

Heidelberg Materials 40N Concrete

Technical data sheet

Heidelberg Materials 40N Concrete (C32/40) is prepared by blending Heidelberg Materials Cement CEM I 52.5N, with evoBuild Low Carbon GGBS and aggregates (0/4mm sand and 4/10mm coarse aggregate). The blend of CEM I and GGBS produces the cement combination CEM III/A+SR which enhances sulfate resistance.

The mix proportions are designed to achieve a mean strength in excess of 40N when the product is mixed to a target consistence of S2 (50-90 mm slump).

Heidelberg Materials 40N Concrete has been designed to meet requirement of a BS 8500 Concrete, but conformity cannot be attributed to this Standard since conformity is based upon the performance of the mixed concrete. To establish conformity, on-site testing of the mixed concrete is required.

Mix design

Material	Proportions	Standard
CEM I 52,5N	9%*	BS EN 197
Regen GGBS	9%*	BS EN 15167
Fine aggregate (0/4mm)	27%	BS EN 12620
Coarse aggregate (4/10mm)	55%	BS EN 12620

*Total combined cement/binder content approx. 380kg/m³



Application

Heidelberg Materials 40N Concrete can be used for a whole range of building projects requiring a concrete with high compressive strength

Benefits

Contains evoBuild Low Carbon GGBS in combination with CEM I produces the cement type CEM III/A which gives sulfate resistant properties and falls into combined performance category A2 (Table A.6 of BS8500-1).

The Design Chemical class (DC) achieved is dependent on total cement content, and water/cement ratio.

For a concrete with a max aggregate size of 10mm:
The minimum cement content for DC-2 = 380kgm³
The maximum water/cement ratio for DC-2 = 0.50

For further advice please contact Heidelberg Materials cement technical support on **0330 123 4525**

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Quality

Heidelberg Materials 40N Concrete meets the requirements of BS5838 and is factory produced to ensure the highest quality concrete.

Coverage

Material	Required water (approximately)	Yield	Coverage at 75mm depth	Coverage at 100mm depth
MaxiPack20	2.0 litres	0.008m ³	0.10m ²	0.08m ²

Instructions for use

- All surfaces to be worked should be free from oil, grease and any loose material. The area where concrete is to be placed should be prepared to prevent loss of moisture from the wet concrete.
- For best results, mix thoroughly using a mechanical mixer, empty the bag of Heidelberg Materials 40N Concrete into the mixer and blend until uniform. Slowly add clean water until the desired consistency or slump characteristics are achieved.
- Alternatively, empty the bag of Heidelberg Materials 40N Concrete onto a clean, flat moisture resistant surface, such as a mortar tray. Slowly add clean water until the desired consistency or slump characteristics are achieved, by thoroughly mixing with the aid of a shovel or similar.
- Please note: The contents of the bag may segregate during transport and handling. To ensure satisfactory performance, the entire contents of the bag should be mixed thoroughly. If only part of the bag is required at a time mix together the entire contents on a clean, dry surface. Return surplus to the bag or other suitable container.
- Avoid adding too much water whilst mixing as this will weaken, affect the setting time, and affect the durability of the concrete mix. For best results, use the concrete within 30 minutes of mixing with water. Protect newly laid concrete from the weather until fully hardened. Concrete strengths are improved by keeping the concrete damp during hardening.
- Application temperature: +5°C to +30°C.

Addition of other materials

Heidelberg Materials 40N Concrete is a pre-packed concrete. The addition of admixtures is not necessary and could adversely affect the performance of the finished product.

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Packaging and storage

- This product must be stored in unopened bags clear of the ground in cool dry conditions and protected from excessive draught.
- If stored correctly, as detailed above, the chromium (VI) in this product will be within required levels for up to 12 months from the date shown on the bag.
- Use of this product after the declared storage period, as detailed above, may increase the risk of an allergic reaction following direct contact with skin.
- 40N Concrete comes in an easy to handle, fully waterproof all weather bag.

Hexavalent chromium (vi)

In accordance with the REACH Regulation, the soluble chromium (VI) content is limited to a maximum of 2ppm. The chromium (VI) content is determined in accordance with EN 196-10.

Health and safety

Cement causes skin, eye and respiratory irritation, severe burns and dermatitis. Always wear suitable personal protective equipment (PPE) and refer to the full Material Safety Data Sheet for further information.

Technical support

For further advice please contact Heidelberg Materials cement technical support on **0330 123 4525** or **cement@uk.heidelbergmaterials.com**

Further copies of this technical data sheet may be obtained from www.heidelbergmaterials.co.uk