

RUGBY® SULFATE

PORTLAND-FLY ASH
BS EN 197-1 – CEM II / B-V 42,5 N

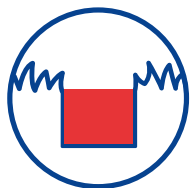


Rugby Sulfate is a factory produced Portland-fly ash cement with high sulfate resistance ideal for concrete, mortar and grouts where sulfates may be present. It is suitable for use as an alternative to Sulfate resisting Portland cement in most aggressive ground conditions.

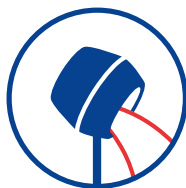
Rugby Sulfate is designed to prevent the rapid deterioration of concrete which can occur in structures exposed to certain types of soils and groundwaters and of mortar used where sulfates may be present in the masonry unit.



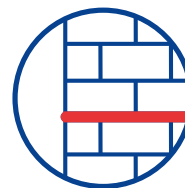
Ideal for



Below
Ground



Concrete



Mortar Damp
Proof Course

Applications

Rugby Sulfate is a BS EN 197-1 Portland-fly ash CEM II /B-V 42,5N cement containing a minimum of 25% fly ash, a by-product of coal fired power stations, making it a more sustainable cement compared to Portland cement (CEM I) and enhancing its performance characteristics. It can be used in applications where exposure to sulfate is a risk, as such it is ideal for use in below the ground concrete, mortar and grout and where sulfates may exist in masonry units.

It carries the +SR designation as defined in BRE Special Digest 1 and BS8500 and can be used in all sulfate conditions (except DC-4m). The inclusion of fly ash reduces initial thermal heat release making it ideal for larger concrete pours where thermal stresses may be an issue. It also improves resistance to chloride corrosion of reinforcement in concrete.

Product specification

Typical Properties		High Strength	Rugby Premium	Rugby Sulfate
EN196-1 Strength	2-day	33.0	20.0	24.5
	7-day	45.5	31.5	32.5
	28-day	59.0	41.0	49.0
Water for Standard Consistence/%H ₂ O		29.0	24.5	30.0
Initial Setting Time/Minutes		120-140	115-140	120-140
Fineness m ² /kg		440-460	390-410	430-450
+SR		No	No	Yes
Colour / CIELab	L*	61.0	63.0	59.5
	a*	-1.2	-1.2	-1.1
	b*	5.9	5.8	7.0

Usage guidance and concrete properties

Sharp (concreting) sand should be used, together with 20mm maximum size coarse aggregate and the minimum amount of water necessary for placement and compaction. Excess mixing water reduces both strength and durability of concrete. Use of separate sand and coarse aggregate is preferable to all-in aggregate (ballast).

The Special Digest 1 notation for Rugby Sulfate is CEM II/B-V+SR, and this should be used with the Special Digest 1 document for guidance regarding minimum cement contents and maximum free water:cement ratios. [\(See table below\)](#).

Concrete qualities to resist chemical attack for the general use of in-situ concrete: limiting values for composition (BRE SD1):

Design Chemical (DC) Class	Max Free - Water / Cement Ratio	Min CEM II / B-V+SR Content (Kg/M ³) for maximum aggregate size of			
		40mm+	20mm	14mm	10mm
DC - 1	-	-	-	-	-
DC - 2	0.55	300	320	340	360
DC - 2z	0.55	300	320	340	360
DC - 3	0.40	360	380	380	380
DC - 3z	0.50	320	340	360	380
DC - 4	0.35	380	380	380	380
DC - 4z	0.45	340	360	380	380

Availability, delivery and storage

Cemex bagged cements are available across the UK. Delivered by road in a curtain-sided vehicle, the standard load size is 28 tonnes. All Cemex drivers are fully trained and experienced in the safe delivery and unloading of our vehicles. Please ensure the site is accessible with no obstructions. A pre-delivery inspection can be arranged to assess the site for suitability, just ask.

Rugby Sulfate is available in 25kg weatherproof bags or paper sacks delivered as shrink-hooded, 1.4 tonne modules on non-chargeable pallets. To avoid premature deterioration of the reducing agent incorporated in the cement for control of soluble chromium (VI), storage should be in accordance with our recommendations given on bags and despatch documents.

