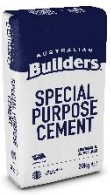

Australian Builders
Special Purpose Cement

Australian Builders Special Purpose cement is produced by blending general purpose cement, fly ash and ground granulated blast furnace slag. Blend formulation is selected to achieve lower heat generation and higher resistance to sulphate attack compared to General purpose cement. The product complies with Australian standard AS3972 as a type General Blended (GB) Cement, Low Heat (LH) Cement and Sulphate Resistance (SR) Cement.

APPLICATIONS

Australian builders special purpose cement can be used in several structural and non-structural concrete and mortar jobs where high early age strength is not critical.

- Australian builders special purpose cement can be used where lower heat in concrete is required.
- Australian builders special purpose cement can also be used in concrete where the concrete is susceptible for sulphate attack.

CCAA Technical Note 68 "Sulfate Resisting Concrete" and AS 3600 should be referred when using concrete in project where sulphate resistance is required.

PROPERTIES OF AUSTRALIAN BUILDERS (AB) SPECIAL PURPOSE CEMENT

The table to the right shows the typical properties of AB special purpose cement. The testing is conducted in accordance with the relevant Australian Standards test methods, at a NATA registered laboratory.

Property	Australian builders special purpose cement	AS 3972
Setting Time	Typical	Requirement
Initial (hours)	3-4	45 mins (min)
Final (hours)	5-6	10 hours (max)
Soundness	0-1 mm	5.0 mm (max)
Fineness Index (kg/m^3)	360-400	NR
Compressive Strength (mortar) AS 2350.11		
3 day (MPa)	18-25	NR
7 day (MPa)	30-35	20 (min)
28 day (MPa)	50-60	35 (min)
Expansion due to sulphate attack (AS 2350.14)		
Expansion in 16 Weeks (µstrain)	120-400	750 (max)
Peak Temperature Rise (AS 2350.7)		
Maximum temperature (°C)	19-22	23 (max)

SULPHATE RESISTANCE

AB special purpose cement complies with the performance requirements of AS 3972 for Type SR cement. Additional guidance to ensure the resistance of concrete to sulphate attack can be found in CCAA's Technical Note 68 "Sulphate resisting concrete".

HEAT EVOLUTION

AB special purpose cement with the performance requirements of AS 3972 for Type LH cement. The following graph demonstrates the heat evolution of AB special purpose cement and general purpose (GP) cement.

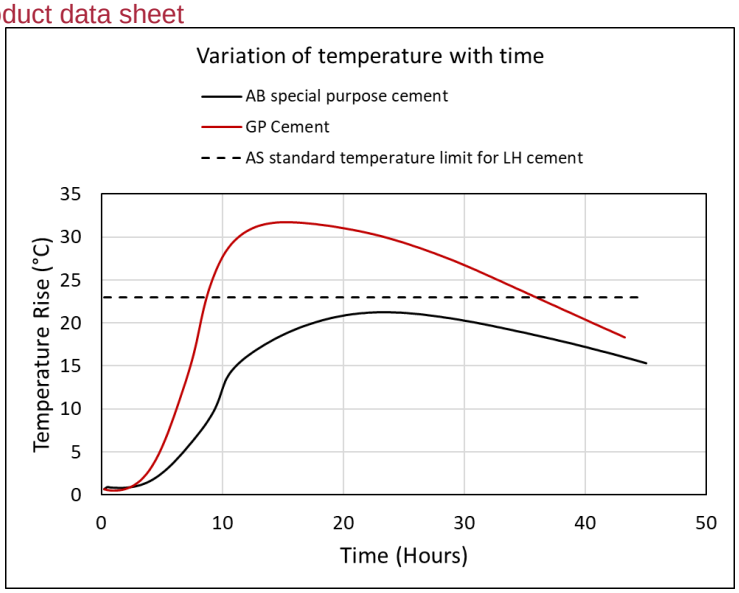

Figure 1: Variation of temperature with time in AB special purpose and GP cement

Note: All the tests are conducted in accordance with the relevant Australian Standards test methods, at a NATA registered laboratory.

