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**Article:**

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<https://doi.org/10.1617/s11527-023-02260-3>

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## Supplementary Information

This Supplementary Information to the journal article “*Suitability of excavated London Clay as a supplementary cementitious material: Mineralogy and Reactivity*” contains:

- Moisture contents of the as-received clays (Table S1)
- Estimated kaolinite and carbonates content of the raw London clays (Table S2)
- Particle sizes of the calcined clays evaluated (Table S3)
- Summary of 7-day cumulative heat values from the R<sup>3</sup> calorimeter test (Table S4)
- Chemical oxide composition of the reference kaolinite clay (C-K) (Table S5)
- Thermogravimetry (TG) and differential thermogravimetry (DTG curves for the C-K reference clay (Figure S1)
- Particle distribution curves for the calcined London clays (Figure S2).

The experimental procedures used to collect these data are the same as those described in the “Methods” section of the main article (Section 2.2).

*Table S1: Moisture contents of the as-received clays, relative to their ‘air dry’ state (after drying at 40°C). Each value is an average of three measurements, with the standard deviation also given.*

	Westgate	Euston	Victoria
Moisture content	43.2 ± 4.3%	22.3 ± 2.7%	35.9 ± 3.9%

*Table S2: Estimated kaolinite and carbonates content of the raw London clays (and their estimated uncertainties) calculated from TG results.*

Clay	Estimated kaolinite content (wt.%)	Estimated carbonates content (wt.%)
Westgate	22.5 ± 3.6%	8.4 ± 0.6%
Euston	28.3 ± 4.1%	5.0 ± 0.8%
Victoria	28.6 ± 4.4%	5.4 ± 0.9%

*Table S3: Particle sizes of the calcined clays evaluated*

Clay ID	Calcination temperature (°C)	d <sub>50</sub> (µm)	d <sub>90</sub> (µm)
		Target < 20 µm	Target < 100 µm
Westgate	700	9.5	49.3
Westgate	800	11.9	78.3
Westgate-IC	800	8.6	66.8

Euston	700	7.9	37.9
Euston	800	8.4	38.2
Victoria	700	7.3	27.7
Victoria	800	7.6	29.9

Table S4: Summary of 7-day cumulative heat values from the  $R^3$  calorimeter test.

Clay ID	Calcination temperature (°C)	7-day cumulative heat (J / g of SCM)
Euston	700	258.0
Euston	800	325.2
Westgate	700	234.5
Westgate	800	310.4
Westgate-IC	800	312.1
Victoria	700	281.4
Victoria	800	329.0

Table S5: Chemical oxide composition of the reference kaolinite clay (C-K), determined by XRF.

	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	Fe <sub>2</sub> O <sub>3</sub>	K <sub>2</sub> O	CaO	TiO <sub>2</sub>	SO <sub>3</sub>	P <sub>2</sub> O <sub>5</sub>	Other (<0.1 wt.%)	LOI	TOTAL
C-K	77.64	10.94	1.93	0.18	0.04	3.29	0.05	0.04	0.40	5.49	100.00

