8)**	**2.1**	**(12.7)**
Recognition of share-based payments	-	-	0.9	0.9	-	0.9
Dividends paid (Note 7)	-	-	(14.8)	(14.8)	(1.6)	(16.4)
Total transactions with owners	**-**	**-**	**(13.9)**	**(13.9)**	**(1.6)**	**(15.5)**
As at 1 January 2018	**27.8**	**(1,369.4)**	**2,370.3**	**1,028.7**	**45.4**	**1,074.1**
Profit	**-**	**-**	**65.9**	**65.9**	**4.1**	**70.0**
Remeasurement of defined benefit liabilities/assets	-	-	8.3	8.3	-	8.3
Income tax relating to items not reclassified	-	-	(1.2)	(1.2)	-	(1.2)
Exchange differences on translation of the net assets of foreign operations	-	(16.0)	-	(16.0)	(1.9)	(17.9)
Exchange differences on translation of net investment hedges	-	(3.3)	-	(3.3)	-	(3.3)
Other comprehensive income/(loss), net of income tax	**-**	(19.3)	7.1	(12.2)	(1.9)	(14.1)
Total comprehensive income (loss)	**-**	**(19.3)**	**73.0**	**53.7**	**2.2**	**55.9**
Purchase of ESOP shares[1]	-	-	(8.3)	(8.3)	-	(8.3)
Recognition of share-based payments	-	-	1.7	1.7	-	1.7
Dividends paid (Note 7)	-	-	(33.8)	(33.8)	(1.0)	(34.8)
Total transactions with owners	**-**	**-**	**(40.4)**	**(40.4)**	**(1.0)**	**(41.4)**
As at 30 June 2018	**27.8**	**(1,388.7)**	**2,402.9**	**1,042.0**	**46.6**	**1,088.6**

[1] During the period to 30 June 2018, 1,385,000 Vesuvius plc ordinary shares were purchased into the Vesuvius Group Employee Share Ownership Plan ('ESOP'), by Cookson Investments (Jersey) Limited as Trustee of the ESOP, for £8.3m.

Notes to the Condensed Financial Statements

1 Basis of preparation

1.1 Basis of accounting

These Condensed Group Financial Statements of Vesuvius plc ("Vesuvius" or the "Company") and its subsidiary and joint venture companies (the "Group") have been prepared in accordance with International Accounting Standard ("IAS") 34 Interim Financial Reporting, as adopted by the EU and in accordance with the Disclosure and Transparency Rules of the UK's Financial Conduct Authority.

These Condensed Group Financial Statements have been prepared using the same accounting policies as used in the preparation of the Group's annual financial statements for the year-ended 31 December 2017, which were prepared in accordance with International Financial Reporting Standards as adopted by the EU ("IFRS"). They do not include all of the information required for full annual financial statements, and should be read in conjunction with the consolidated financial statements of the Group for the year-ended 31 December 2017. The financial information presented in this document is unaudited, but has been reviewed by the Company's auditor.

The comparative figures for the financial year-ended 31 December 2017 are not the Company's statutory accounts for that financial year. Those accounts have been reported on by the Company's auditor and delivered to the Registrar of Companies. The report of the auditor was unqualified, did not include reference to any matters to which the auditor drew attention by way of emphasis without qualifying its report and did not contain a statement under section 498(2) or (3) of the Companies Act 2006. These sections address whether proper accounting records have been kept, whether the Company's accounts are in agreement with those records and whether the auditor has obtained all the information and explanations necessary for the purposes of its audit.

The balance sheet at 30 June 2017 has been restated by £7.9m to present a provision for which an associated insurance asset exists. There was no material impact on the 2017 performance statements and no restatement is required.

1.2 Basis of consolidation

The Condensed Group Financial Statements incorporate the financial statements of the Company and entities controlled by the Company (its "subsidiaries"). Control exists when the Company has the power to direct the relevant activities of an entity that significantly affect the entity's return so as to have rights to the variable return from its activities. In assessing whether control exists, potential voting rights that are currently exercisable are taken into account. The results of subsidiaries acquired or disposed of during the year are included in the Condensed Group Income Statement from the effective date of acquisition or up to the effective date of disposal, as appropriate.

The principal accounting policies applied in the preparation of these Condensed Group Financial Statements are set out in the Notes. These policies have been consistently applied to all of the years presented, unless otherwise stated. Where necessary, adjustments are made to the financial statements of subsidiaries to bring their accounting policies into line with those detailed herein to ensure that the Condensed Group Financial Statements are prepared on a consistent basis. All intra-Group transactions, balances, income and expenses are eliminated on consolidation.

Non-controlling interests in the net assets of consolidated subsidiaries are identified separately from the Group's interest therein. Non-controlling interests consist of the amount of those interests at the date of the original business combination together with the non-controlling interests' share of profit or loss and each component of other comprehensive income, and dividends since the date of the combination. Total comprehensive income is attributed to the non-controlling interests even if this results in the non-controlling interests having a deficit balance.

1.3 Going concern

The Directors have prepared cash flow forecasts for the Group for a period in excess of 12 months from the date of approval of the 2018 interim financial statements. These forecasts reflect an assessment of current and future end-market conditions and their impact on the Group's future trading performance. The forecasts show that the Group will be able to operate within the current committed debt facilities and show continued compliance with the Company's financial covenants. On the basis of the exercise described above and the Group's available committed debt facilities, the Directors consider that the Group and the Company have adequate resources to continue in operational existence for a period of at least 12 months from the date of signing of these accounts. Accordingly, they continue to adopt a going concern basis in preparing the financial statements of the Group and the Company.

1.4 Functional and presentation currency

The financial statements are presented in millions of pounds sterling, which is the functional currency of the Company, and rounded to one decimal place.

