



BluCem FSC
FAST SET CONCRETE



Bluey Technologies is an industry-leading civil engineering solutions provider, known for our innovative products, extensive knowledge and value adding services.

Bluey manages projects from start to finish, meaning that clients have a partner by their side with decades of experience, an engineering edge and the ability to think outside the box to ensure the job is completed right, every time.

Our operations now span Australia, New Zealand and South East Asia.

BluCem FSC

FAST SET CONCRETE

Blu**Cem** FSC Fast Set Concrete is a high strength, durable, CSA based, cementitious binder which is blended with selected aggregates to form a high performance pavement system.



BLUCEM FSC BASE

BluCem FSC Base is designed for use in the construction of concrete structures and pavements where only a short window of time is available to complete the works and return the asset to service.

BLUCEM FSC SUBBASE

BluCem FSC Subbase is a low strength, lean mix blend designed for use in construction of both asphalt and concrete pavements to reduce the time until overlying pavement layers can be placed.

ADVANTAGES OF USING BLUCEM FSC

- 100 year design life
- In house product development
- Assets returned to service in under 3 hours
- Suitable for all Australian conditions
- Ultra-low shrinkage <300 microstrain
- No surface cracking
- Extensive 1000+ day testing
- Available on demand.

WHERE TO USE BLUCEM FSC

Airport runways, concrete road pavements, bridges, rail corridors, sewer structures, car parks, precast concrete panels, industrial process plants and mining infrastructure.



We understand that trust is built with consistent results.

That's why all Bluey products undergo extensive long-term testing, prior to and after the manufacturing process. The extensive testing, which meets strict Australian and International Standards provides our clients with the confidence of reliable and consistent results.

The BluCem FSC results from independent and on-site testing also tell the same story; that BluCem FSC delivers the same, high quality, fast set concrete at all times, under a wide range of conditions and temperatures.

- Two decades of time critical applications
- In-house product development
- Manufactured with pharmaceutical grade systems
- Reliable and repeatable results
- Extensive quality control on every batch
- Authority approved mix designs
- Long term stability
- Chemically resistant.



While there are a number of benefits to using BluCem FSC, the key benefit of the technology is its ability to accelerate the construction process.

As anyone working in the industry knows, the need to replace and repair road networks and airport infrastructure is growing each year. Stakeholders are pushing for works to be completed faster in an attempt to save money and minimise down time of the infrastructure network.

Our extensive experience with fast set cements on civil infrastructure projects over the past two decades has given us the essential insights for dealing with time-critical materials and their specifications.

- High flexural and compressive strengths
- Computerised mixed design and calibration
- Assets returned to service in under 3 hours
- Adjustable workability - AddSlow
- Adjustable finish times - AddFlow
- Controlled application in summer and winter.



All of our cementitious products, including BluCem FSC, are manufactured in Sydney.

Local manufacturing allows us to offer large scale, on demand supply throughout Australia. By selecting graded aggregates that comply with the highest standard of concrete practices, BluCem FSC currently stands out against the rest, achieving high performing, durable, fast set concrete on projects across Australia.

Bluey has been manufacturing cementitious products in Australia for more than two decades across a range of major infrastructure projects, demonstrating our ability for on-time delivery, reliable customer service and a consistency of product. Our experience with BluCem FSC has given us the insight required to successfully deliver fast set projects, time and time again.

- Manufactured locally
- Patented dust extraction system which is designed to minimise the loss of fine powders
- High tech blending equipment built for pharmaceutical industry
- Suitable for all Australian conditions
- Fresh product and ingredients
- Reduced transportation
- Low carbon footprint
- Available on demand.



BluCem FSC has undergone extensive long term testing.

The testing includes 1,000+ day testing to ensure consistency in strength and durability properties are maintained. Our testing has highlighted some exceptional results: BluCem FSC has a 100 year design life.

To achieve this design life, BluCem FSC has undergone comprehensive testing for material properties and exposure to various environmental conditions. The results showed no surface cracking, late formation ettringite and most importantly a durable, hard-wearing surface.

- Free of calcium chloride or nitrate accelerators
- No surface cracking
- Protection of steel reinforcement with engineered alkalinity
- Very low shrinkage - less than 300 μ m
- Low in soluble alkali
- 900 day pH > 11.4
- Chloride content < 0.005%
- No residual sulphates.

BluCem FSC has been designed with excellent corrosion resistance, structural rehabilitation properties and no residual sulphates, making it the most durable fast set concrete in Australia today.



APPROVED APPLICATION PARTNERS

Our application partners specialise in fast set concrete placement and supply, combining state of the art plant and equipment with highly skilled, multi-disciplined teams to deliver quality slabs, nationwide. The mobile batching units (MBUs) ensure that the BluCem FSC reaches the optimum technical requirements every time.

TIME CRITICAL ENVIRONMENTS

The fast set times of BluCem FSC in conjunction with volumetric mixers allows for precision results to be achieved in time critical environments. Precast concrete slabs are a key example of where BluCem FSC set times result in faster production rates and turnover.

EXPERT TEAMS

When working with BluCem FSC, organisation and experience are critical for a successful outcome. Work times are short and the window for surface finishing is narrow. Our specialist applicators are trained to deliver quality results for complex projects. They know when and how to complete every step and are the most critical component to delivering a successful project.

RMS APPROVAL

Following extensive collaboration with testing groups and state regulators, BluCem FSC has been approved by the RMS for pavements in NSW, as it meets the rigorous standards for both new and upgrade projects.



