

HOMEOWNER'S ONGOING EXTERIOR CONCRETE MAINTENANCE GUIDE



COLORADO READY MIXED CONCRETE ASSOCIATION

A helpful guide created by Colorado Ready Mixed Concrete Association (CRMCA) Central Market Committee members to assist home owners during and after concrete placement to extend the life and enjoyment of their property.

Exterior (outdoors; exposed to the weather) concrete flatwork such as driveway, patios, sidewalks and walkways can enhance the aesthetics and value of your home. Many factors play a role in the durability of



your concrete, including the original mix design, subgrade preparation, accepted placement practices, proper surface finishing, curing after finishing, surface sealing after the curing period, and ongoing maintenance. All of these factors contribute to long term durable concrete. With the use of today's much harsher de-icing chemicals (magnesium chloride) being applied to our streets, highways, and commercial parking areas, it is more critical to understand and implement these recommendations. This guide will help instruct you on how to protect your concrete after it has been placed, finished and hardened.

Step 1: Concrete Curing

Time Frame – This should be done immediately after your concrete is placed on the same day. Discuss with your homebuilder representative or concrete contractor.

Curing is a process that prevents newly placed concrete surfaces from drying out. Curing is a critical step in any concrete project because proper curing maximizes the strength and durability of concrete at the surface, where the concrete is most vulnerable. The curing process should begin as soon as the finished concrete surface is strong enough to remain undisturbed by the curing process. During cold weather, additional curing methods are required to prevent the newly placed concrete from freezing.

You and your concrete contractor should use one of the following methods to cure your concrete:

- ❖ **Chemical Curing Compounds** – Your concrete contractor can use an approved curing compound meeting the requirements of ASTM C-309 or ASTM C-1115. These are available at most contractor supply stores. Consult with your homebuilder representative or the concrete contractor about the approved product and the proper application
- ❖ **Saturated Coverings** – Water saturated wet burlap or other absorbent fabric with an outer plastic layer to prevent the saturate fabric from drying out.



If concrete is placed during cold weather and is expected to be exposed to ambient temperatures below 40°F, the concrete should be covered with insulated blankets to prevent the concrete temperature from falling below freezing, and ideally maintaining a concrete temperature in excess of 50°F degrees for 7 days.

Step 2: Sealing Exterior Concrete

Time Frame – 30 days after your concrete has been in use and before freezing weather, and then periodically every 3-5 years ongoing for the duration of your concrete.

Concrete sealers are chemical compounds that are applied to the concrete surface. These products work by sealing the concrete surface and preventing the penetration of water, which minimizes the effects of the freeze-thaw cycle and harmful substances like chemical deicers. (Sealing concrete extends the surface life by protecting your surface and preserving the aesthetics of your concrete product.)

CRMCA recommends an appropriate high-quality sealer be applied 30 days after the placement of the concrete, following the manufacturer's recommendation at a minimum.

- ❖ This sealer application can be done yourself or there are professional concrete sealing companies to hire. Ask your concrete contractor, or contact a professional contractor supply store for a sealing contractor.
- ❖ Ask a contractor supply store about the proper products to purchase and apply.
- ❖ Always power wash your concrete and allow to dry before applying sealer.
- ❖ Do not over apply the sealer. In this case, more is not better. Adhere to the sealer manufacturer's instructions in regard to application techniques and coverage rates.
- ❖ Allow the sealer to dry completely before any traffic is allowed on surface.
- ❖ Follow the sealer manufacturer's recommendations for re-application. Typically sealers need to be re-applied every 3-5 years. You can spot check portions of the concrete to determine when sealer need to be re-applied when water no longer beads up on the surface of the concrete, it is time to re-apply a sealer.



Step 3: Long Term Care and Maintenance

- ❖ Promptly removing snow and ice accumulation from your concrete will increase its service life. This is particularly important if your exterior concrete has a north facing exposure. If vehicles exposed to road deicers park on your driveway frequently, try to rinse off your driveway with a hose if warmer, non-freezing weather conditions allow.
- ❖ Avoid using de-icing chemicals on your driveway for the first winter. Instead use sand or birdseed for improved traction.



- ❖ After the first winter, always be sure to check the labels on deicers. Never use products which contain magnesium chloride or potassium acetate. Sodium chloride is the safest deicer for use on concrete.
- ❖ Fertilizers contain substances which chemically attack concrete. Fertilizer should never be used as a deicer. Promptly sweep off any fertilizer that is inadvertently cast on the concrete when spreading on lawns. The iron in fertilizers can cause "rust" stains on your concrete.

Disclaimer

The Colorado Ready Mixed Concrete Association has compiled this guide for assistance with the installation and care of exterior concrete. This guide simply summarizes some of the most common ACI requirements typical to Colorado residential flatwork at this point in time. This guideline may not address all situations and requirements. The current versions of ACI 301 and ACI 318 should be referenced and followed. This guide is not intended to replace any contract project documents.