1.5 Disclosure of "separately reported items"

IAS 1 Presentation of Financial Statements encourages the disclosure of additional line items and the reordering of items presented on the face of the income statement when appropriate for a proper understanding of the entity's financial performance. The Company has adopted a columnar presentation for its Condensed Group Income Statement, to separately identify headline performance results (as defined in Note 16), as the Directors consider that this gives a better view of the underlying results of the ongoing business. As part of this presentation format, the Company has adopted a policy of disclosing separately on the face of its Condensed Group Income Statement, within the column entitled 'Separately reported items', the effect of any components of financial performance for which the Directors consider separate disclosure would assist both in a better understanding of the financial performance achieved and in making projections of future results.

Both materiality and the nature and function of the components of income and expense are considered in deciding upon such presentation. Such items may include, inter alia, the financial effect of exceptional items which occur infrequently, such as major restructuring activity, initial recognition and subsequent increase, decrease and amortisation of US deferred tax assets, together with items always reported separately, such as amortisation charges relating to acquired intangible assets, profits or losses arising on the disposal of continuing or discontinued operations and the taxation impact of the aforementioned exceptional items and items reported separately. The amortisation charge in respect of intangible assets recognised on business combinations is excluded from the trading results of the Group since they are non-cash charges and are not considered reflective of the core trading performance of the Group. Restructuring charges are excluded from the trading results of the Group due to the material nature of these non-recurring transformational initiatives. In its adoption of this policy, the Company applies an even-handed approach to both gains and losses and aims to be both consistent and clear in its accounting and disclosure of such items.

1.6 Changes in accounting policies

Initial adoption of IFRS 15 Revenue from Contracts with Customers

The Group adopted IFRS 15 Revenue from Contracts with Customers with date of initial application to the Group of 1 January 2018 using the retrospective method.

IFRS 15 replaces all existing revenue requirements in IFRS and applies to all revenue arising from contracts with customers unless the contracts are within the scope of other standards such as IAS 17 Leases. The standard establishes a comprehensive framework for determining whether, how much and when revenue is recognised.

Details of the change in the Group's accounting policy in respect of revenue recognition are set out in Note 2.

Initial adoption of IFRS 9 Financial Instruments

Effective 1 January 2018, the Company adopted IFRS 9 Financial Instruments. IFRS 9 addresses the classification, measurement and derecognition of financial instruments, and introduces new rules for hedge accounting and a new impairment model for financial assets. It replaces IAS 39 Financial Instruments: Recognition and Measurement, and comprehensive updates have been made to IFRS 7 Financial Instruments: Disclosures and IAS 32 Financial Instruments: Presentation. The adoption of IFRS 9 has had no material impact on the Company's Condensed Group Financial Statements.

IFRIC Interpretation – Interest and Penalties on Tax

Previously, the common understanding and interpretation of IAS 12 allowed a company to include in its tax charges, liabilities and provisions any associated delayed settlement interest and penalties. Vesuvius followed this approach. The recent clarification by the IFRS Interpretations Committee (previously the International Financial Reporting Interpretations Committee, IFRIC), however, is that a company should include in its tax charges, liabilities and provisions only items meeting the strict definition of taxes under IAS 12. It confirmed that items not meeting that definition should be reported in accordance with IAS 37.

Vesuvius has accordingly changed its accounting policy to include interest and penalties on tax in trade and other payables in accordance with IAS 37. This has resulted in a change to its Group Balance Sheet as at 30 June 2017 to reclassify £6.8m from its liabilities and provisions previously reported as tax to trade and other payables. The effect of this change on its 2017 performance statements is immaterial and no restatement is therefore required to be made.

1.7 New and revised IFRS

Certain new accounting standards and interpretations have been published that are not mandatory for 30 June 2018 reporting periods and have not been early adopted by the Group. The Group's assessment of the impact of these new standards and interpretations is set out below. Other new or amended standards or interpretations are not expected to have a significant impact on the Condensed Group Financial Statements.

IFRS 16 Leases (effective for financial years beginning on or after 1 January 2019)

IFRS 16 Leases replaces the existing standard on accounting for leases, IAS 17 and the related interpretations. The Group will apply the standard from 1 January 2019. The Group will transition to IFRS 16 in accordance with the simplified approach; the prior year figures will not be adjusted. The Group has non-cancellable operating lease commitments of £29.6m, see note 31.2 of the Annual Report and Accounts 2017. It is expected that the application of this standard will have a material impact on the Group's Financial Statements to bring these obligations and an associated asset on Balance Sheet. The Group is currently finalising its assessment of this.

Balance sheet: IFRS 16 requires lessees to adopt a uniform approach to the presentation of leases. In future, assets must be recognised for the right of use received and liabilities must be recognised for the discounted payment obligations entered into for all leases. The Group will make use of the relief options provided for leases of low-value assets and short-term leases (shorter than twelve months). For leases that have been classified to date as operating leases in accordance with IAS 17, the lease liability will be recognised at the present value of the remaining lease payments, discounted using the interest rate implicit in the lease, if that rate can be readily determined. If that rate cannot be readily determined, the lessee's incremental borrowing rate will be used. The right of use asset will generally be measured at the amount of the lease liability plus initial direct costs. Advance payments and liabilities from the previous financial year will also be accounted for. Net debt will rise accordingly due to the material increase in lease liabilities.

Income statement: in contrast to the presentation to date of operating lease expenses within operating profit, in future, depreciation charges on right of use assets and the interest expense from unwinding of the discount on the lease liabilities will be recognised. These changes are expected to result in a small improvement to operating profit.

Cash flow statement: The change in presentation of operating lease expenses will result in a corresponding improvement in cash flows from operating activities and a decline in cash flows from financing activities.

