

SELECTING TURF ADHESIVE IS CRITICAL: Q&A WITH NORRIS LEGUE, AKA GURU OF GLUE®

Editor's note: Norris Legue is president of Synthetic Surfaces Inc., which manufactures synthetic turf adhesive products

There is no such thing as a “one size fits all” adhesive because an adhesive that is outstanding for one application might be a disaster for another. There are hundreds of adhesives on the market and some are excellent for one application and unsatisfactory for another. When a person asks, “What’s your best adhesive?” it shows the person has little knowledge of the complexity of adhesives. For example, that’s why the designers of first-aid “band aid” type adhesives do not want the adhesion to be

▼ Stand-up Trowel

so strong that it tears the skin when being removed. Oppositely, instead of stitches, a surgical adhesive that is designed to hold skin together after an operation must not prematurely peel away or break.

Q: Are there many different types of synthetic turf adhesives? If so, what are their differences?

Legue: That narrows it down, but it’s still a very broad subject. For example, there are adhesives for use outdoors vs. indoors; adhesives for recreational surfaces like synthetic turf athletic fields and playgrounds vs. synthetic turf adhesives for aesthetic purposes like landscaping, lawns, highway median strips, roof tops, etc. [Buyers] need to look beyond price as well; higher performing adhesives can withstand athletic activities and weathering and prevent the need for repairs later.

Q: What is your opinion on outdoor synthetic turf adhesives for installing and repairing synthetic turf athletic fields and playground surfaces?

Legue: Weather varies from hour to hour, day to day, with different seasons and different climates. Hence, the adhesive selected should not be a “fair weather only” adhesive because there will be a very limited installation and repair time window. Since time is money, unnecessary delays created by using “fair weather only” adhesives can be very costly.

Furthermore, selecting an outdoor adhesive based on indoor laboratory test results *after* the adhesive has cured is a waste of time.



◀ Left: Airless Spray Center: Glue Box Right: Squeegee

During installation, in very cold or very hot weather, a good outdoor adhesive should prevent the turf from moving due to wind lift, edge curl, creep, wrinkling, buoyancy from unexpected rain, expansion and/or contraction due to surface temperature changes from sunlight, shadows, passing clouds and so on. Furthermore, selecting an outdoor adhesive based on indoor laboratory test results *after* the adhesive has cured is a waste of time. The first important thing is installation in variable weather and after cure, then long-term exterior durability.

Q: What different types of adhesives for synthetic turf are used commercially today?

Legue: They are hot melts, one and two-part liquid solvent-free urethanes; one-part and two-part solvent-based urethanes; two-part epoxy and one-part solvent-free silane/silicone based adhesives.

Q: Of those, which type is most often used for synthetic turf?

Legue: It's one-part urethane adhesives by far, but the word "urethane" is like the word "metal." Just as there is a big difference between gold, zinc, cobalt, lead, iron, uranium, tin, aluminum, etc., there is also a big difference between adhesives that fall under the word "urethane". For synthetic turf, some give disastrous results and others, in our opinion, are far superior to other adhesives.

Q: Can you narrow down the type of urethanes that make it easier to install synthetic turf and those that are the opposite?

Legue: Relatively speaking, one-part liquid urethanes that are both solvent-free and with high isocyanates (NCO) contents above 9% have a host of installation problems ranging from crystallizing (turning solid) at about 50° F and not re-liquefying when warmed; to foaming in high humidity; to slow cure in low humidity; to negligible tack and "grab" to prevent turf movement during installation.

Oppositely, many solvent containing one-part urethanes with low NCO contents, enable turf installations ranging from freezing to hot desert temperatures; they do not crystallize on cold days; do not foam on humid days and do not stop curing in dry desert-like conditions. Installers don't have to "baby sit" them during installation.

Q: How do you find a synthetic turf adhesive that is suitable for an application?

Legue: I suggest contacting adhesive manufacturers and ask for literature and a MSDS sheet. If the information received is weak, ask about some of the points I've made here. Don't accept a verbal sales pitch or buy solely on low price. ■

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