

Plan ahead, hire a professional, enjoy the results

Thankyou for choosing Readymix ColourPave™.

Please check with your ColourPave™ installer that they will be placing your concrete in accordance with these “Best Practice” guidelines. Extra copies of this leaflet are freely available from any Readymix sales centre.

The placement of ColourPave™ concrete is essentially a straightforward task, but there may be items, such as adequate preparation of the site, to be considered in obtaining best results. We encourage you to read through this leaflet and check any items with your installer and our Readymix sales staff.

Whilst we strictly control the quality of our concrete product, there are many factors that you should consider in planning any paving project. This leaflet aims to help you with your ColourPave™ project and ensure that your ColourPave™ concrete remains looking great for years to come.

Preparation is the key

Please ensure the area where you are about to lay your ColourPave™ concrete has been graded and compacted. Be especially aware that areas alongside buildings, retaining and pipe work are usually poorly compacted and settling and water action in and around soak wells can produce settlement cracks in your ColourPave™ project.

That’s why it’s always a good idea to call in a professional to check compaction for any type of paving job. Apart from issuing a compaction certificate, you’ll have peace of mind that your site will not be subject to settlement.

It is recommended that any area to be concreted, be well watered prior to your installer coming onsite.

In simple terms ... a better prepared site will result in a better finished job.

Reinforcement

Whilst offering very high compressive strengths, concrete is a product that is weak in tensile strength. Therefore, it is essential to use steel reinforcing to give concrete additional strength in tension and at the same time, assist in the control and movement of cracks.

When placing the steel mesh, bar chairs designed to hold the steel reinforcement above the ground must also be used. The use of commercial bar chairs is essential, as they will hold the reinforcing mesh in the upper part of the concrete, where it will best assist in crack control.

The reinforcing mesh should be a minimum 20mm from any concrete surface so it is not in contact with the atmosphere. Concrete is highly alkaline and steel will not rust in concrete, provided that it is fully encased by the concrete. To ensure the edges of concrete paving have no air holes, it is useful for the installer to compact paving edges simply by tamping along these areas prior to floating or trowelling the surface.



In honed or exposed aggregate ColourPave™ projects, Readymix suggests the use of SL62, or heavier, reinforcing mesh.

If you are using Polished ColourPave™ concrete as your house slab or suspended slab, please ensure your structural engineer and architect or designer are aware of your choice. Readymix recommends the use of SL82 slab mesh in all polished ColourPave™ ground slabs.

Mechanical vibration is required for Polished ColourPave™ floors but should be avoided for Exposed Aggregate or Honed projects.



Cracking

Whilst it is not desirable, cracking can occur in concrete products and cracks can affect the appearance of your ColourPave™ project. There are many causes of cracking, but this can be minimised by strictly adhering to the Best Practice placement methods outlined in this leaflet.

If you pour concrete on hot, humid or windy days, the concrete may be subject to plastic shrinkage cracking, which occurs when the concrete is still plastic or wet.

Surface cracks of varying lengths appear at random over the surface of the concrete caused by excessive “bleeding” of moisture from the concrete.

Protecting the concrete surface from drying out will assist in preventing this type of cracking and Readymix recommends that installers apply aliphatic alcohol to the concrete surface after initial screeding or floating. The aliphatic alcohol applies a thin film surface membrane to your concrete and will slow the evaporation rate and keep moisture within the concrete at optimal levels. If it’s windy, erect wind barriers around the project.

Probably the best advice though, is to simply avoid pouring ColourPave™ concrete on days of high temperature or high wind. However, if it is critical to pour concrete on such days, it is essential to prevent rapid drying of your ColourPave™ concrete.

On warm to hot days, your concrete is susceptible to rapid drying after final placement. Normal “pond” curing is not suitable to either Polished floors or Exposed Aggregate projects. In such circumstances it may be necessary to apply a “same-day” acrylic sealer to your finished concrete. Please seek advice from your Readymix trained installer.