IFRIC 23 Uncertainty over income tax treatments (effective for financial years beginning on or after 1 January 2019)

IFRIC 23 Uncertainty over income tax treatments (effective from 1 January 2019, for the year-ending 2019, not yet endorsed), clarifies how to recognise and measure deferred and current income tax assets and liabilities where there is uncertainty over tax treatment under IAS 12. The Group is currently assessing the potential impact on its Group Financial Statements resulting from the application of IFRIC 23.

2 Segment information

Operating segments for continuing operations

Operating segments are reported in a manner consistent with the internal reporting provided to the Executive Directors of the Board, who make the key operating decisions and are responsible for allocating resources and assessing performance of the operating segments. Reflecting the Group's management and internal reporting structure, segmental information is presented in respect of the two main business segments: Steel and Foundry. The Steel segment aggregates the Flow Control, Advanced Refractories and Digital Services Divisions which are subject to a similar risk profile and return. The adoption of the revenue standard ('IFRS 15') does not have any impact on the assessment of operating segments of the Group and the disaggregation of revenue between Steel and Foundry remains appropriate.

Segment revenue represents revenue from external customers (inter-segment revenue is not material). Trading profit includes items directly attributable to a segment as well as those items that can be allocated on a reasonable basis.

Adoption of IFRS 15 Revenue from Contracts with Customers

The Group adopted IFRS 15 Revenue from Contracts with Customers with a date of initial application of 1 January 2018. As a result, the Group has changed its accounting policy for revenue recognition as detailed below.

Revenue recognition

Revenue comprises the fair value of the consideration received or receivable for goods supplied and services rendered to customers after deducting rebates, discounts and value-added taxes, and after eliminating sales within the Group. The Group has implemented the five-step approach to revenue recognition as prescribed by IFRS 15.

For all revenue transactions the Group determines if the agreement with the customer has created enforceable rights and obligations. The Group recognises revenue in the period upon completion of specified performance obligations and an assessment of the transfer of control to the customer. The identification of performance obligations includes a determination of whether the goods or services (or bundle of goods or services) are distinct and this is the basis upon which the transaction price is allocated. The assessment of the transfer of control to the customer includes consideration of the timing of completion of the following: (1) transfer of risks and rewards of ownership; (2) transfer of legal title; (3) physical possession of the goods or completion of the service and (4) the Group has a right to payment.

Where contracts contain the provision of multiple elements such as refractory consumables, technical assistance and equipment, management applies judgement in determining whether the bundle of goods and/or services are distinct. Where the provision of goods and/or services is distinct, revenue is recognised separately for each performance obligation. If the elements in the contract are not distinct, a distinct bundle of goods/services is identified and revenue is recognised for this bundle of items.

An assessment of the timing of revenue recognition is made for each performance obligation. The Group recognises revenue over time for contracts that are longer term in nature and result in the provision of goods and/or services by the Group whilst the customer is simultaneously consuming the benefits provided. All other revenue transactions are recognised at a point in time.

Notes to the Condensed Financial Statements (continued)

2.1 Income statement

	Unaudited Half year 2018		
	Steel £m	**Foundry £m**	**Continuing operations £m**
Segment revenue	**610.9**	**286.1**	**897.0**
Segment EBITDA	**76.4**	**43.8**	**120.2**
Segment depreciation	**(13.4)**	**(7.2)**	**(20.6)**
Segment trading profit	**63.0**	**36.6**	**99.6**
Return on sales margin	*10.3%*	*12.8%*	*11.1%*
Amortisation of acquired intangible assets			**(9.6)**
Operating profit			**90.0**
Net finance costs			**(4.8)**
Share of post-tax profit of joint ventures			**2.6**
Profit before tax			**87.8**
Capital expenditure additions	**10.1**	**2.6**	**12.7**

	Unaudited Half year 2017		
	Steel £m	Foundry £m	Continuing operations £m
Segment revenue	562.7	268.8	831.5
Segment EBITDA	66.3	42.2	108.5
Segment depreciation	(14.6)	(7.6)	(22.2)
Segment trading profit	51.7	34.6	86.3
Return on sales margin	*9.2%*	*12.9%*	*10.4%*
Amortisation of acquired intangible assets			(9.7)
Restructuring charges			(8.9)
Operating profit			67.7
Net finance costs			(7.3)
Share of post-tax profit of joint ventures			0.4
Profit before tax			60.8
Capital expenditure additions	12.1	2.5	14.6

2.1 Income statement (continued)

	Full year 2017		
	Steel £m	Foundry £m	Continuing operations £m
Segment revenue	1,148.7	535.2	1,683.9
Segment EBITDA	128.9	80.3	209.2
Segment depreciation	(28.5)	(15.2)	(43.7)
Segment trading profit	100.4	65.1	165.5
Return on sales margin	*8.7%*	*12.2%*	*9.8%*
Amortisation of acquired intangible assets			(19.5)
Restructuring charges			(36.3)
Operating profit			109.7
Net finance costs			(13.9)
Share of post-tax profit of joint ventures			1.3
Profit before tax			97.1
Capital expenditure additions	34.0	10.3	44.3

3 Restructuring charges

There were no restructuring charges in H1 2018. During 2017, restructuring charges were £8.9m (half year 2017) and £36.3m (full year 2017) reflecting redundancy costs (2017: half year £3.0m; full year £22.8m), plant closure costs (2017: half year £0.3m; full year £0.5m), consultancy fees (2017: half year £4.8m; full year £6.8m), an inventory/asset write-off (2017: half year £0.8m; full year £5.5m) and travel (2017: half year £nil; full year £0.7m).

