

Tarmac Cement National Laboratory

Yelsway Lane
 Waterhouses
 Staffordshire
 ST10 3AZ

12/06/2025

Composition of Ground Granulated Blastfurnace Slag

**Tudela EN 15167-1 GGBS
 (0086-CPR-780512)**

Based on the **March 2025** monthly composite sample: 1402

Property			Value	BS EN 15167-1 Limit
Magnesia	MgO	%	7.00	≤ 18.0%
Sulfate	SO ₃	%	0.19	≤ 2.5%
Sulfide	S ²⁻	%	0.80	≤ 2.0%
Chloride	Cl ⁻	%	0.03	≤ 0.1%
Alkalis	Na ₂ Oeq	%	0.50	-
Alumina	Al ₂ O ₃	%	11.44	≤ 14%*
Fineness	SSA	m ² /kg	493	≥ 275 m ² /kg
7 Day Activity Index – February Sample		%	55	>40%
28 Day Activity Index – February Sample		%	88	>65%
Declared Mean Alkali Content	Na ₂ Oeq	%	0.70	-
Declared Maximum Chloride Content	Cl ⁻	%	0.05	-

**Upper limit in BS 8500 for use in '+SR' combinations*

For and on behalf of Tarmac Cement:



Cristiana Morariu

Senior Manager – Technical Commercial – Tarmac Cement

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 Tarmac Cement Limited Registered in England and Wales. Company No. 66558
 Tarmac Services Limited Registered in England and Wales. Company No. 8197397
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**Conformity of Ground Granulated Blast Furnace Slag to BS 8500-2: Annex B
Tudela EN 15167-1 GGBS
(0086-CPR-780512)**

Based on the composite samples for the month of: March 2025

Constituent	Source
EN 15167-1 GGBS	Tudela
EN 197-1 CEM II/A-LL	Aberthaw (limestone content 10-14%)

The results of compressive strength testing (in accordance with BS EN 196-1)
on a 50:50 blend of CEM II/A-LL with GGBS were:

7 Day Strength (MPa)	31.0
28 Day Strength (MPa)	52.6

Based on equivalent results obtained for the last **12** months, the permitted proportions of combinations
conforming to the requirements of Annex B of BS 8500-2 are:

Strength Class of Combination	GGBS Content (%)	
	Min	Max
32,5L	50	80
42,5L	6	64
52,5L	6	34

BS 8500-2 Combination Designation	GGBS Content (%)	
	Min	Max
CIIIA	36	65
CIIB	66	80
CIIA-M	6	14
CIIB-M	6	29
CIIC-M	16	44
CVI	31	59

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Constituent	Source
EN 15167-1 GGBS	Tudela
EN 197-1 CEM II/A-L	Hope (limestone content 12.5-16.5%)

The results of compressive strength testing (in accordance with BS EN 196-1)
on a 50:50 blend of CEM II/A-L with GGBS were:

7 Day Strength (MPa)	31.9
28 Day Strength (MPa)	53.0

Based on equivalent results obtained for the last 6 months, the permitted proportions of combinations
conforming to the requirements of Annex B of BS 8500-2 are:

Strength Class of Combination	GGBS Content (%)	
	Min	Max
32,5L	57	79
42,5L	6	66
52,5L	6	39

BS 8500-2 Combination Designation	GGBS Content (%)	
	Min	Max
CIIIA	36	65
CIIBB	66	80
CIIA-M	6	14
CIIB-M	6	29
CIIC-M	16	44
CVI	31	59

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Based on the composite samples for the month of: March 2025

Constituent	Source
EN 15167-1 GGBS	Tudela
EN 197-1 CEM I	Platin

The results of compressive strength testing (in accordance with BS EN 196-1)
of a 50:50 blend of CEM I with GGBS were:

7 Day Strength (MPa)	29.3
28 Day Strength (MPa)	53.5

Based on equivalent results obtained for the last **12** months, the permitted proportions of
combinations conforming to the requirements of Annex B of BS 8500-2 are:

Strength Class of Combination	GGBS Content (%)	
	Min	Max
32,5L	55	80
42,5L	6	67
52,5L	6	41

BS 8500-2 Combination Designation	GGBS Content (%)	
	Min	Max
CIIS	6	35
CIIIA	36	65
CIIBB	66	80

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Based on the composite samples for the month of: March 2025

Constituent	Source
EN 15167-1 GGBS	Tudela
EN 197-1 CEM II/A-L	Platin (limestone content 12-16%)

The results of compressive strength testing (in accordance with BS EN 196-1)
on a 50:50 blend of CEM II/A-L with GGBS were:

7 Day Strength (MPa)	32.2
28 Day Strength (MPa)	52.6

Based on equivalent results obtained for the last **9** months, the permitted proportions of combinations
conforming to the requirements of Annex B of BS 8500-2 are:

Strength Class of Combination	GGBS Content (%)	
	Min	Max
32,5L	55	80
42,5L	6	69
52,5L	6	32

BS 8500-2 Combination Designation	GGBS Content (%)	
	Min	Max
CIIIA	36	65
CIIBB	66	80
CIIA-M	6	14
CIIB-M	6	29
CIIC-M	16	44
CVI	31	59

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Based on the composite samples for the month of: March 2025

Constituent	Source
EN 15167-1 GGBS	Tudela
EN 197-1 CEM II/A-LL	Tunstead (limestone content 11-15%)

The results of compressive strength testing (in accordance with BS EN 196-1)
on a 50:50 blend of CEM II/A-LL with GGBS were:

7 Day Strength (MPa)	31.2
28 Day Strength (MPa)	52.5

Based on equivalent results obtained for the last 6 months, the permitted proportions of combinations
conforming to the requirements of Annex B of BS 8500-2 are:

Strength Class of Combination	GGBS Content (%)	
	Min	Max
32,5L	58	80
42,5L	6	70
52,5L	6	40

BS 8500-2 Combination Designation	GGBS Content (%)	
	Min	Max
CIIIA	36	65
CIIBB	66	80
CIIA-M	6	14
CIIB-M	6	29
CIIC-M	16	44
CVI	31	59

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