ADVANTAGE
SPORTS + LEISURE

YELLOWING OF RUBBER CRUMB SURFACES

Aromatic binders (moisture curing) create a yellowing effect on all surfaces. This phenomenon is the result of the formation of transparent crystals during the curing process, which cause light to refract when passing through them in the same way as a simple prism. It is the light refraction when viewing the finished surface that gives the appearance of a yellow tint, the actual colour of the granule does not change as can be seen by cutting a cross section. The appearance of the surface will also vary depending on the position, the angle or the sunlight conditions from which it is viewed.

The yellowing effect is most noticeable with colours such as blue, grey and eggshell, where for example yellow and blue light combine to make green. The effect on the other colours such as red and green is to make them appear darker. There is no way to completely avoid this effect with aromatic binders and care must be taken by specifiers and designers to ensure that the client is fully aware of how the finished surface will look.

Blending another colour to produce a variegated finish can mitigate the appearance of yellowing by reducing the visual impact. Customers who require large areas of blue, grey or eggshell type colours should be advised of the yellowing effect on the finished surface.

While true aliphatic binders can greatly reduce the yellowing effect initially, they cannot claim to offer permanent protection or enhanced physical properties. Aliphatic binders can be three times more expensive than aromatic binders with no guarantee yellowing will not occur. For this reason, Advantage Sports & Leisure does not offer the option of using aliphatic binders.

Through several years of experience and constructive installer consultation and feedback, the yellowing phenomenon has been observed with all moisture curing polyurethane binders, regardless of manufacturer.

Over time and subject to UV exposure and surface use the yellowing effect does fade away. Evidence of this fade has been assessed from between 3 months to 6 months' time.

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