The net tax credit attributable to the total restructuring charges was £nil (2017: half year £0.9m; full year £4.3m).

A cash outflow of £10.4m (2017: half year £15.6m; full year £27.3m) (Note 9) was incurred in the year in respect of the restructuring programme leaving provisions made but unspent of £12.4m (Note 14) as at 30 June 2018 (2017: half year £11.0m; full year £22.9m), of which £2.4m (2017: half year £2.7m; full year £2.7m) relates to future costs in respect of leases expiring between one and six years.

4 Net finance costs

Total net finance costs for the period of £4.8m (2017: half year £7.3m, full year £13.9m) is analysed in the table below.

	Unaudited Half year 2018 £m	Unaudited Half year 2017 £m	Full year 2017 £m
Interest payable on borrowings			
Loans, overdrafts and factoring arrangements	**6.3**	8.1	15.9
Obligations under finance leases	**0.1**	0.2	0.2
Amortisation of capitalised borrowing costs	**0.1**	0.3	0.6
Total interest payable on borrowings	**6.5**	8.6	16.7
Interest on net retirement benefits obligations	**-**	0.3	0.6
Adjustments to discounts on provisions and other liabilities	**0.5**	0.1	0.2
Adjustments to discounts on receivables	**(0.4)**	(0.1)	(0.1)
Finance income	**(1.8)**	(1.6)	(3.5)
Total net finance costs	**4.8**	7.3	13.9

5 Income tax

A key measure of tax performance is the effective tax rate, which the Group calculates on the income tax associated with headline performance, divided by the headline profit before tax and before the Group's share of post-tax profit of joint ventures (H1 2018: £94.8m, H1 2017: £79.0m, full year 2017: £151.6m). The Group's effective tax rate, based on the income tax costs associated with headline performance of £24.6m (2017: half year £22.1m; full year £36.4m), was 26.0% in 2018 (2017: half year 28.0%; full year 24.0%). This was lower than forecast due largely to the impact of a weaker than expected peso on our Mexican tax position and the release of provisions due to favourable tax litigation outcomes. The effective tax rate in H1 2018 is higher compared to full year 2017, as in 2017 the Group was also favourably impacted by better performance in countries where we had tax losses.

The Group's effective tax rate is sensitive to changes in the geographic mix of profits and level of profits and reflects a combination of higher rates in certain jurisdictions such as India, Mexico, Germany and Belgium, nil effective rates in the UK and US due to the availability of unutilised tax losses, and rates that lie somewhere in between. The Group's total income tax costs include a credit of £6.3m (2017: half year £6.0m credit; full year £18.0m charge) relating to separately reported items comprising: £nil (2017: half year £0.9m credit; full year £4.3m credit) in relation to restructuring charges; a credit of £1.9m (2017: half year £5.1m credit; full year £6.0m credit) relating to the amortisation of intangible assets and a credit of £4.4m (2017: half year £nil; full year £28.3m charge) in respect of the recognition of US temporary differences.

The net income tax charge reflected in the Condensed Group Statement of Comprehensive Income amounted to £1.2m (2017: half year £0.7m; full year £3.1m), of which £1.2m (2017: half year £0.7m; full year £2.4m) related to tax on net actuarial gains and losses on employee benefits plans and £nil (2017: half year £nil; full year £0.7m) related to UK tax in respect of foreign exchange differences arising on hedged positions.

The US Tax Cuts and Jobs Act ('TCJA') enacted in the US in December 2017 had a material impact on the value of the deferred tax asset the Group recognises in the US, reducing the asset by £25.7m in the full year 2017 (2017: half year £nil), of which £24.5m (2017: half year £nil) was charged to the Group Income Statement and £1.2m (2017: half year £nil) was charged to the Group Statement of Comprehensive Income.

TCJA was enacted in some haste, and not all the provisions were clear in their intended operation at the time of the announcement of the 2017 results of Vesuvius. Following further clarification of their interpretation, particularly in relation to the Global Intangible Low-Taxed Income ('GILTI') provisions, the Group increased the US deferred tax asset in the first half of 2018 by £4.4m, which was credited to the Group Income Statement.

We previously reported that we expected the Group's effective tax rate from 2018 onwards to be adversely impacted by US tax reform, particularly the provisions of the Base Erosion and Anti-Abuse Tax ('BEAT'). Our further analysis of these provisions indicates that this adverse impact will not materialise in 2018.

Consistent with previous periods, movement in US deferred tax is separately reported due to its highly judgemental nature. This removes the impact of distortion in the effective tax rate caused by changes to this asset, which in given years can be material.

6 Earnings per share ("EPS")

6.1 Earnings for EPS

Basic and diluted EPS from continuing operations are based upon the profit attributable to owners of the parent, as reported in the Condensed Group Income Statement, of £65.4m (2017: half year £40.7m; full year £36.3m), being the profit for the year of £69.5m (2017: half year £44.7m; full year £42.7m) less non-controlling interests of £4.1m (2017: half year £4.0m; full year £6.4m); basic and diluted EPS from total operations are based on the profit attributable to owners of the parent of £65.9m (2017: half year £42.4m; full year £38.0m); headline and diluted headline EPS are based upon headline profit from continuing operations attributable to owners of the parent of £68.7m (2017: half year £53.3m; full year £110.1m). The table below reconciles these different profit measures.