Declared performance and UKCA marking

Cemex UK bagged cements conform to the relevant requirements of UK Designated Standard BS EN 197-1 or BS EN 197-5 and are subject to third party accreditation by a UK Approved Body in accordance with the most rigorous level of 'assessment and verification of constancy of performance' (AVCP 1+) specified in the UK Construction Products Regulation.

This provides:

- Independent confirmation that products conform fully to the relevant technical specification
- Regular independent auditing of products by UKAS accredited laboratories
- Regular independent evaluation of test data and appraisal of our Factory Production Control
- Traceability of cement deliveries to their source of manufacture

Declarations of performance in respect of the essential characteristics of our products are available from our website at cemex.co.uk/ukcamarks.

UK CA Bagged Cement UKCA mark information can also be found on our despatch documentation as required by the UK Construction Products Regulation.

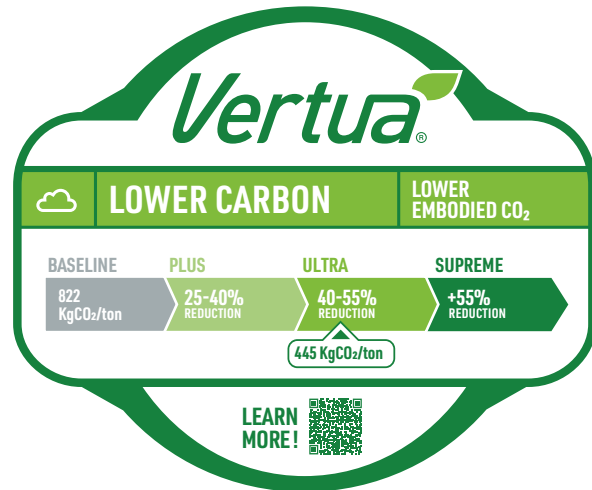
Sustainability

Sustainability at Cemex is embedded in our business strategy and in our day-to-day operations. Cemex aims to lead in sustainable construction by developing building products and solutions that have significant positive sustainability attributes and contribute to the transformation of the construction sector. Cemex manufacturing sites operate environmental management systems based on the principles of ISO 14001:2015. All of our operations are accredited to BES 6001 Responsible Sourcing and our cement operations are leading the way in carbon footprint production by using decarbonised raw materials, alternative sources of fuel and energy and developing a portfolio of cements containing lower clinker levels all contributing to a lower carbon intensity of our operations.

Our vision, through our Future In Action programme and our involvement in the United Nations' 'Race to Zero' campaign, is to lower our carbon intensity in our cementitious materials by 40% (against our baseline) by 2030 and by 2050 ensure we deliver net zero CO₂ company. These targets are in alignment with the 'Well Below 1.5°C Scenario' defined by the Science Based Targets initiative.

Vertua – more sustainable by design

The Vertua 'lower carbon' logo and label is shown on selected cement products characterised by their unique composition. These cements contain the highest quality ingredients to reduce the carbon footprint of the finished product. Cements bearing this sign are guaranteed to reduce CO₂ emissions in the process of their manufacture by over 25%, than conventional Portland cement CEM I*. Our cements labelled as Vertua Ultra have over 40% lower CO₂ emissions with comparable performance.



Technical Services and Product Support Helpline:

Cemex UK provides support for our products through the dedicated support channels listed here.

Routine test data in the form of Weekly Cement Test Reports, Product Conformity Certificates etc are available through our online portal, please contact us for further details and registration.

Product Support

0800 667 827

gb-enquiries@cemex.com

cemex.co.uk/bagged-cement-products

Bagged Cement Customer Services

0808 145 1900

customerservices@cemex.co.uk

*Basis of calculation: GCCA standard value for cement clinker emissions (global weighted average of direct Net emissions of cement clinker) from Getting the Number Right (GNR) in 2000: 862 kg CO₂/t cement clinker. Reference value Cement (CEM I with 95% cement clinker content): 822 kg CO₂/t cement. (GWP figures calculated to recognised standards are available on request)

Vertua is a Cemex Group trademark that highlights specific characteristics of Cemex Group products regarding environmental impact as described in the corresponding Fact Label. The Vertua label is not intended as a certification. Cemex defines all labels on industry standards, the data in this label is based on operational performance and cement emissions taken from actual figures. This is subject to change and will be reviewed and updated annually.

Cemex is a global leader in the building materials industry providing high-quality, innovative products and exceptional service to both customers and the community in the most sustainable and efficient way possible.

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