

**Composition of Ground Granulated Blastfurnace Slag**

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

Based on the **July 2024** monthly composite sample: 2669

Property			Value	BS EN 15167-1 Limit
Magnesia	MgO	%	7.49	≤ 18.0%
Sulfate	SO <sub>3</sub>	%	0.19	≤ 2.5%
Sulfide	S <sup>2-</sup>	%	0.76	≤ 2.0%
Chloride	Cl <sup>-</sup>	%	0.04	≤ 0.1%
Alkalis	Na <sub>2</sub> O <sub>eq</sub>	%	0.55	-
Alumina	Al <sub>2</sub> O <sub>3</sub>	%	11.10	≤ 14%*
Fineness	SSA	m <sup>2</sup> /kg	513	≥ 275 m <sup>2</sup> /kg
7 Day Activity Index – June Sample		%	60	>40%
28 Day Activity Index – June Sample		%	87	>65%
Declared Mean Alkali Content	Na <sub>2</sub> O <sub>eq</sub>	%	0.70	-
Declared Maximum Chloride Content	Cl <sup>-</sup>	%	0.05	-

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

For and on behalf of Tarmac Cement:



**Simon Chudley**

**National Commercial Technical Manager  
Tarmac Cement**

**TARMAC.COM**

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 Registered address for all companies: T3 Trinity Park, Bickenhill Lane, Birmingham, B37 7ES

T3 Trinity Park, Bickenhill Lane,  
 Birmingham, B37 7ES  
**0345 812 6232 info-cement@tarmac.com**

**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: July 2024

Constituent	Source
EN 15167-1 GGBS	Tudela
EN 197-1 CEM II/A-LL	Aberthaw

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

7 Day Strength (MPa)	31.4
28 Day Strength (MPa)	52.7

Based on equivalent results obtained for the last 4 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	42	78
42,5L	6	56
52,5L	6	19

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

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

Based on the composite samples for the month of: July 2024

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

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

7 Day Strength (MPa)	34.2
28 Day Strength (MPa)	57.1

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	58	80
42,5L	21	68
52,5L	6	45

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

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

Based on the composite samples for the month of: July 2024

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

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

7 Day Strength (MPa)	28.9
28 Day Strength (MPa)	52.9

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	52	80
42,5L	13	63
52,5L	6	38

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

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 Tudela EN 15167-1 GGBS  
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Based on the composite samples for the month of: July 2024

Constituent	Source
EN 15167-1 GGBS	Tudela
EN 197-1 CEM II/A-LL	Platin

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

7 Day Strength (MPa)	31.5
28 Day Strength (MPa)	52.2

Based on equivalent results obtained for the last 1 month, 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	49	80
42,5L	6	66
52,5L	6	19

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

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