Follow These Rules to Finish Concrete

1. **FLOAT** the concrete as soon as it has been struck-off. A float is a wood or metal tool used to further level the concrete surface and to embed the large aggregate. On small jobs, a float is hand-held; on larger jobs a long-handled bull float may be used. One or two passes should be enough to smooth and level the surface without sealing the concrete. Floating must end before visible bleed water rises to the surface.
2. **WAIT** for the concrete to stop "bleeding". Bleeding occurs as the solids in the concrete settle. **All** other finishing operations **MUST WAIT** until the concrete has stopped bleeding and the water sheen has left the surface. Any finishing operations done while the concrete is still bleeding **WILL RESULT** in later problems, such as dusting, scaling, crazing and blisters. The waiting period depends on the amounts of water, cement and chemical admixtures in the concrete, and the weather.[1]
3. **EDGE** the concrete all the way around. Spade the concrete next to the form gently with a small mason's trowel and then use the edging tool to give the concrete rounded edges.
4. **JOINT** the concrete by grooving it. The jointer should have a blade one-fourth the depth of the slab (1 in. deep joints on a 4 in. slab). Use a straight piece of lumber as a guide. A shallow-bit groover should only be used for decorative grooves. See CIP 6 for joint spacing.[1]
5. **TROWEL** the concrete according to its end use. For sidewalks, patios and driveways, troweling may not be required. Repeated passes with a steel trowel will produce a smooth floor that will be slippery when wet. For a smooth floor make successive passes with a smaller steel trowel and increased pressure. Excessive troweling may create dark "trowel burns." Tilting the trowel will cause an undesirable "chatter" texture.
6. **TEXTURE** the concrete surface after floating (for sidewalks, patios or driveways) or after troweling (for interior flatwork) with a coarse or fine push-broom to give a non-slip surface. For information about architectural surface finishes, such as exposed aggregate, dry shake color, integral color, and stamped or patterned concrete.[2]
7. **NEVER** sprinkle water or cement on concrete while finishing it. This may cause dusting or scaling.[1]
8. **CURE** the concrete as soon as all finishing is completed and the water sheen has left the surface. See CIP 11.

CURLING OF CONCRETE SLABS

WHAT is Curling?

Curling is the distortion of a slab into a curved shape by upward or downward bending of the edges. This distortion can lift the edges of the slab from the base, leaving an unsupported edge or corner which can crack when heavy loads are applied. Sometimes, curling is evident at an early age. In other cases, slabs may curl over an extended period.

WHY do Concrete Slabs Curl?

Typically, upward curling of the edges of a slab is caused by shrinkage or contraction of the top relative to the bottom. When one surface of the slab changes size more than the other, the slab will warp at its edges in the direction of relative shortening. This curling is most noticeable at the sides and corners.

A. Upward Concave Slabs

B. Downward Concave Slabs

Figure 1. Curling of Concrete Slabs
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