

GENERAL BLENDED CEMENT

SolidCore General Blended Cement is a reliable, cost-effective Type GB cement conforming to AS 3972. It delivers consistent setting times and strength development for general construction, including concrete, mortar, render and grout applications.

Manufactured under strict quality control (NATA-accredited), it meets or exceeds all Type GB requirements.



FEATURES & BENEFITS

- AS 3972 compliant (Type GB)
- Enhanced workability and pumping performance
- Lower water requirement
- Improved control of bleeding
- Reduced drying shrinkage and creep
- Enhances resistance to chemical attack and chloride ingress.
- Minimized risk of Alkali-Aggregate Reaction (AAR)

APPLICATIONS

SolidCore GB Cement is suitable for a broad spectrum of uses, including:

- Residential construction applications
- Large-scale engineering projects
- Applications for precast concrete and surface finishing. Stabilisation works, including road pavement recycling
- Applications within the mining sector
- Specialised products such as adhesives, renders, mortars, and grouts

PERFORMANCE CHARACTERISTICS

Tested per Australian Standard methods, typical values:

Characteristics	Unit	AS3972 Type GB	Indicative GB
Setting Time	Initial (minutes)	45 min	100 - 150
	Final (minutes)	600 max	180 - 240
SO3	%	3.50 max	1.2 - 2.2
ISO Mortar Compressive Strength	3 Day (MPa)	–	20 - 25
	7 Day (MPa)	20 min	26 - 30
	28 Day (MPa)	35 min	36 - 40

All tests are performed in accordance with applicable Australian Standard testing methods at laboratories accredited by NATA.

COMPATIBILITY

Type GB Cement is compatible with:

- Chemical admixtures complying with AS 1478 – Chemical Admixtures for Concrete.
- Fly ash complying with AS 3582.1 – Supplementary Cementitious Materials for Use with Portland Cement: Fly Ash.
- Ground granulated blast furnace slag complying with AS 3582.2 – Supplementary Cementitious Materials for Use with Portland Cement: Slag – Ground Granulated Iron Blast-Furnace.
- Amorphous silica complying with AS 3582.3 – Supplementary Cementitious Materials for Use with Portland Cement: Amorphous Silica.
- Other cements complying with AS 3972 – Portland and Blended Cements.

Mix designed

SolidCore General Blended Cement is designed for use in concrete mixes where the proportioning of constituent materials can be influenced by various factors. Trial mixes using the available materials are recommended to determine the optimum cement content for specific concrete classes. Further guidance is available in AS 1379 – Specification and Manufacture of Concrete and AS 3600 – Concrete Structures.

CONCRETE PROPERTIES

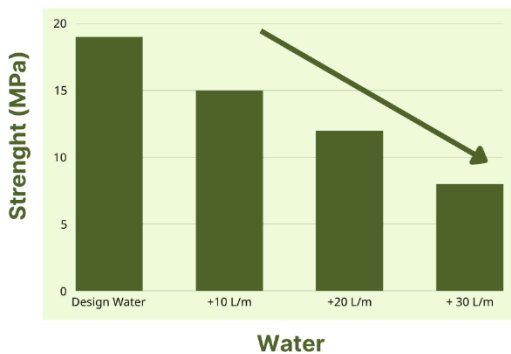
Strength Development

The development of compressive strength in Portland cement concrete is influenced by several factors, including the physical and chemical characteristics of the cement, water-to-cement ratio, admixtures, curing methods, and environmental conditions. The graph below illustrates the indicative compressive strength development of concrete produced with SolidCore General Blended Cement over time.

% of 28 day compressive strength



Effect of Excess Water Addition on Concrete Compressive Strength



Workability/Setting Times

Concrete produced using SolidCore Type GB Cement may require a lower water content to achieve the same level of workability compared with concrete made using Type GP cement. Setting times may also be longer when Type GB cement is used.

Curing

A minimum curing period of seven days is recommended for all exposure classifications. Wherever practicable, concrete should be kept continuously moist throughout the curing period. Recommended curing methods include water spraying, wet sand, and moisture-retaining techniques such as polyethylene sheeting or curing compounds. Curing should commence immediately after surface finishing is completed, or in accordance with the manufacturer's instructions when proprietary curing compounds are used.

For normal class concrete, proper curing can increase compressive strength by up to 100% compared with uncured concrete. Water curing and moisture-retention methods are particularly effective for lower-strength concrete grades. In addition, curing can significantly improve other concrete properties, including:

- Reduced risk of plastic cracking.
- Enhanced surface finish, durability, and resistance to water penetration.
- Improved resistance to abrasion and wear.
- Lower rate of carbonation.

Mortar/Render Mix Proportions

Blended Cement is suitable for bricklaying mortars and wall rendering applications. The table below provides recommended mix proportions by volume as a general guide only. Project-specific advice should be obtained based on the materials and application requirements relevant to your project.

Placing And Finishing

Concrete must be properly compacted and shaped to achieve a smooth, durable finish. Ensuring enough cover over reinforcement is critical for durability and to prevent corrosion. Refer to AS 3600 (Concrete Structures) for minimum cover requirements.

Material	GB	Sand	Lime
High Durability Mortar (eg retaining walls)	1	3	0–0.2
Maximum Bond Mortar (eg structural brickwork)	1	4.5	0.2–0.5
General Purpose Mortar	1	6	1
Wall Render	1	3	0

Additives including air entraining agents, thickening agents, and plasticisers may be used where required, provided they are applied in accordance with the manufacturer's recommendations.

STORAGE, HANDLING AND SAFETY

The storage life of SolidCore cement products is largely dependent on storage conditions. Re-testing is recommended before use where the cement has been stored for more than three months.

SolidCore cement products are highly alkaline and can be significantly affected by exposure to moisture or water. Comprehensive information relating to safety, storage, handling, and disposal is provided in the relevant Product Material Safety Data Sheet (MSDS).

Contact Details

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