



# Eureka

## General Purpose (GP) Cement



**Eureka GP cement** is produced in Adelaide, Australia. The product confirms to Australian standard AS3972 “Portland and Blended Cement” for type GP cement

### APPLICATIONS

**Eureka GP cement can be used in several concrete and mortar jobs. Some of the uses of GP cement are shown below.**

- Structural Concrete
- Mortars
- Renders
- Screeding
- Grouts
- Soil stabilisation
- Concrete Masonry
- Paving

### PROPERTIES OF EUREKA GP CEMENT

The table below shows the typical properties of Eureka GP cement. All the testing is conducted in accordance with the relevant Australian Standards test methods, at a NATA accredited laboratory.

PROPERTY	EUREKA GP CEMENT	AS3972
	Typical	Requirement
<b>Setting Time</b>		
<b>Initial (hours)</b>	1.5-2.2	45 mins (min)
<b>Final (hours)</b>	2.5-3.5	6 hours (max)
<b>Soundness(mm)</b>	0-2	5.0mm (max)
<b>Fineness Index (kg/m<sup>3</sup>)</b>	380-435	380-435
<b>Compressive Strength (Mortar)</b>		
<b>3 day (MPa)</b>	30-42	NR
<b>7 day (MPa)</b>	40-55	35 (MPa)
<b>28 day (MPa)</b>	55-70	45 (MPa)

### COLOUR

Eureka GP cement is grey in colour. Use one type/brand of cement for the projects where colour of mortar/concrete is critical.

### DIRECTIONS TO USE

- Always measure ingredients for concrete or mortar using a bucket or gauge box rather than a shovel.
- Prepare concrete, mortar or cement mixes using a minimum amount of water to get stronger products.
- Always compact your concrete thoroughly.

### MORTAR AND RENDER WITH EUREKA GP CEMENT

Eureka GP cement can be used to produce mortar and render products for different applications. Addition of other ingredients in the mortar/render mix will impact the properties of the final product.

### MIX DESIGN

The following table gives guide to the proportions (by volume) to be used to produce mortar/render product. It is important to use sand with low clay or silt content. Clean water should always be used in mortar/render mixes.

### MIX PROPORTIONS (BY VOLUME) FOR MORTAR/RENDER

The table below shows the mix proportions that can be used to produce mortar/render mixes. Hydrated lime can be used to get better workability. (Note: This information is a guide only, specific advice should be searched for the special projects)

APPLICATION	MORTAR TYPE (AS3700)	CEMENT	HYDRATED LIME	SAND
<b>General Use additional workability</b>	M3	1	1	6
<b>General Use</b>	NA	1	-	4
<b>Render</b>	NA	1	0.5	4

**CONCRETE WITH EUREKA GP CEMENT**

Eureka GP cement can be used most of the concrete applications. Other factors including admixtures, concrete mix designs, compaction methods, curing and environment conditions can also change the properties of concrete. However, special projects need to have concrete mixes which are accessed by a professional Engineer.

**PROPORTIONS (BY VOLUME) FOR CONCRETE**

The following table gives guide to the proportions (by volume) to be used. (Note: This information is a guide only, specific advice should be searched for the special concrete projects)

APPLICATION	CEMENT	SAND	AGGREGATE
High strength grade	1	2	3
General usage- paths, driveway etc.	1	2.5	4
Concrete-Foundations, Footings	1	3	5

**MIXING**

Initially all the aggregates and cement should be mixed properly. Then water should be added stepwise until desired workability is achieved in concrete. 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 Hessian. First week of curing is very critical for achieving the maximum performance of the end-product. Curing should start as soon as the concrete has been finished.

**COMPRESSIVE STRENGTH DEVELOPMENT**

Figure 1 shows the compressive strength development of concrete in the presence of 400kg/m<sup>3</sup> cement. Compressive strength of concrete can be varied according to the mix design and properties of aggregates.

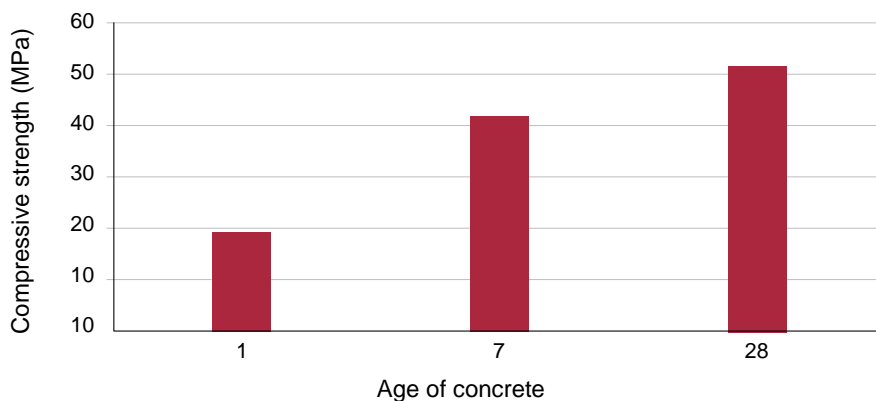


Figure 1: Compressive strength development of concrete These concrete results are based on slump=80±10mm, cementitious content=400kg/m<sup>3</sup>

Note 1: All the testing is 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.

Eureka GP 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 Portland and blended cement. SDS is available in [www.bpsaust.com](http://www.bpsaust.com)

**AVAILABILITY**

Eureka GP Cement is available in 20kg bags.

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