Using a water vapour barrier (plastic or “poly”) under the concrete is essential where practical, and can help avoid such cracking. It also assists in reducing movement restraint due to friction between the concrete and the sub-grade (or soil) below your concrete. Additionally, it will also help in protecting your concrete from possible discolouration from underground water, dampness or waterlogging.

Adding excess water to the mix should be strictly avoided, as this practice will alter the colour, finish and strength of your concrete. Readymix ColourPave™ is designed to be installed at a “slump” of 80-95mm and adding water onsite

may increase the slump beyond this range and therefore alter the design specification of the concrete mix.

Sprinkling water on the surface during or after finishing should also be avoided.

Control joints

As concrete loses moisture over time it shrinks. If the concrete is restrained from shrinking by such things as footings or existing walls then internal tensile forces will be created in the concrete, which can cause the concrete to crack. This type of cracking can be reduced by providing sufficient strength in the concrete to resist the tensile forces (by the addition of adequate reinforcement) and remove restraints on the concrete (allow it to move) by the use of control and isolation joints.



Control joints are purposely created planes of weakness in concrete to ensure that anticipated cracking due to shrinkage will take place at predetermined and aesthetically appropriate areas. To be effective, control joints need to be deep enough so that it is the weakest part of the surrounding concrete.

Assuming the depth of your ColourPave™ is 100mm, Readymix recommends that control joints be no further spaced than 2.5 metres. When planning your project with your installer you should aim to achieve square rather than elongated shapes with your control joints.

Control joints should run from all hard corners such as brick piers, soak well covers or the corner of a building. If there is a rectangular cut-out in your paving, such as a garden bed, control joints should run from each of the 4 corners. Additionally, if your ColourPave™ concrete is going to meet an existing hard surface, such as the wall of an existing building or other concrete, the control joint should become an expansion joint utilising foam joint filler (which can be purchased from Readymix Sales Centres).

Any circular cut-out shape in your paving should also have 4 separate control joints radiating from the shape. In the case of curves or garden beds, control joints should take the shortest path from the curve to the closest wall or pier (see over).

Try to avoid sharp triangular shapes as concrete may crack across narrow shapes, however, sometimes it may be unavoidable, such as in the photo alongside.

Should you be laying ColourPave™ alongside an existing concrete project such as a kerb, please ensure that any existing control joints continue through



to your newly laid ColourPave™. Put simply, if there is a line (joint) in the kerb, make sure that line continues through your paving as it does in the photo. (right)

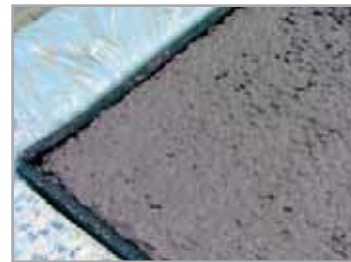
When laying concrete with a random pattern finish, continue to observe the normal rules relating to control joints. Remember, a joint will encourage your concrete to crack at this point, and if a joint stops in a random pattern, the concrete may crack beyond the point at which the random pattern joint stops. So it is important to utilise full-length or full-width control joints even in random pattern finishes.

Readymix recommends that all joints be cut a minimum 25% of the concrete depth. These joints may be cut by trowel and jointing tool whilst the concrete is plastic or by saw, no later than 24 hours after the concrete is laid.

Alternatively, your installer may supply one of several commercial jointing products.

Concrete will crack if it is restrained from moving by bonding with hard surfaces such as brick walls, existing concrete surfaces, columns and plumbing fittings.

It is essential to construct filled isolation joints around and along hard surfaces and Readymix stipulates the use of a commercial foam joint. Again this product is available from your Readymix sales and display centre.



Colour

Environmental conditions can affect the colour and finish of concrete.

Concrete placed in shaded areas can appear different to concrete placed in direct sunlight.

Concrete placed in cold conditions can appear different to concrete placed in warm conditions. To reduce variation it is recommended that ColourPave™ Concrete be poured under the same environmental conditions.



Concrete finished inconsistently can also result in colour variation, due to light reflecting differently from the surface, changing the apparent colour and tone.

