

Frequently asked questions

- **What mix do I need?**

That depends on what sort of job you're doing. Different mix specifications are used for different purposes with higher-grade (strength) mixes being used for flooring and external paving rather than for foundations. Prices vary for different concretes and the site location.

The table below gives some suggestions for different applications, but should not be used in place of specifications or drawings:

Strip footings (non aggressive soils)	GEN 1	S4
House floors - Permanent finish to be added e.g. screed or floating floor	GEN 1	S3
House floors - No permanent finish to be added e.g. carpet	GEN 2	S2
House floors containing embedded metal	RC 30	S2
Garage floors with no embedded metal	RC 25	S2
House drives, domestic and external paving	PAV 1	S2
Heavy duty external paving	PAV 2	S2
Livestock floors	RC 35	S2
Stable floors	RC 45	S2
Floors & walls for silage	RC 45	S2

If you are unsure of your requirements, please CONTACT US and we will be happy too advise you on the best option for your needs.

- **How much concrete will I need?**

One of the biggest problems prior to placing concrete is determining the correct amount of concrete for the job. Concrete quantities, like any other measure of volume are calculated by multiplying **length x width x depth (or height)** and are measured in cubic metres (m³). Make sure that you work out your sum in the same units (don't mix metres and millimetres or yards and feet), and bear in mind that it's generally easier to work with the metric system. For example: If a room measures 3m x 4m and the depth of the concrete floor is to be 100mm, the calculation is **3 x 4 x 0.1 = 1.2m³**. Please note depth is not to the highest point it should be the average. If insulation is going to be under the concrete will it compress/ move (try bouncing on it). You will also want to add some additional concrete to your total in order to allow for spillage, waste, over excavation, and other causes, ordering exactly the volume required may lead to a shortage.

- **How big is a truck and how much concrete does it hold?**

Trucks come in various sizes, some can hold up to 8 metres of ready mixed concrete. The access required for the larger vehicles needs to be a minimum of 10 feet wide providing it is a straight line (if access has a bend depending on its angle, the width will need to be increased) and 13 feet high. The delivery chute can reach 3 feet from the side of the truck and 7 feet from the rear of the truck. A fully laden truck can weigh up to 30 tons (6m³ truck 25 tons), which will require a hard standing area. Be aware of manhole covers, shallow drain runs, buried electricity cables or gas mains, overhead cables (Telephone or Electric) on the access route, should the truck need to access (even if it is maybe) over neighbouring property get permission beforehand.

Please ensure that you can provide safe and reasonable access for the truck-mixer, as we cannot be held responsible for damage caused to footpaths, existing driveways etc. You may be asked to sign an indemnity form at the time of delivery.

- **What preparation do I need to do?**

For concrete bases, floors and drives, the area should be dug out to twice the required depth of concrete (a minimum of 100mm or 4 inches is advisable, so you should dig the area out to 200mm or 8 inches depth), and the soil should be compacted. A sub-base layer of hardcore 100mm deep should then be placed and compacted to give the concrete a solid base and prevent sinking. A thin layer of sand on top of the hardcore will provide a smooth surface to work from and make calculation of the quantity required easier as it will help to prevent variations in the depth.

If you use a layer of polythene damp proof membrane between the sub-base and concrete, it will assist in preventing your concrete from drying too quickly, and help to stop problems with rising damp on your finished project.

- **What will I need?**

Most of the equipment you need for laying concrete you will either have or can be easily hired. Make sure you have labour to lay the concrete, if it is being wheel barrowed you will need more people.

Tools

Wheelbarrow, Garden Roller (to compact sub base), Steel tape, Mallet, Pegs to mark level, Spirit level, Shovel, Spade, Rake, Tamping Beam, Wooden float, Stiff broom.

Optional

Planks to wheel the wheelbarrow on, vibrating poker (better compaction better strength), Plastic sheet – (1 between sub base and concrete slabs only, 2 to protect existing property from splashes, 3 if concrete is being wheel barrowed or tipped in a heap to protect surface)

Clothing

See Safe handling of concrete

Long-sleeved shirt, long 'working' trousers. Boots, Waterproof gloves, Knee pads
Concrete is a very safe material to use. However, the cement it contains is caustic when wet and can cause irritation or in rare cases burns with prolonged skin contact. Wash thoroughly with clean water as soon as there is any direct contact with the skin. Remove clothing, which becomes saturated immediately. If there is persistent irritation or pain, you should consult a doctor. Keep pets and children well away from the site until the concrete has hardened.

- **How much notice do I need to give?**

Normally 24 hours notice is required for concrete orders, but if you can give us more than that, there is a greater likelihood that the delivery time you want is available. However there may be occasions when we can accommodate your delivery in less time. Saturdays can be especially busy and early booking is advised. Please advise us if you are expecting to take a long time discharging the concrete so we can book other deliveries correctly, should a delay occur before your delivery which is likely to delay us more than 30 minutes we will advise you on the day.

