

SCALING CONCRETE SURFACES

HOW TO PREVENT IT

Scaling. That localized flaking or peeling of a finished surface of hardened concrete commonly – but not always – caused by exposure to freeze-thaw cycles. Frustrating stuff for sure. In some instances, it may be localized while in other cases it can affect a large area and expose the aggregate underneath.

The good news is that there are steps you can take to minimize the possibility of scaling on your next job. The tips below are specifically for concrete that will be continuously moist, exposed to freezing temperatures and de-icing chemicals.



FOCUS ON STRENGTH

When placing the concrete order for exterior slabs, make sure to request a specified strength of 4000 psi. Lower strength concrete is more likely to flake or peel.

ASK FOR AIR IN THE CONCRETE

The strength of the concrete is important but so is having air added to the mix. The concrete should contain a total air content of 6 percent (3/4" to 1" coarse aggregate).



PAY ATTENTION TO SLUMP

Look for a slump in the range of 3" to 5" and make sure not to add a lot of water on-site. Higher slump from adding water can cause a weak layer at the surface.

FINISH THE SURFACE CAREFULLY

Check for bleed water on the surface of the concrete after the initial placement; wait to finish until it is gone. Make sure not to overwork the concrete. Overworking the surface can reduce the air in the concrete mix.



ALLOW FOR PROPER CURING

Make sure to prevent the concrete from drying out too quickly. You can use things like wet burlap or plastic sheets. There are also membrane-curing compounds available.

PROTECT THE CONCRETE

Place concrete sealers or water repellents designed for slabs on reasonably dry concrete to protect it from harsh winter weather. Always follow the directions and recommendations!



Scaling can be frustrating for everyone involved. However, by taking precautions and utilizing some of the tips listed above you can help reduce the potential for it happening on future project sites.