	Unaudited Half year 2018 £m	Unaudited Half year 2017 £m	Full year 2017 £m
Profit attributable to owners of the parent	**65.4**	40.7	36.3
Adjustments for separately reported items:			
Amortisation of intangible assets	**9.6**	9.7	19.5
Restructuring charges	**-**	8.9	36.3
Income tax charge/(credit)	**(6.3)**	(6.0)	18.0
Headline profit attributable to owners of the parent	**68.7**	53.3	110.1

6.2 Weighted average number of shares

	Unaudited Half year 2018 millions	Unaudited Half year 2017 millions	Full year 2017 millions
For calculating basic and headline EPS	**270.4**	270.2	270.3
Adjustment for dilutive potential ordinary shares	**1.4**	2.0	1.3
For calculating diluted and diluted headline EPS	**271.8**	272.2	271.6

For the purposes of calculating diluted and diluted headline EPS, the weighted average number of ordinary shares is adjusted to include the weighted average number of ordinary shares that would be issued on the conversion of all potentially dilutive ordinary shares expected to vest, relating to the Company's share-based payment plans. Potential ordinary shares are only treated as dilutive when their conversion to ordinary shares would decrease EPS, or increase loss per share.

Notes to the Condensed Financial Statements (continued)

6.3 Per share amounts

		Continuing operations pence	Discontinued operations pence	Unaudited Half year 2018 total pence	Continuing operations pence	Discontinued operations pence	Unaudited Half year 2017 total pence
Earnings per share	- basic	**24.2**	**0.2**	**24.4**	15.1	0.6	15.7
	- headline	**25.4**			19.7		
	- diluted	**24.1**	**0.1**	**24.2**	15.0	0.6	15.6
	- diluted headline	**25.3**			19.6		

		Continuing operations pence	Discontinued operations pence	Full year 2017 total pence
Earnings per share	- basic	13.4	0.7	14.1
	- headline	40.7		
	- diluted	13.4	0.6	14.0
	- diluted headline	40.5		

7 Dividends

	Unaudited Half year 2018 £m	Unaudited Half year 2017 £m	Full year 2017 £m
Amounts recognised as dividends and paid to equity shareholders during the period			
Final dividend for the year-ended 31 December 2016 of 11.40p per ordinary share	**-**	30.8	30.8
Interim dividend for the year-ended 31 December 2017 of 5.50p per ordinary share	**-**	-	14.8
Final dividend for the year-ended 31 December 2017 of 12.5p per ordinary share	**33.8**	-	-
	33.8	30.8	45.6

The Directors have declared an interim dividend of 6.00p per ordinary share in respect of the year-ending 31 December 2018. The dividend will be paid on 21 September 2018 to ordinary shareholders on the register at the close of business on 10 August 2018. Based upon the number of shares in issue at 30 June 2018, the total cost of the dividend would be £16.2m.

8 Reconciliation of movement in net debt

	Balance as at 1 Jan 2018 £m	Foreign exchange adjustments £m	Non-cash movements £m	Cash flow £m	Balance as at 30 June 2018 £m
Cash and cash equivalents					
Cash at bank and in hand	**161.9**	**(2.7)**	**-**	**33.8**	**193.0**
Bank overdrafts	**(21.9)**	**-**	**-**	**0.3**	**(21.6)**
	140.0	**(2.7)**	**-**	**34.1**	**171.4**
Borrowings, excluding bank overdrafts					
Current	**(4.3)**	**0.2**	**-**	**1.8**	**(2.3)**
Non-current	**(412.1)**	**(4.9)**	**-**	**(35.9)**	**(452.9)**
	(416.4)	**(4.7)**	**-**	**(34.1)**	**(455.2)**
Capitalised borrowing costs	**2.1**	**-**	**(0.1)**	**-**	**2.0**
Net debt	**(274.3)**	**(7.4)**	**(0.1)**	**-**	**(281.8)**

9 Cash generated from operations

	Continuing operations £m	**Discontinued operations £m**	**Unaudited Half year 2018 £m**	Continuing Operations £m	Discontinued Operations £m	Unaudited Half year 2017 £m
Operating profit	**90.0**	**0.5**	**90.5**	67.7	1.7	69.4
Adjustments for:						
Amortisation of intangible assets	**9.6**	**-**	**9.6**	9.7	-	9.7
Restructuring charges	**-**	**-**	**-**	8.9	-	8.9
Depreciation	**20.6**	**-**	**20.6**	22.2	-	22.2
EBITDA (Note 16.12)	**120.2**	**0.5**	**120.7**	108.5	1.7	110.2
Net increase in inventories	**(35.2)**	**-**	**(35.2)**	(20.3)	-	(20.3)
Net increase in trade receivables	**(27.7)**	**-**	**(27.7)**	(36.2)	-	(36.2)
Net increase in trade payables	**13.3**	**-**	**13.3**	25.5	-	25.5
Net decrease/(increase) in other working capital	**16.7**	**(0.6)**	**16.1**	1.5	(1.7)	(0.2)
Outflow related to restructuring charges	**(10.4)**	**-**	**(10.4)**	(15.6)	-	(15.6)
Net retirement benefit obligations	**0.1**	**-**	**0.1**	(1.1)	-	(1.1)
Cash generated from operations	**77.0**	**(0.1)**	**76.9**	62.3	-	62.3

9 Cash generated from operations (continued)

	Continuing operations £m	Discontinued operations £m	Full year 2017 total £m
Operating profit	109.7	1.7	111.4
Adjustments for:			
Amortisation of intangible assets	19.5	-	19.5
Restructuring charges	36.3	-	36.3
Depreciation	43.7	-	43.7
EBITDA (Note 16.12)	209.2	1.7	210.9
Net increase in inventories	(19.4)	-	(19.4)
Net increase in trade receivables	(36.9)	-	(36.9)
Net increase in trade payables	44.1	-	44.1
Net decrease/(increase) in other working capital	11.7	(2.5)	9.2
Outflow related to restructuring charges	(27.3)	-	(27.3)
Net retirement benefit obligations	(4.8)	-	(4.8)
Cash generated from operations	176.6	(0.8)	175.8

10 Employee benefits

The net employee benefits balance as at 30 June 2018 of £8.3m (2017: half year £23.3m; full year £16.5m) in respect of the Group's defined benefit retirement plans and other post-retirement benefits plans, results from an actuarial valuation of the Group's defined benefit pension and other post-retirement obligations as at that date. As analysed in the following table, the net balance comprised net surpluses (assets) of £98.2m (2017: half year £81.9m; full year £92.4m), relating largely to the Group's main defined benefit pension plan in the UK, together with net liabilities (deficits) of £106.5m (2017: half year £105.2m; full year £108.9m).