DELIVERY METHODS

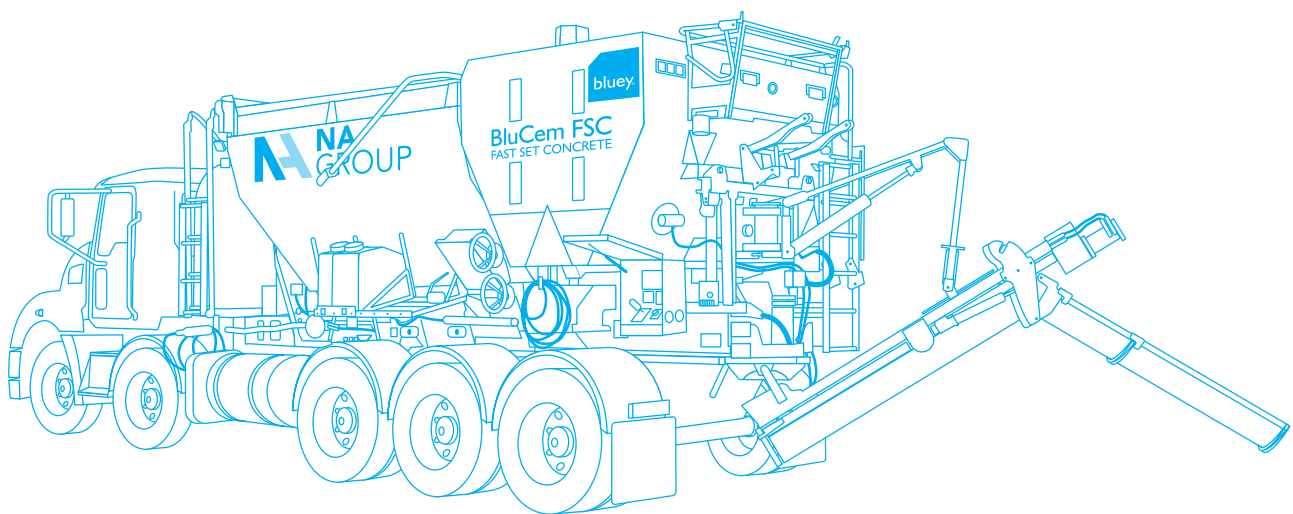
Our expertise with BluCem FSC goes further than product development, we also supply BluCem FSC in a variety of services, including

- Product supply only
- Supply and placement
- Full-service removal
- Supply and placement
- Complete training for local operators and project management teams.



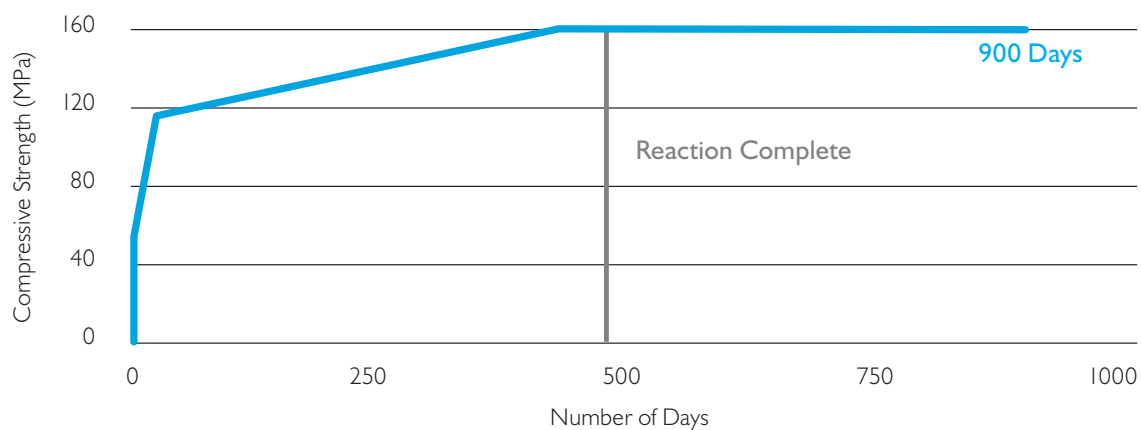
VOLUMETRIC EQUIPMENT

- Industry-leading Mobile Batching Unit technology
- Computerised mix design and calibration
- Continuous weigh batching on powder bins
- Dual powder bins to eliminate site loading
- Powder loading by cement tankers.



BLUCEM FSC BASE AND SUBBASE TEST REPORT RESULTS			
	Standard	Base	Subbase/Leanmix
Compressive 2h	AS1012.9	10-20MPa	>2MPa
Compressive 3h		20-35MPa	>3MPa
Compressive 4h		35-45MPa	>4MPa
Compressive 1 day		45-55MPa	10MPa
Compressive 28 days		>60MPa	<20MPa
Flexural 2h	AS1012.1	>2.0MPa	
Flexural 3h		>3.0MPa	
Flexural 4h		>4.00MPa	
Flexural 28 days		>5MPa	
Setting Time		15-45mins	15-45mins
Chloride Content	AS1012.20	<0.005%	<0.005%
Shrinkage	AS1478.2	<300um	<300um
pH 28 days		>10pH	>10pH
pH 900+ days		>10pH	>10pH
Permeability	DIN 1048	<15mm	<15mm
Chloride Ion Diffusion	Nord Test 443	5.53 E ⁻¹² m ² /s	5.53 E ⁻¹² m ² /s

BluCem FSC Binder Compressive Strength Development



*Setting times are set based on temperature and allocated working time required. Bluey can supply detailed setting times.



Bluey delivers...

- Products developed for civil engineering
- Product technical knowledge
- Site application knowhow
- A collaborative approach
- Economical solutions for large projects



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