

DWS Common Failures



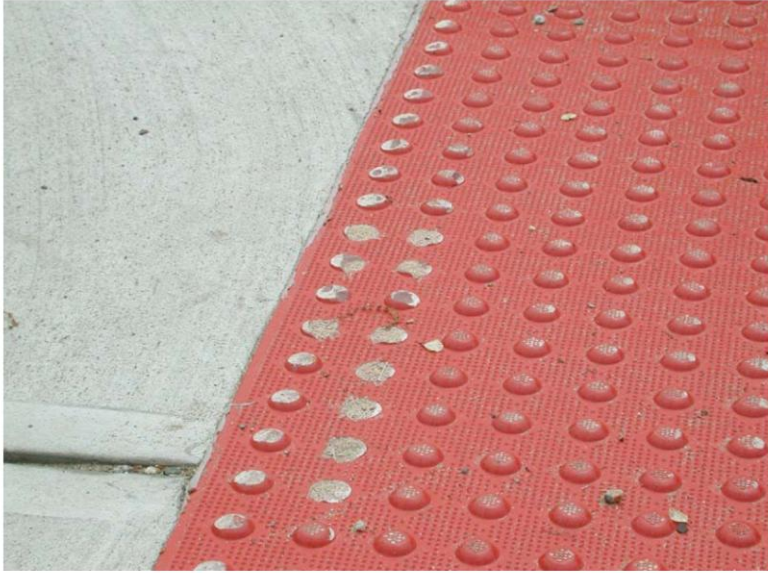
The following slides will depict common failures of DWS.

DWS failure occurs when the surface no longer functions as a detectable surface.

The standards do not indicate specifics such as a percentage of dome loss or percentage of color fade.

Therefore sound engineering judgment must be used to determine if complete failure has occurred.

Loss of Truncated Domes



Loss of truncated domes.

This normally occurs due to a shearing force across the dome surface.

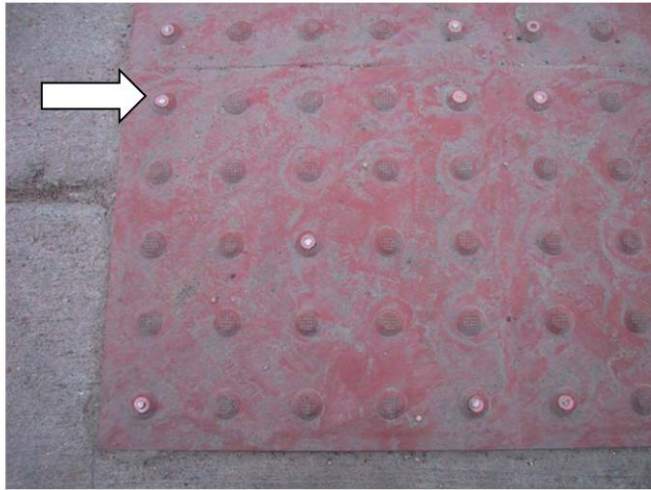
Bonding Failure



Bonding failure.

Surface applied DWS are normally attached to the curb ramp by adhesive. Overtime this adhesive may lose its bonding capabilities.

Anchor Failure



Anchor failure.

Certain DWS tiles are surface applied rather than embedded into the concrete.

The tiles are anchored with fasteners that may overtime begin to loosen and raise above the DWS surface.

Warping Failure



Warping.

Surface applied rubber mats may permanently warp. This causes a vertical lip and may cause tripping.

Structural Failure



Structural failure.

If the supporting surface of the DWS is not solid, DWS tiles may crack or chip.

Settlement Failure



Settlement failure.

Again if the supporting surface is not solid, the DWS tiles may begin to settle and may cause tripping.

Dome Integrity Failure



Dome integrity failure.

DWS surfaces that are stamped into wet concrete may have dome integrity issues.

This dome loss is not due to impact force.

Many factors may contribute to this such as concrete moisture content or concrete aggregate size.

Major Cause of DWS Failure?



Major cause of DWS Failures?

Snow Removal



- Chemicals (salt)
- Brooms
- Machine Operated Brushes
- Shovels
- Snow Plow
- Snow Blowers



Snow removal is the primary concern for DWS durability. Whether it be:

Chemicals (salt)

Brooms

Machine Operated Brushes

Shovels

Snow Plow

Snow Blowers