

Handling Guidelines for NORDOT® Adhesives

Product Features

- NORDOT® Adhesives are one-part, high “green strength” (grab), curing urethanes that contain solvent.
- NORDOT® Adhesives are easy to use; have superior fresh and salt water resistance and long-term exterior durability.

Technical Information

Note The following technical information and data should be considered representative or typical only and should not be used for specification purposes.

Properties	#34D-2	#34N-2 #34N-4	#34G #34R-4(Super)	#34S-3(Plus)
Non-volatile	59%-62%	64%-66%	58%-64%	62%-64%
Volatile	38%-41%	34%-36%	36%-42%	36%-38%
VOC (Theoretical)	383 g/l	#34N-2 = 346 g/l #34N-4 = 101 g/l	#34G = 360g/l #34R-4(Super) = 99 g/l	#34S-3(Plus) = 329g/l #34S-4 = 87 g/l
NCO (Isocyanate content)	3.12%-3.63%	3.07%-3.63%	2.7%-3.35%	3.42% - 3.98%
Brookfield Viscosity	350-600 cPs (2 @ 20 RPM @ 25°C)	1, 500-2,500 cPs (3 @ 20 RPM @ 25°C)	22,000-29,000 cps (6 @ 10 RPM @ 25°C)	500-900 cPs (3 @ 20 RPM @ 25°C)
Application Temperature Range	From below freezing to hot desert temperatures (any temperature in which the installer can work)			

Storage and Shelf Life

Store product in a well-ventilated place. Keep container tightly closed. Do not store containers in direct sunlight, hot desert like or other high heat conditions as the increase in internal pressure from heat may cause the containers to rupture. When stored at the recommended conditions in original, unopened containers, will be replaced if it hardens within six months of the date of manufacture. However, the shelf life may be significantly longer.

Handling/Application Information

Directions for Use

1. Surface Preparation: Surfaces must be clean, dry and dust free. Wiping with a solvent such as methyl ethyl ketone (MEK)* or acetone will aid in removing oil and dirt.

The information and statements contained herein are believed to be correct. However, since we have no control over method of the application, conditions during application, environment where used, or surfaces to which our products are applied, there is no warranty expressed or implied. The buyer should first determine if the product is fit for their particular purpose. Purchase of material is not permission or recommendation to use in violation of patents or laws. Prerequisite for sale of our products is that the buyer purchases at their own risk and with no liability to us.

2. Application: Apply a uniform coat as specified by product.
3. Drying Time: Allow adhesive to dry until tacky (typically about 15 minutes depending on temperature, humidity, etc.). Please see installation guidelines for the 5 Phases of NORDOT Adhesive.
4. Bonding: When the adhesive dries to the Stage 3 or Stage 4, combine the surfaces using firm pressure to ensure good contact. Use a weighted roller where appropriate.
5. Cleanup: Excess adhesive may be removed with a solvent such as methyl ethyl ketone (MEK),* or acetone while the adhesive is still wet.

*Note: When using solvents, extinguish all ignition sources and follow the manufacturer's precautions and directions for use.

Precautionary Information

Refer to Product Label and Safety Data Sheet for health and safety information before using this product. For additional health and safety information, call 1-908-233-6803 or in case of emergency contact CHEMTREC (USA) at (800) 424-9300.

Safety Recommendations

- Keep away from heat / sparks / open flames
- Provide adequate ventilation. Where reasonably practiced, this be achieved using local exhaust ventilation and good general extraction. When not sufficient to maintain concentration of particulates and any vapor below occupational exposure limits suitable respiratory protection must be worn.
- Avoid contact with skin and eyes by wearing overalls, chemical resistant gloves, and safety glasses

Information

The technical information, guidance, and other statements contained in this document or otherwise provided by Synthetic Surfaces Inc[®] are based upon records, tests, or experience that Synthetic Surfaces Inc.[®] believes to be reliable, but the accuracy, completeness, and representative nature of such information is not guaranteed.

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HANDLING GUIDELINES FOR NORDOT® HIGH “GREEN STRENGTH” (GRAB) URETHANE ADHESIVES

All NORDOT® one-part adhesives have basically the same high grab, outstanding water resistance and long-term durability in all climates after cure. When installing, our Newtonian syrup-type liquids level and flow, and our Thixotropic mayonnaise-types hold trowel ridges, even on vertical surfaces. Some can be applied by airless spray or a glue box, while a trowel, squeegee or roller can be used with all. Plus, they are usable year-round, under widely variable weather conditions and with no temperature limits.