	Unaudited Half year 2018 £m	Unaudited Half year 2017 £m	Full year 2017 £m
Employee benefits — net surpluses			
UK defined benefit pension plans	**97.2**	81.7	91.4
ROW defined benefit pension plans	**1.0**	0.2	1.0
Net surpluses	**98.2**	81.9	92.4
Employee benefits — net liabilities			
UK defined benefit pension plans	**(1.8)**	(1.9)	(1.9)
US defined benefit pension plans	**(30.0)**	(35.6)	(32.2)
Germany defined benefit pension plans	**(48.7)**	(44.8)	(49.4)
ROW defined benefit pension plans	**(19.3)**	(16.6)	(18.9)
Other post-retirement benefit plans	**(6.7)**	(6.3)	(6.5)
Net liabilities	**(106.5)**	(105.2)	(108.9)
Total liabilities	**(8.3)**	(23.3)	(16.5)

The total net charge of £3.6m (2017: half year £3.6m; full year £7.4m) recognised in the Condensed Group Income Statement in respect of the Group's defined benefit pension plans and other post-retirement benefits plans is recognised in the following lines.

		Unaudited Half year 2018 £m	**Unaudited Half year 2017 £m**	Full year 2017 £m
In arriving at trading profit	— within other manufacturing costs	**1.4**	1.2	2.4
(as defined in Note 16)	— within administration, selling and distribution costs	**2.2**	2.1	4.4
In arriving at profit before tax	— within restructuring charges	**-**	-	-
	— within net finance costs	**-**	0.3	0.6
Total net charge		**3.6**	3.6	7.4

11 Contingent liabilities

Guarantees given by the Group under property leases of operations disposed of amounted to £1.1m (2017: half year £1.5m; full year £1.1m).

Vesuvius has extensive international operations and is subject to various legal and regulatory regimes, including those covering taxation and environmental matters. Several of Vesuvius' subsidiaries are parties to legal proceedings, certain of which are insured claims arising in the ordinary course of the operations of the company involved, and the Directors are aware of a number of issues which are, or may be, the subject of dispute with tax authorities. Provisions are made for the expected amounts payable in respect of known or probable costs resulting both from legal or other regulatory requirements, or from third-party claims.

Certain of Vesuvius' subsidiaries are subject to lawsuits, predominantly in the US, relating to a small number of products containing asbestos manufactured prior to the acquisition of those subsidiaries by Vesuvius. These suits usually also name many other product manufacturers. To date, Vesuvius is not aware of there being any liability verdicts against any of these subsidiaries. A number of lawsuits have been withdrawn, dismissed or settled and the amount paid, including costs, in relation to this litigation has not had a material adverse effect on Vesuvius' financial position or results of operations.

As the settlement of many of the obligations for which reserve is made is subject to legal or other regulatory process, the timing and amount of the associated outflows is subject to some uncertainty.

12 Related parties

The nature of related party transactions in H1 2018 are in line with those transactions disclosed in Note 36 of the 2017 Group Financial Statements. All transactions with related parties are conducted on an arm's length basis and in accordance with normal business terms. Transactions with joint ventures and associates are consistent with those disclosed in Note 35 of the 2017 Group Financial Statements. Transactions between related parties that are Group subsidiaries are eliminated on consolidation.

13 Discontinued operations

Discontinued operations income during H1 2018 related to a release of provisions no longer required of £0.5m (2017: half year £1.7m; full year £1.7m).

	Unaudited Half year 2018 £m	Unaudited Half year 2017 £m	Full year 2017 £m
Other income	**0.5**	1.7	1.7
Profit before tax — attributable to owners of the parent	**0.5**	1.7	1.7
Earnings per share — pence			
Basic	**0.2**	0.6	0.7
Diluted	**0.1**	0.6	0.6

14 Provisions

	Disposal, legacy and closure costs £m	Restructuring charges £m	Other £m	Total £m
As at 1 January 2018	**36.1**	**22.9**	**5.2**	**64.2**
Exchange adjustments	1.1	(0.2)	-	**0.9**
Charge to Condensed Group Income Statement	3.4	0.1	4.8	**8.3**
Unused amounts released to Condensed Group Income Statement	(0.5)	-	-	**(0.5)**
Adjustment to discount	0.5	-	-	**0.5**
Cash spend	(1.1)	(10.4)	(5.5)	**(17.0)**
Transferred from other balance sheet accounts	-	-	0.4	**0.4**
As at 30 June 2018	**39.5**	**12.4**	**4.9**	**56.8**

In assessing the probable costs and realisation certainty of provisions, or related assets, reasonable assumptions are made. Changes to the assumptions used could significantly alter the Directors' assessment of the value, timing or certainty of the costs or related amounts.

15 Financial instruments

The Company's financial assets are measured at amortised cost with the exception of certain investments in debt and equity, which are measured at fair value through other comprehensive income. Financial liabilities are measured at amortised cost with the exception of certain derivative instruments, which are measured at fair value through profit and loss.

IFRS 13 Fair Value Measurement requires classification of financial instruments within a hierarchy that prioritises the inputs to fair value measurement.

