



Blisters or Bubbles

Blisters or bubbles in the color coating on asphalt and concrete courts most often are caused by moisture between the pavement and the coating material, within or beneath the pavement. Since both asphalt and concrete can absorb moisture, moisture trapped below the slab can be drawn up through the pavement or moisture may come from the pavement itself if the slab is incompletely dried or is experiencing severe drainage issues prior to the application of coating materials.

Whenever water is present on, in or beneath a tennis court pavement, heat from a warm day can draw the moisture upward to the surface where, if trapped, it vaporizes and expands. Most modern tennis court coatings are semi-permeable and allow a small amount of moisture to escape. However, if larger amounts of moisture are present, if too many coats of surfacing have been applied, if the coats are too thick or if impermeable coating materials have been used, the water cannot escape and the trapped vapor breaks the bond between the coating and slab, forming a bubble. Bubbles also may form between layers of coating.

Bubbles may also be caused by contamination of base materials during construction. Salts, organic residues, curing agents, clay balls, dust balls and oil spills are all materials that can cause bubbling or blistering in a tennis court surface. Blisters may also occur if a surface is not properly cleaned prior to application of color coatings and, therefore, the new coatings do not properly adhere to the surface.

When recoating an existing court, it is important to note how many coats of surfacing already are present, and if there are many layers, to consider removing the old coats before applying a new surface. Where many layers of coating are present, each additional layer of coating reduces the permeability of the surface and increases the likelihood of bubbling.

Small bubbles may be punctured with an ice pick or nail and pressed down, which may make them re-adhere if there is still liquid or semi-dry binder under the bubble. If not, adhesive must be injected with a syringe to facilitate bonding. Large bubbles may be cut open and reattached to the pavement with an adhesive.

In most cases, installation of a vapor barrier in construction, proper base construction techniques, proper drainage, adequate curing of the slab prior to coating and proper installation of coatings should prevent formation of blisters. In rare cases, however, even when permeable materials and proper methods are used, environmental conditions may result in the formation of an occasional blister.

Differences in site, weather and soil conditions require variations in construction and repair methods and materials. Readers are advised to consult a qualified contractor or design professional before undertaking construction or repair of a court. Rev. 06/08