- **How can I pay?**

Payment can be made by, by Visa, MasterCard or Switch at the time of ordering, or cash to our office or plant before the day of delivery. Cheques are not accepted on the day of delivery. For customers interested in opening a credit account, please contact our Credit Control Department on telephone 01603 741212.

- **How long do I get before the concrete sets?**

The chemical reaction that takes place within a concrete mix begins as soon as the cement and water are mixed together. This means that usually, you will have between 1 - 2 hours once the concrete arrives on your job to place, level, compact and finish the mix.

- **How long will the truckmixer wait on site before a waiting charge is made?**

The time allowed for unloading depends on the amount of concrete ordered, we allow 10 minutes per m³ delivered, so for example a full 6m³ load will get 60 minutes to unload.

If the truckmixer is required on site for more than 10 minutes per m³ delivered, a small additional charge may be applied. Please warn us if you think you may need extra time to unload.

- **Why is compaction so important?**

Compaction ensures the optimum density of the mix is achieved, increasing compressive strength. Where reinforcing is used, the bond between concrete and redistribution bar is improved. Permeability of the concrete decreases, decreasing cold joints, honeycombing entrapped air and segregation. With poor compaction in reinforced concrete there is a likelihood of settlement cracking over the reinforcement.

- **Do I need to introduce controlled contraction joints?**

Movement of the concrete slab caused by changes in temperature and drying shrinkage can be minimised by the introduction of controlled contraction joints. Contraction joints create weakened sections in the slab to help control crack locations. Joints are neater in appearance and can be sealed and require less maintenance than uncontrolled cracks.

Jointing should be planned with large floor slabs divided into smaller rectangular sections. Avoid sharp angles and be aware of changes in thickness of the slab. Concrete which is 100mm thick should be jointed every 3 to 4 metres. Joints should be cut to a minimum of a quarter of the slab thickness.

- **What curing techniques could I use?**

Curing concrete enables it to reach its designed compressive strength, making the material more durable. To cure correctly, concrete requires sufficient moisture content, a favourable temperature between 10 to 20 degrees centigrade, and time to reach its specified strength (a minimum of 7 days to reach 70%).

Methods of curing:

1. Sprinkling or fog spraying, keeping the surface continuously damp (alternate wetting and drying can cause cracking)
2. Covering the concrete with wet hessian, straw, sawdust or sand (avoid materials that may cause discolour in the concrete)
3. Covering the concrete with plastic sheeting (white in hot weather, black in cold weather)
4. Use curing compounds (avoid using if the surface is to be painted or another surface cover)

- **How can weather conditions affect the concrete?**

If the weather is particularly hot or windy, slump loss will increase, making the concrete difficult to handle. In addition, the concrete set will accelerate, decreasing the handling time. If water is added to the mix to offset slump reduction, a reduction in strength may occur and shrinking and cracking may occur. To counteract this, we may be able to add a water replacement or retarding agent, so contact us if you are concerned about your delivery. You can also shade the concrete from direct sunlight and protect it with windbreaks. Finally, you could apply curing techniques immediately after finishing.

If the weather is particularly cold, this will increase the setting time of the concrete and retards the concrete stiffening. In addition it will slow down the concrete strength gain or freeze which can damage the concrete. By increasing cement contents, using different cement types or adding an accelerating admixture, we may be able to help prevent some of these symptoms. If possible, keep the concrete at a temperature above 10 degrees centigrade by insulating or heating, and protect the concrete with windbreaks. Finally, as a final note of advice, try to avoid laying concrete in temperatures below 5 degrees centigrade.

Wind is one of the most detrimental weather conditions for concrete; a good breeze especially if channelled can cause severe cracking. Fortunately this is not structural, being caused by the surface drying before the concrete has had time to build sufficient strength to withstand the force.

- **What are Concrete Additives?**

C & H Quickmix stocks three popular concrete additives: Air entraining agent, Water reducing agent and fibres. Find out more about these additives and how they can be added to your next project.

Water reducing agent (WRA)

WRA is a combination of organic and inorganic chemicals, which react with cement to produce more dense, hard and impermeable concrete.

Air entraining agent (AEA)

AEA is a combination of organic and inorganic chemicals, which react with cement and water to produce microscopic bubbles in the concrete. Once the concrete has hardened these bubbles help protect the concrete from freeze thaw damage in the winter. AEA is included in the recipe for PAV 1 and PAV 2 for external paving; we recommend its use in any concrete used for paving externally.

Fibres

Fibres are made of polypropylene and is a one-step non-structural reinforcement system for concrete. Fibres provide a complete top-to-bottom, side-to-side uniform micro reinforcement as a cost-effective and superior alternative system to non structural steel. As a rule of thumb if the steel mesh is thin it is non-structural and can be replaced. **We do not recommend these fibres replace structural steel.**

Other additives are available, please give as much notice as possible, because time is required to obtain current prices and organise delivery (in some cases manufacture). Should special properties be required trials may be required to prove properties dependant on the tests required this could take at least 28 days.