Indeed many factors will impact on the final appearance and serviceability of your ColourPave™ project including natural variation, placement methods,



contamination and the condition of your sub-grade.

For example, sub-grade areas containing mud, standing water, or soils with uneven absorptive properties can cause surface discoloration and cracking.

Readymix has a comprehensive quality system in line with Australian Standards, which includes extensive raw material testing, strict control over batching and mixing procedures. However, the materials used in the manufacture of your ColourPave™ product are subject to natural variation of colour, texture, shape and size

and such natural variations can influence the overall colour and appearance of your finished project.

We do all we can to ensure you receive a first-class product but please be aware, our ColourPave™ range is a natural product and Readymix cannot guarantee your project will be an exact match to sample panels, previous projects or existing concrete.

Remember, site preparation, environmental conditions (including sunlight, temperature, wind and shade) as well as placing, finishing, curing and sealing, all play a part in your ColourPave™ project.



Environment

The process of exposing aggregate (and grinding Polished or Honed concrete floors) will produce environmentally sensitive waste materials and cement slurries and care should be taken to dispose of all waste in a responsible manner.

Please talk to your installer and once again, plan ahead.

If you are pouring concrete on a sloping site, please remember that the slurry will wash downhill. For this reason, please plan ahead with your installer so that if there is an expansive area, the top part of the job is completed on one day and the lower area completed the next. This will enable your installer to wash down the initial section without affecting the lower section.

When working on a sloping site it is always best practice to pour concrete working up the slope. This stops the concrete from slipping down the slope whilst it is still plastic.



Playing it Safe

Care needs to be taken to avoid on-site contamination, which may result from other concrete products, site materials walked on to the concrete, wind blown materials, wildlife and pedestrians.

Ensure your installer uses only Readymix recommended retarders when exposing the aggregate in your concrete. Readymix staff will be happy to confirm these details for you. Though Readymix stocks retardant products, your installer should include the cost of this product in his quote or contracted price.



The retardant is applied to slow the chemical bonding of the concrete at the surface level and is "hosed" off to reveal or expose the top portion of the concrete aggregates (or stones). Some installers may vary the time of retardant exposure or even use different retardant products to purposely create varying textures, patterns or stencil effects in your ColourPave™ project.

Your installer may or may not provide a final sealer to protect your ColourPave™ concrete. Please check with your installer.

It is an easy process to seal your ColourPave™ project yourself, and you'll find more information in the Readymix ColourPave™ product brochure, or simply consult your local Readymix sales and display centre.

To achieve the best from your project, Readymix recommend that only reputable, experienced installers place and finish its Readymix ColourPave™ concrete range. Readymix will not be responsible for poor workmanship, so to achieve the best from your project, contract only an experienced, Readymix-trained ColourPave™ installer.

When you visit your local Readymix display centre, our staff will provide you with a list of local ColourPave™ projects to help in your planning and product choices.

We will also provide a list of Readymix-trained ColourPave™ installers.

Whilst Readymix does everything within its control to ensure the consistency and quality of the ColourPave™ range, please remember that many factors affecting the final quality of your project will always be out of the direct control of Readymix.

So please read this leaflet carefully. If you plan your project carefully, you will be informed and aware of these factors and be able to enjoy the many benefits of your ColourPave™ project for many years to come.

Remember... plan ahead, hire a professional, enjoy the results.

You can see the Readymix ColourPave™ range at

Kelly Street	Dodson Road	Boodjidup Road	Strelly Street
Albany	Bunbury	Margaret River	Busselton
9842 1767	9726 0721	9757 2422	9754 8557

or contact your local Readymix plant at

Augusta	Hillview Road 9758 1624
Busselton	Queen Elizabeth Drive 9752 3566
Capel	Ilmenite Road 9727 1800
Collie	Collins Road 9734 5341
Donnybrook	Sandhills Road 9731 1418
Manjimup	Wetherall Street 9772 4888
Mount Barker	Burke Street 9851 1448

www.concretewa.com.au
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"At Readymix, quality is not an occasional concern but a relentless dedication".

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ColourPave™

Best Practice Placement Guide