The three levels of the fair value hierarchy are:

Level 1 – Unadjusted quoted prices in active markets for identical assets or liabilities;
Level 2 – Inputs other than quoted prices that are observable for the asset or liability, either directly or indirectly;
Level 3 – Inputs that are not based on observable market data.

The following table summarises Vesuvius' financial instruments measured at fair value, and shows the level within the fair value hierarchy in which the financial instruments have been classified:

	Unaudited Half year 2018		Unaudited Half year 2017		Full year 2017	
	Assets £m	**Liabilities £m**	Assets £m	Liabilities £m	Assets £m	Liabilities £m
Investments (Level 2)	**1.4**	**-**	2.5	-	1.4	-
Derivatives not designated for hedge accounting purposes (Level 2)	**0.4**	**(0.1)**	-	(0.8)	0.3	-

All of the derivative financial instruments reported in the table above will mature within a year of the balance sheet date. The method for determining the hierarchy is consistent with that used at year-end, as disclosed in Note 20 of the 2017 Annual Report.

Notes to the Condensed Financial Statements (continued)

The Group's Treasury department, acting in accordance with policies approved by the Board, is principally responsible for managing the financial risks faced by the Group. The Group's activities expose it to a variety of financial risks, the most significant of which are market risk and liquidity risk. Further details of these financial risks were disclosed in Note 27 of the 2017 Group Financial Statements. The profile of the Group's borrowings and net debt, together with financial assets by currency is detailed in the tables below.

	Financial liabilities (gross borrowings)				
	Fixed rate £m	**Floating rate £m**	**Total £m**	**Financial assets £m**	**Net debt £m**
Sterling	-	**72.1**	**72.1**	**(10.1)**	**62.0**
United States dollar	**151.4**	**7.5**	**158.9**	**(14.6)**	**144.3**
Euro	**115.0**	**122.6**	**237.6**	**(38.4)**	**199.2**
Chinese Renminbi	-	-	-	**(57.2)**	**(57.2)**
Indian Rupee	-	-	-	**(49.2)**	**(49.2)**
Other	-	**8.2**	**8.2**	**(23.5)**	**(15.3)**
Capitalised costs	**(2.0)**	-	**(2.0)**	-	**(2.0)**
As at 30 June 2018	**264.4**	**210.4**	**474.8**	**(193.0)**	**281.8**

	Financial liabilities (gross borrowings)				
	Fixed rate £m	Floating rate £m	Total £m	Financial assets £m	Net debt £m
Sterling	-	39.7	39.7	4.5	44.2
United States dollar	148.0	11.9	159.9	(14.7)	145.2
Euro	115.4	120.2	235.6	(45.2)	190.4
Chinese Renminbi	-	-	-	(34.5)	(34.5)
Other	-	3.1	3.1	(72.0)	(68.9)
Capitalised costs	(2.1)	-	(2.1)	-	(2.1)
As at 31 December 2017	261.3	174.9	436.2	(161.9)	274.3

16 Alternative performance measures

The Company uses a number of Alternative Performance Measures (APMs) in addition to those reported in accordance with IFRS. The Directors believe that these APMs, listed below, are important when assessing the underlying financial and operating performance of the Group and its Divisions, providing management with key insights and metrics in support of the ongoing management of the Group's performance and cash flow. A number of these align with KPI's and other key metrics used in the business and therefore are considered useful to also disclose to the users of the financial statements. The following APMs do not have standardised meaning prescribed by IFRS and therefore may not be directly comparable to similar measures presented by other companies.

16.1 Headline

Headline performance, reported separately on the face of the Condensed Group Income Statement, is from continuing operations and before items reported separately on the face of the Condensed Group Income Statement.

16.2 Underlying revenue, underlying trading profit and underlying return on sales

Underlying revenue, underlying trading profit and underlying return on sales are the headline equivalents of these measures after adjustments to exclude the effects of changes in exchange rates, business acquisitions and disposals. Reconciliations of underlying revenue and underlying trading profit can be found in the Financial Summary. Underlying revenue growth is one of the Group's key performance indicators and provides an important measure of organic growth of Group businesses between reporting periods, by eliminating the impact of exchange rates, acquisitions, disposals and significant business closures.

16.3 Return on Sales ('ROS')

ROS is calculated as trading profit divided by revenue. It is one of the Group's key performance indicators and is used to assess the trading performance of Group businesses. A reconciliation of ROS is included in Note 2.

16.4 Trading profit

Trading profit is defined as operating profit before separately reported items. It is one of the Group's key performance indicators and is used to assess the trading performance of Group businesses. It is also used as one of the targets against which the annual bonuses of certain employees are measured.

16.5 Headline profit before tax

Headline profit before tax is calculated as the net total of trading profit, plus the Group's share of post-tax profit of joint ventures and total net finance costs associated with headline performance. It is one of the Group's key performance indicators and is used to assess the financial performance of the Group as a whole.

16.6 Effective tax rate ('ETR')

The Group's ETR is calculated on the income tax costs associated with headline performance, divided by headline profit before tax and before the Group's share of post-tax profit of joint ventures.

16.7 Headline earnings per share

Headline earnings per share is calculated by dividing headline profit before tax less associated income tax costs, attributable to owners of the parent by the weighted average number of ordinary shares in issue during the year. It is one of the Group's key performance indicators and is used to assess the underlying earnings performance of the Group as a whole. It is also used as one of the targets against which the annual bonuses of certain employees are measured. Headline earnings per share is disclosed in Note 6 of the Condensed Group Financial Statements.

16.8 Operating cash flow

Operating cash flow is cash generated from continuing operations before restructuring and additional pension funding contributions but after deducting capital expenditure net of asset disposals. It is used in calculating the Group's cash conversion. A reconciliation of cash generated from operations to operating cash flow can be found in the Financial Review.

