

ALKALI STAINING

BEFORE NATURAL WEATHERING



AFTER NATURAL WEATHERING



Brown staining, in particular found on Buff coloured Tyndall Stone is symptomatic of alkali staining that occurs on several limestones, used for masonry veneers.

The following is an excerpt from the [Indiana Limestone Handbook](#) that does a good job of explaining the mechanics of the formation of this type of staining.

Alkali Stain

“This stain is caused by alkali-charged moisture which permeates the limestone from its back or bottom bed. It cannot be produced in objectionable form by moisture absorbed through the stone’s exterior face. (Ground moisture absorbed by the stone’s face when below grade is an exception to this rule.)

The source of the alkali is usually nearby concrete walls, floors, or grade. The moisture may be rainwater, wash from concrete pours, excess moisture in mortar, or moisture from or at grade. This moisture picks up water-soluble free alkali from various sources as it migrates to an evaporation surface at the stone’s above-grade face. Alkali-laden moisture moving through the stone dissolves minute bits of organic matter. The material is transported to the face of the stone as the moisture moves toward the face. The moisture then goes off as vapour, leaving the alkali and organic matter at the surface in the form of stain.”

REMEDY: NATURAL WEATHERING