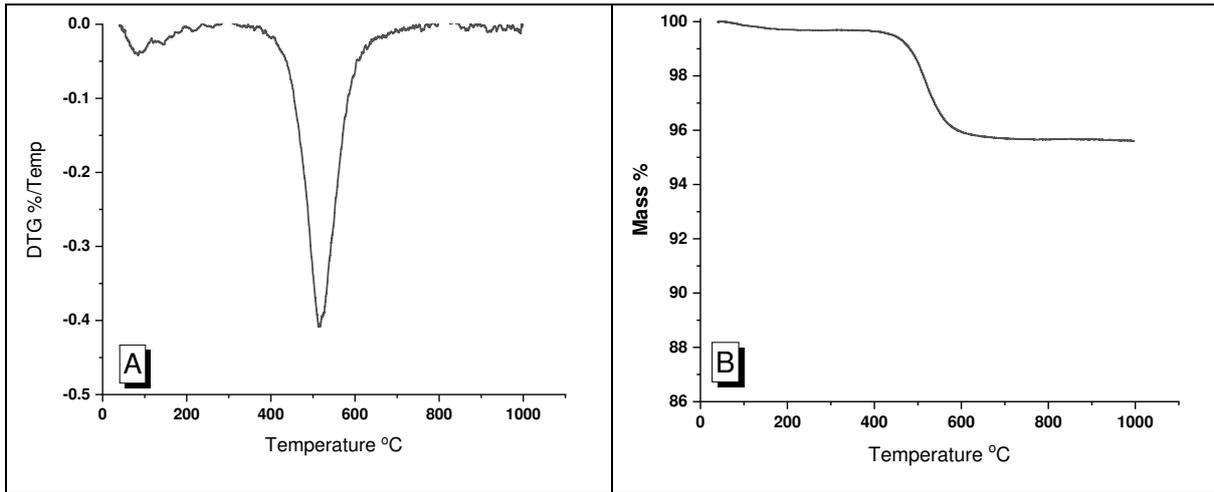
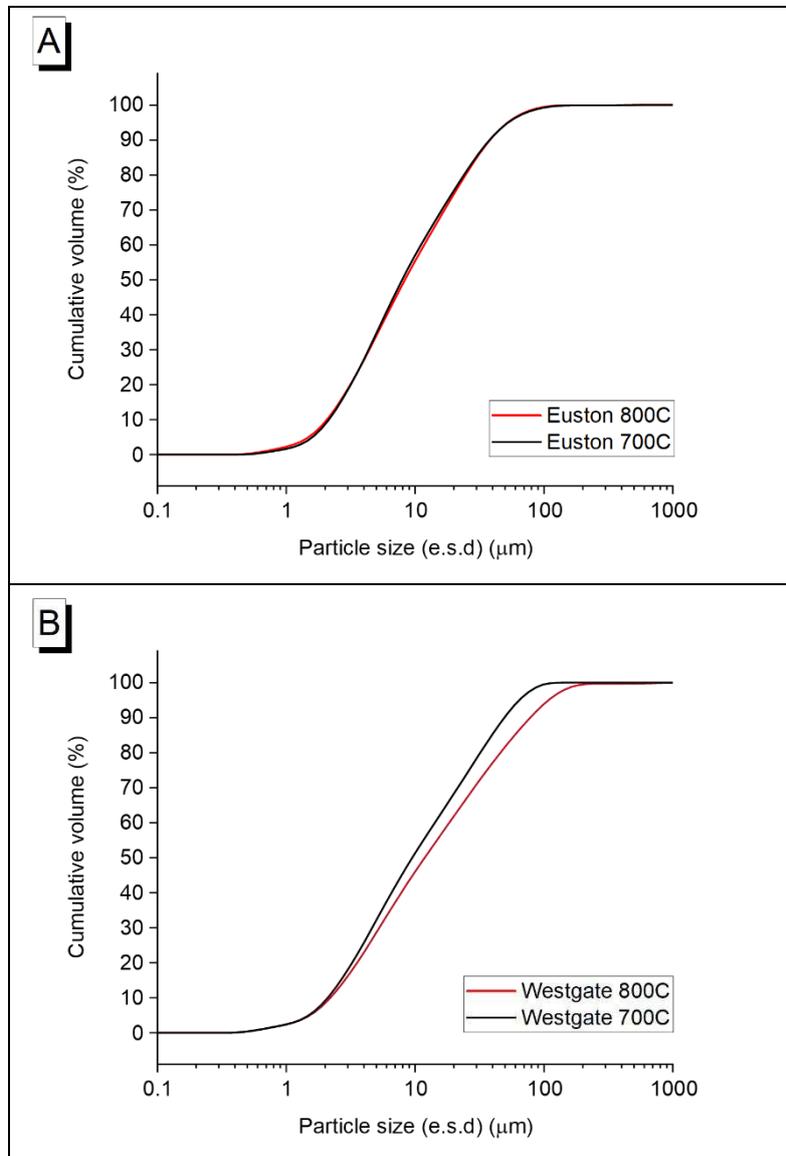


Figure S1: (A) Differential thermogravimetry (DTG) and (B) thermogravimetry (TG) curves for the C-K reference clay



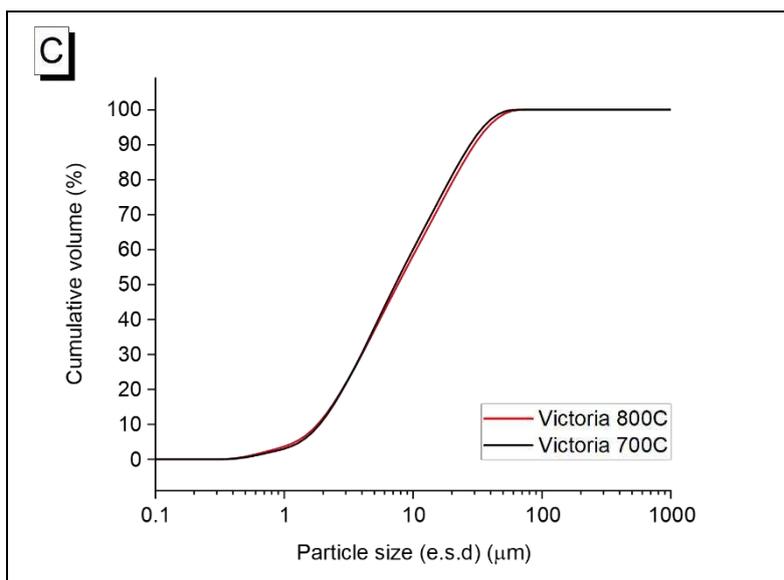


Figure S2: Particle distribution curves for (A) Euston (B) Westgate, and (C) Victoria calcined clays, as a function of the calcination temperature