

Pour and compact concrete

What you will learn

When you have finished this section, you should be able to:

- Pour mixed concrete into formwork
- Compact concrete correctly
- Screed or level the surface



Things you need before you start

Materials

Mixed concrete

Tools

Shovel or spade

Wheel-barrow

Rake or piece of wood for compacting

A long straight piece of timber for screeding

Introduction

Before you can pour your concrete, you need

- Formwork ready and checked
- Batches of mixed concrete arriving quickly and regularly
- All the material and equipment ready.



Work as quickly as you can with wet concrete.

You must get all the formwork filled, compact the concrete to remove air bubbles and then level the surface before the concrete starts to harden, or 'go-off'.

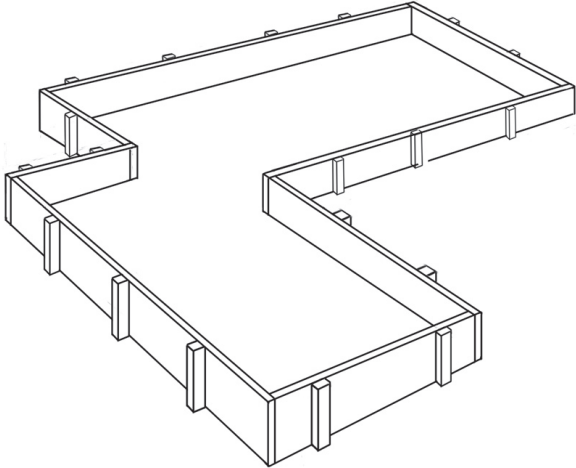
If you are working on a big job, plan how you can pour the concrete in stages. For example, you could pour a long pathway in small stages by putting a piece of timber across the formwork to divide it into sections.

Pouring concrete

Always use mixed concrete as soon as you can.

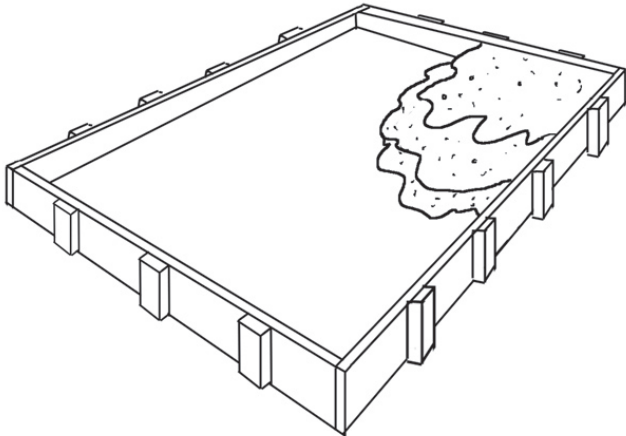
Your site must be ready before you mix the concrete

Don't waste time!

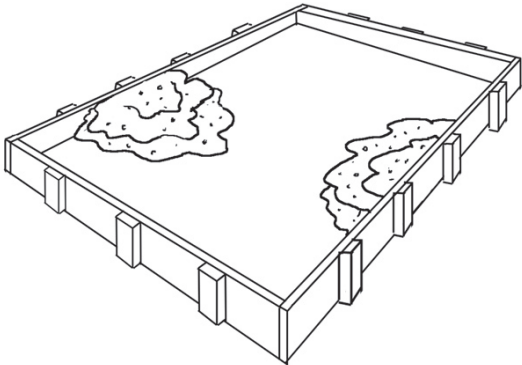


Start placing loads from a corner at one end of the slab

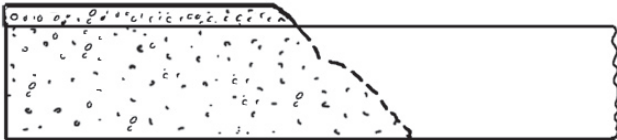
like this



not this



fill to the full depth

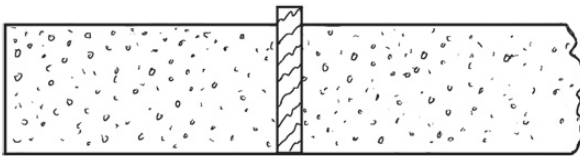


Add the next batch into the 'wet' edge until the formwork is full.

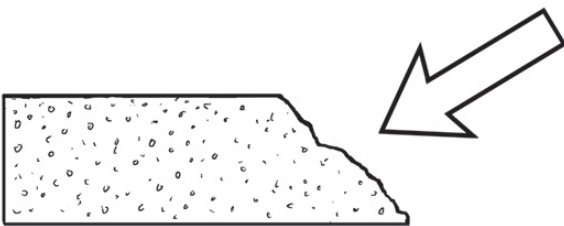


If you have to stop for a time....

Use a finishing timber strip like this



Make sure it is level with the top of your formwork — and strong enough to hold the wet concrete.



Do not leave a rough edge of concrete like this to go hard.

You cannot join on new concrete to a hard edge of concrete once it has 'gone off'.

