



Above: The most important adhesive property for installing landscape turf, playground and other recreational surfaces is its “high green strength (grab)” during installation, instead of a super high strength after cure.

Inset: Norris Legue, president and founder of Synthetic Surfaces, Inc.

Left: Do not select an adhesive based solely on its low price or high strength. The low price often indicates inferior raw materials, and the “high strength” number is often the result of indoor laboratory testing. Regardless of its high strength, an adhesive will peel off oil or waxed-coated steel and other products that interfere with adhesion.

This article about adhesives for synthetic turf and recreational surfaces is being written for landscape professionals who install these surfaces. Special industrial adhesives are required for these jobs, products not found at the home supply stores, plus experienced professional installers are necessary.

Synthetic turf, playground, landscape, and other recreational surfaces are installed at hotels, office buildings, docks, boats and marinas, shopping malls, store entrances, traffic islands, street median strips, apartments and condominiums, patios, sun decks, terraces, swimming pools, golf courses, golf tees and putting greens, etc. A good appearance and long-term durability are required by these installations. Additionally, synthetic turf is also increasingly being used instead of natural grass, for both water conservation purposes and because of concerns about pesticides and some fertilizers used for natural grass.

This article is about the importance of adhesive selection in the above type applications because the best surface, plus using experienced professional installers is of little value if the adhesive is difficult to use in variable weather and/or the adhesive later becomes a “time bomb” that fails after ageing and/or weathering.

What follows is opinion, thoughts and tips on adhesive selection based on about 40 years experience as a chemist in adhesives for synthetic turf, flooring, sport and recreational surfaces, plus being present during numerous installations throughout the USA and other parts of the world.

Choose Quality

1. Do not select an adhesive based on its low price and high strength, because the low price is often obtained by using “cheap and inferior raw ma-

terials,” plus a high strength number is often the result of indoor laboratory testing to determine properties like tensile strength. Field testing to determine durability, such as long-term ageing or weathering are seldom conducted. Remember, regardless of its high strength, an adhesive will peel off oil or waxed-coated steel and other products that interfere with adhesion. Hence, it is the good initial and long-term adhesion to the surfaces being bonded instead of the adhesive’s internal high strength that counts.

High Green Strength

2. The most important adhesive property for installing landscape turf, playground and other recreational surfaces is its “high green strength (grab)” during installation, instead of a super high strength after cure. High-grab adhesives help overcome surface movement such as expansion, contraction, lifting and curling resulting from temperature, humidity, rain, wind, heating and cooling due to passing clouds when sunny, and other weather conditions during installation. It also helps overcome “shape memory” from increased surface stiffness due to cold weather during installation. Using a high green strength adhesive translates into more hours per day and more days per year when high quality installations can be done.
3. For longevity, the adhesive after curing should not only give an adequate bond initially, but

also after ageing and weathering. Many adhesives start off strong but then deteriorate with age and weathering. They become installation “time bombs.”

4. The adhesive should be usable at all temperatures in which the installers can work. There should not be lower limits like say 40°F or upper limits like say 90°F, as specified with some adhesives.
5. The adhesive should be easy to handle and not become too thick to spread when cold or “snap cure” too fast when hot. A “wide installation working window” is preferred.
6. The adhesive should stick to subsurfaces like asphalt, concrete, wood, seaming tape and shock absorbent underlayments, plus adhere to a variety of the backings on the top surfaces being installed.

Good Resistance

7. The adhesive should have good water, fungus and mildew resistance because, if not, it will deteriorate in hot, humid, rain and other tropical conditions.
8. The adhesive should withstand all of the hot and cold outdoor conditions that exist throughout the world.
9. There are several different and adequate adhesives available, with each type having their particular advantages and disadvantages, but the preferred ones are one-part, high green strength curing urethane adhesives with proven long term durability.
10. In summary, selecting an adhesive because of its low price and high strength without regard to other more important factors is penny wise and dollar foolish. Selecting by that method becomes “save a little money now and pay a lot more later!” 