COLOUR

AB special purpose cement is slightly lighter in colour than GP cement. Always use one type of cement for the projects where colour of mortar/concrete is critical.

MORTAR AND RENDER WITH AUSTRALIAN BUILDERS SPECIAL PURPOSE CEMENT

AB special purpose cement can be used to produce mortar and render products. The addition of other ingredients in the mortar/render mix will also impact the properties of the final product.

CONCRETE WITH AUSTRALIAN BUILDERS SPECIAL PURPOSE CEMENT

AB special purpose cement can be used in most concrete applications. Other factors including admixtures, concrete mix designs, compaction methods, curing and environment conditions can also change the properties of concrete. Concrete should produce and deliver according to AS 1379 (The specification and manufacture of concrete) and AS 3600 (Concrete structures). Special projects need to have concrete mixes which are accessed by a professional Engineer.

MIXING

Initially, all the aggregates and cement should be mixed properly. Then water should be added stepwise until desired workability is achieved. Additional water added into concrete can reduce the performance of concrete including strength reduction, increased porosity and durability issues.

CURING

Fresh concrete should be protected from rapid moisture loss. Concrete can be kept moist all the time by covering with plastic sheets and wet Hessian. Curing should start as soon as the concrete has been finished. First seven days of curing is very important for achieving the maximum performance of the final product.

COMPRESSIVE STRENGTH DEVELOPMENT

Figure 2 shows the compressive strength development of AB special purpose cement based concrete compared to GP cement. Early age strength of special purpose cement based concrete is lower than that of GP based concrete. However, at 28 days, Special purpose cement based concrete has the similar strength as GP based concrete.

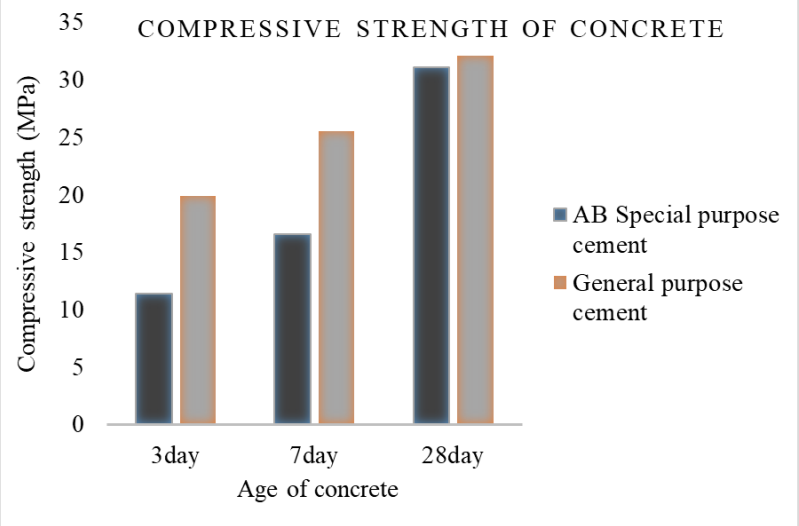

Figure 1: Compressive strength development of concrete.
These concrete results are based on slump=80±10mm, cementitious content=300 kg/m^3 water to cement ratio ~ 0.6

Note: All the tests are conducted in accordance with the relevant Australian Standards test methods, at a NATA registered laboratory.

HANDLING AND STORAGE

Manual handling of bag products without due care and attention may result in personal injury. Unless you have been trained in manual handling methods. It is suggested that you share the load with another person.

AB special purpose cement can be stored up to six months provided it is stored in a place dry place which is protected from ingress of moisture.

SAFETY INFORMATION

For safety information refer to the safety data sheet (SDS) for special purpose cement. SDS is available in **www.bpsaust.com**

AVAILABILITY

Australian Builders special purpose cement is available in 20kg bags.

CONTACT POINTS

For further information please contact:

Building Product Supplies

Telephone: 0396760060
Email: BPSINFO@independentcement.com.au