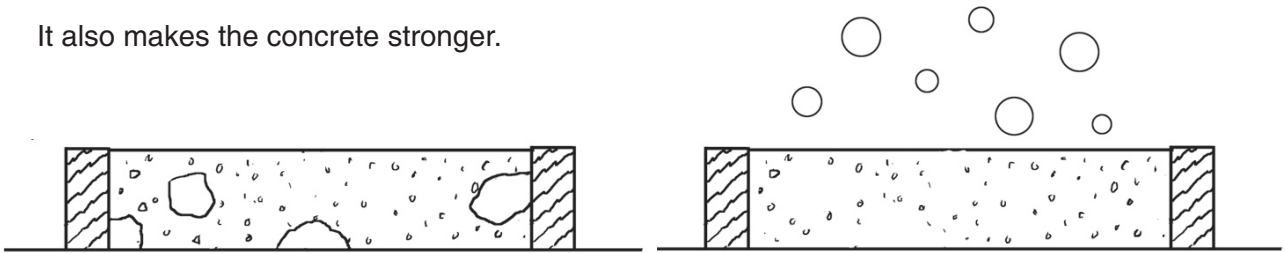


If you stop at a timber strip, you will have to complete the compacting, levelling and finishing for the work you have done — before your concrete 'goes off'.

Compact and level concrete

Compacting pushes the concrete down into all the gaps and lets air bubbles get out.

It also makes the concrete stronger.

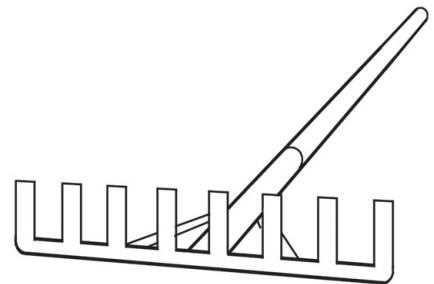


Compact as soon as the concrete is poured and while it is workable.

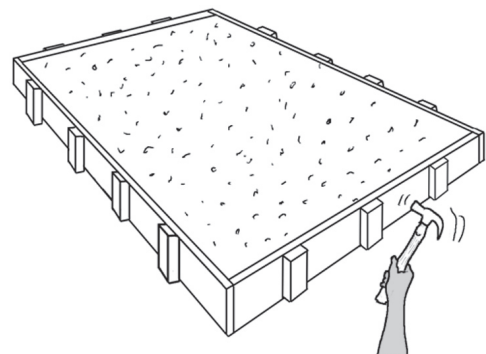
Compact by:

pushing down all over the area

- with a shovel
- or the back of a rake
- or a piece of timber



tap the sides of the formwork or boxing



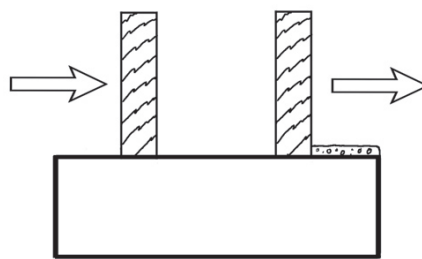
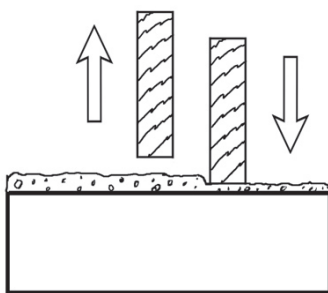
Screeding

Screeding makes the surface of the concrete level with your formwork. It also helps to compact the concrete.

Use a heavy **and straight** piece of timber across the boxing/formwork



move the timber up and down to compact

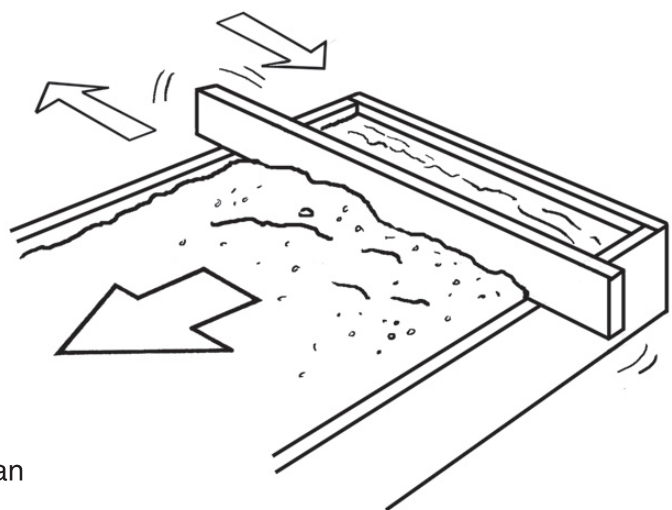


move from side to side to level the concrete

When you have the surface level and with no holes in the concrete, stop. If you keep on screeding you will make a lot of water come to the surface.

Note

Very thick concrete slabs or commercial construction work need more compacting than the methods we show here. They use some form of mechanical vibration to make the concrete settle and get all the air bubbles out. These machines need special skills and they are not included in this course.



Activity

Work with other students on your project.

- 1. If it is a large job, work out what ‘stages’ you can pour it in. Add any finishing (or separating) timbers to your formwork.
- 2. Pour the concrete to fill the formwork.
- 3. Compact to pack down and get the air out.
- 4. Screed to make level with the formwork.

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