Tarmac Cement
National Laboratory
Yelsway Lane
Waterhouses
Staffordshire
ST10 3AZ

17/06/2026

Composition of Fly Ash

Tudela Fly Ash
EN 450-1 LOI Cat. B, Fineness Cat.N
0086-CPR-756089

Based on the **March 2026** monthly composite sample: 1366

Property			Value	BS EN 450-1 Limit
Fineness (Residue)	45µm	%	7.8	Declared Value 15% ± 10% *(Tested in accordance with BS EN 450-1 cl. 5.3.1)*
APD		g/cm^3	2.50	< 200kg/m3 from declared value
28 Day Activity Index – Feb sample		%	81	>75%
90 Day Activity Index – Jan sample		%	92	>85%
Sulfate	SO_3	%	1.14	≤ 3.0%
Loss on Ignition	LOI	%	5.55	≤ 7.0%
Chloride	Cl^-	%	0.02	≤ 0.1%
Calcium Oxide	CaO	%	7.86	≤ 10.0%
$SiO_2 + Al_2O_3 + Fe_2O_3$	-	%	78.05	≥ 70.0%
Free Lime	-	%	0.29	≤ 1.5%
Alkalis	Na_2Oeq	%	0.83	≤ 5.0%
Declared Mean Alkali Content	Na_2Oeq	%	1.50	-
Declared Maximum Chloride Content	Cl^-	%	0.05	-

*BS EN 933-10:2009 method replacing the 63 µm sieve with a 45 µm sieve

For and on behalf of Tarmac Cement:

Cristiana Morariu

Senior – Technical Commercial Manager
Tarmac Cement

Tarmac Cement National Laboratory
Yelsway Lane
Waterhouses
Staffordshire
ST10 3AZ

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 2026

Constituent	Source
EN 15167-1 GGBS	Tudela
EN 197-1 CEM II/A-L	Cauldon

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)	25.9
28 Day Strength (MPa)	55.1

Based on equivalent results obtained for the last **5** 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	68
52,5L	6	39

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

For and on behalf of Tarmac Cement:
Cristiana Morariu

Senior Manager – Technical Commercial – Tarmac Cement
TARMAC.COM

Tarmac Cement National Laboratory
Yelsway Lane
Waterhouses
Staffordshire
ST10 3AZ

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 2026

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

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)	30.3
28 Day Strength (MPa)	53.8

Based on equivalent results obtained for the last **10** 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	68
52,5L	6	35

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

For and on behalf of Tarmac Cement:
Cristiana Morariu

Senior Manager – Technical Commercial – Tarmac Cement
TARMAC.COM

Tarmac Cement Limited Registered in England and Wales. Company No. 66558
Registered address: T3 Trinity Park, Bickenhill Lane, Birmingham, B37 7ES

Tarmac Cement National Laboratory
Yelsway Lane
Waterhouses
Staffordshire
ST10 3AZ

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 2026

Constituent	Source
EN 15167-1 GGBS	Tudela
EN 197-1 CEM II/A-L	Limerick

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)	32.1
28 Day Strength (MPa)	52.7

Based on equivalent results obtained for the last **10** 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	78
42,5L	6	63
52,5L	--	--

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

For and on behalf of Tarmac Cement:
Cristiana Morariu

Senior Manager – Technical Commercial – Tarmac Cement
TARMAC.COM

Tarmac Cement National Laboratory
Yelsway Lane
Waterhouses
Staffordshire
ST10 3AZ

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 2026

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

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)	31.2
28 Day Strength (MPa)	53.8

Based on equivalent results obtained for the last **10** 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	59	80
42,5L	6	71
52,5L	6	14

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

For and on behalf of Tarmac Cement:
Cristiana Morariu

Senior Manager – Technical Commercial – Tarmac Cement
TARMAC.COM

Tarmac Cement Limited Registered in England and Wales. Company No. 66558
Registered address: T3 Trinity Park, Bickenhill Lane, Birmingham, B37 7ES

Tarmac Cement National Laboratory
Yelsway Lane
Waterhouses
Staffordshire
ST10 3AZ

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 2026

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)	29.0
28 Day Strength (MPa)	52.8

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	56	80
42,5L	6	68
52,5L	6	42

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

For and on behalf of Tarmac Cement:
Cristiana Morariu

Senior Manager - Technical Commercial - Tarmac Cement
TARMAC.COM

Tarmac Cement National Laboratory
Yelsway Lane
Waterhouses
Staffordshire
ST10 3AZ

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 2026

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

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)	57.4

Based on equivalent results obtained for the last **10** 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	60	80
42,5L	6	70
52,5L	6	45

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

For and on behalf of Tarmac Cement:
Cristiana Morariu

Senior Manager – Technical Commercial – Tarmac Cement
TARMAC.COM