

Permit Number: WP3931SD Operator: Kennametal UK Ltd  
Installation: Newport Ceramics Form Number: Performance1

**Reporting of other performance indicators for the period 01/01/2018 to 31/12/2018**

Parameter	Units
Water usage 3696/209.91	m <sup>3</sup> /tonne product 17.6
Energy usage 8340/209.91	MWh/tonne product 39.73
Effluent released 3326/209.91	M <sup>3</sup> /tonne product 15.84

Operator's comments :

Effluent released calculated as 90% of total incoming water (mains)

Signed .....  
(Authorised to sign as representative of Operator)

Date 24/1/19.....

Permit Number: WP3931SD      Operator: Kennametal Manufacturing UK Ltd  
Installation: Newport Ceramics      Form Number: WaterUsage1

**Reporting of Water Usage for the year 2018**

Water Source	Usage (m <sup>3</sup> /year)	Specific Usage (m <sup>3</sup> /unit output)
Mains water	3696 m <sup>3</sup>	17.6 m <sup>3</sup> /tonne of product

Operator's comments :

More frequent flushing regime for water cooling systems was implemented in 2018.

Signed *Jawhan* .....  
(authorised to sign as representative of Operator)

Date: *24/1/19* .....

Permit Number: WP3931SD Operator: Kennametal UK Ltd  
 Installation: Newport Ceramics Form Number: Energy1

**Reporting of Energy Usage for the year 2018**

Energy Source	Energy Usage		Specific Usage (MW/unit output)
	Quantity	Primary Energy (MWh)	
Electricity *	8340 MWh	20016	39.73 MWh/tonne product
Natural Gas	0 tonnes	n/a	n/a
<b>TOTAL</b>	<b>8340 MWh</b>	<b>20016 MWh</b>	<b>39.73 MWh/tonne product</b>

\* Conversion factor for delivered electricity to primary energy = 2.4

Operator's comments :

The specific energy usage has been calculated based on powder production and hot pressing. Although powder production and hot pressing are responsible for the majority of the electricity consumed on site, this is a slight over estimate as some of the electricity used on site is used in the production of other products.

The specific energy usage is lower than last year due to improvements in energy efficiency. However, this figure will also be affected to some degree by differences in the quantities which different products are produced. Some products require more energy to produce than others.

Signed .....  
 (Authorised to sign as representative of Operator)

Date 24/1/19.