16.9 Cash conversion

Cash conversion is calculated as operating cash flow divided by trading profit. It is useful for measuring the rate at which cash is generated from trading profit. It is also used as one of the targets against which the annual bonuses of certain employees are measured. The calculation of cash conversion is detailed in the Financial Review.

16.10 Free cash flow

Free cash flow is defined as net cash flow from operating activities after net outlays for the purchase and sale of property, plant and equipment, dividends from joint ventures and dividends paid to non-controlling shareholders, but before additional funding contributions to Group pension plans. It is one of the Group's key performance indicators and is used to assess the underlying cash generation of the Group and is one of the measures used in monitoring the Group's capital. A reconciliation of free cash flow is included underneath the Condensed Group Statement of Cash Flows.

16.11 Average trade working capital to sales ratio

The average trade working capital to sales ratio is calculated as the percentage of average trade working capital balances to the total revenue for the year, at constant currency. Average trade working capital (comprising inventories, trade receivables and trade payables) is calculated as the average of the 12 previous month-end balances. It is one of the Group's key performance indicators and is useful for measuring the level of working capital used in the business and is one of the measures used in monitoring the Group's capital.

16.12 Earnings before interest, tax, depreciation and amortisation ('EBITDA')

EBITDA is calculated as the total of trading profit before depreciation and amortisation of non-acquired intangibles charges. It is used in the calculation of the Group's interest cover and net debt to EBITDA ratios. A reconciliation of EBITDA is included in Note 9.

16.13 Net interest

Net interest is calculated as interest payable on borrowings less interest receivable, excluding any item separately reported. It is used in the calculation of the Group's interest cover ratio.

16.14 Interest cover

Interest cover is the ratio of EBITDA to net interest. It is one of the Group's key performance indicators and is used to assess the financial position of the Group and its ability to fund future growth. This measure is also a component of the Group's covenant calculations.

16.15 Net debt

Net debt comprises the net total of current and non-current interest-bearing borrowings and cash and short-term deposits. Net debt is a measure of the Group's net indebtedness to banks and other external financial institutions. A reconciliation of the movement in net debt is included in Note 8.

16.16 Net debt to EBITDA

Net debt to EBITDA is the ratio of net debt at the period-end to EBITDA for the last 12 months. It is one of the Group's key performance indicators and is used to assess the financial position of the Group and its ability to fund future growth and is one of the measures used in monitoring the Group's capital.

16.17 Return on net assets ('RONA')

RONA is calculated as trading profit plus share of post-tax profit of joint ventures, divided by average net operating assets, at constant currency (being the average over the previous 12 months of property, plant and equipment, trade working capital and other operating receivables and payables). It is one of the Group's key performance indicators and is used to assess the financial performance and asset management of the Group and is one of the measures used in monitoring the Group's capital.

16.18 Constant currency

Figures presented at constant currency represent 2017 amounts retranslated at average 2018 exchange rates.

17 Exchange rates

The Group reports its results in pounds sterling. A substantial portion of the Group's revenue and profits are denominated in currencies other than pounds sterling. It is the Group's policy to translate the income statements and cash flow statements of its overseas operations into pounds sterling using average exchange rates for the year reported (except when the use of average rates does not approximate the exchange rate at the date of the transaction, in which case the transaction rate is used) and to translate balance sheets using period end rates. The principal exchange rates used were as follows:

	Income and expense Average rates				
	Half year 2018	**Half year 2017**	**Full year 2017**	**Half year to Half year change**	**Full year to Half year change**
US Dollar	**1.38**	1.26	1.29	9.5%	7.0%
Euro	**1.14**	1.16	1.14	(1.7%)	0.0%
Chinese Renminbi	**8.76**	8.65	8.70	1.3%	0.7%
Japanese Yen	**149.67**	141.37	144.44	5.9%	3.6%
Brazilian Real	**4.70**	4.00	4.09	17.5%	14.9%
Indian Rupee	**90.32**	82.67	83.83	9.3%	7.7%
South African Rand	**16.87**	16.62	17.15	1.5%	(1.6%)

	Assets and liabilities Period end rates				
	Half year 2018	**Half year 2017**	**Full year 2017**	**Half year to Half year change**	**Full year to Half year change**
US Dollar	**1.32**	1.30	1.35	1.5%	(2.2%)
Euro	**1.13**	1.14	1.13	(0.9%)	0.0%
Chinese Renminbi	**8.74**	8.83	8.79	(1.0%)	(0.6%)
Japanese Yen	**146.15**	146.34	152.24	(0.1%)	(4.0%)
Brazilian Real	**5.12**	4.31	4.48	18.8%	14.3%
Indian Rupee	**90.4**	84.16	86.25	7.4%	4.8%
South African Rand	**18.12**	16.99	16.70	6.7%	8.5%

Alternative performance measures – Supplementary information

5-year history at constant currency

	2014 H1	2015 H1	2016 H1	2017 H1	2018 H1
Revenue (£m)	**797.2**	**771.1**	**725.5**	**799.9**	**897.0**
Steel	538.4	522.6	479.1	540.3	610.9
Foundry	258.8	254.5	246.4	259.6	286.1
Trading Profit (£m)	**78.2**	**76.8**	**64.8**	**82.8**	**99.6**
Steel	52.4	47.5	37.3	49.8	63.0
Foundry	25.8	29.3	27.5	33.0	36.6
Return on Sales	**9.8%**	**9.9%**	**8.9%**	**10.3%**	**11.1%**
Steel	9.7%	9.1%	7.8%	9.2%	10.3%
Foundry	10.0%	11.5%	11.2%	12.7%	12.8%