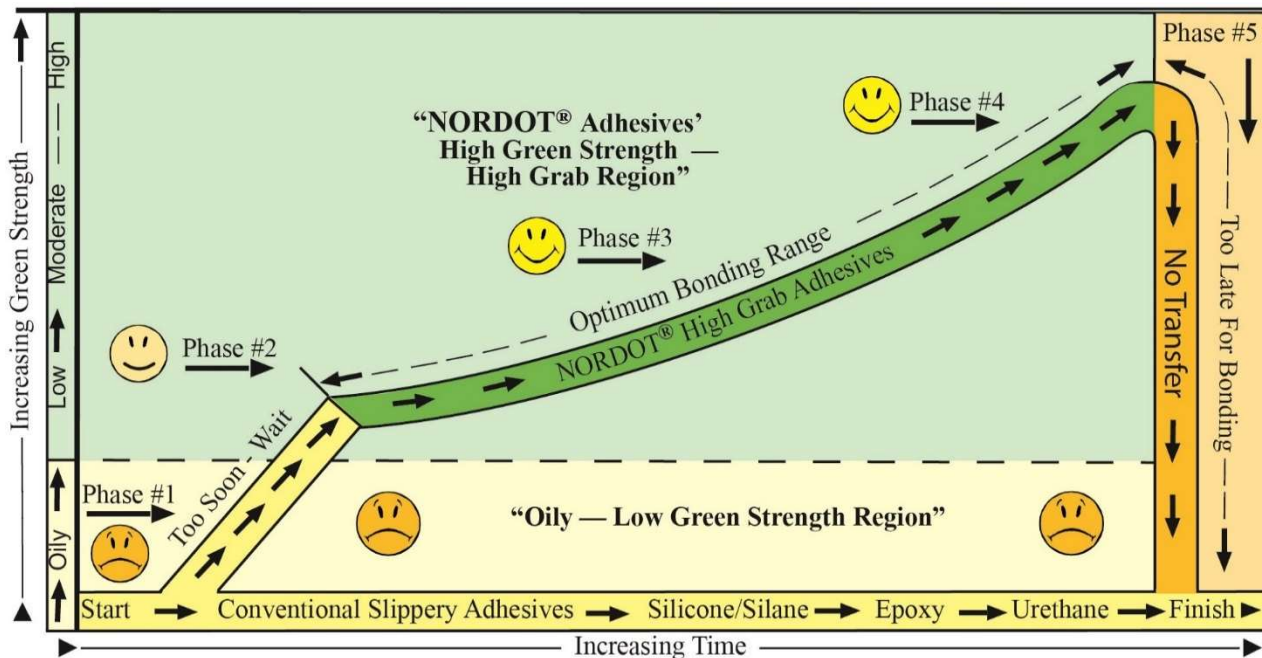
The key to faster, higher quality and more profitable installations using NORDOT® Adhesives is the unique and important property known as high “green strength” (high grab while still wet).

The graph and description below show how to best use NORDOT® Adhesives to take advantage of their high green strength. Although they are very easy to handle, NORDOT® Adhesives are different than other adhesives, so please read below before starting an installation.

Helpful hint to prolong the adhesive’s pot life:
 1) Prepare your work. 2) Remove the pail lid or screw cap. 3) Dispense the adhesive amount needed. 4)Tightly re-seal the lid or screw cap immediately. 5) Spread the dispensed adhesive. 6) Repeat this process during the installation.

Handling Barometer: There is no specific bonding time to use as a guide because temperature, humidity, wind, adhesive thickness, method of application and other factors prohibit it. Instead, regardless of weather conditions, observe and be guided by the five NORDOT® Adhesive phases described below.

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|-----------------------------------|---|---|
| Phase #1 (Negligible grab) | – | Adhesive film is wet and in the early stages of solvent evaporation. |
| Phase #2 (Mild grab) | – | Tack developing, long and weak adhesive “legs”. Low cohesive strength. |
| Phase #3 (Moderate grab) | – | High tack, short and strong adhesive legs. Moderate cohesive strength. |
| Phase #4 (High grab) | – | Film almost dry when touched lightly, but has high strength and stubby adhesive legs when firmly pressed. The adhesive has a high cohesive strength, grabs aggressively and clings tenaciously. |
| Phase #5 (No grab) | – | Film is dry with no adhesive transfer when pressed and/or heated. Too late. |



As shown on this graph, NORDOT® high green strength adhesives pass through five “phases” of grab after application: **Phase #1** – “Too Soon - Wait”; **Phase #2** – Rapid increase in green strength (grab) as the solvent evaporates; **Phases #3 and #4** – The high green strength “Optimum Bonding Range”; **Phase #5** – “Too Late for Bonding” (no adhesive transfer).





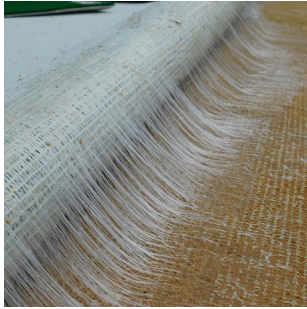
Changing Phases of **NORDOT**[®] Adhesives High “Green Strength” Development

“Green Strength” (grab/tack as opposed to oily/slippery) is the property that gives an adhesive the ability to hold two surfaces together when first contacted and before (still “green”) the adhesive develops its ultimate bonding properties when fully cured. High green strength adhesives are vital for outdoor installations because it helps overcome the tendency of surfaces like synthetic turf to separate, curl, bubble, lift, creep, slip and wrinkle during installation without resorting to excessive rolling and/or sand bagging due to turf temperature changes or wind. NORDOT[®] High Green Strength Adhesives have five phases of development:

Too Soon - Wait

Phase #1 (Negligible Grab)

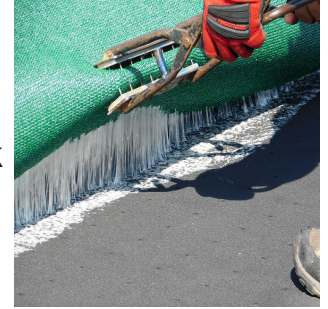
Film is wet and in the early stages of solvent evaporation



Low Green Strength

Phase #2 (Mild Grab)

Tacky, long and weak adhesive “legs”



Optimum Bonding Range



Phase #3 (Moderate Grab)

High tack, short and strong adhesive “legs”



Phase #4 (High Grab)

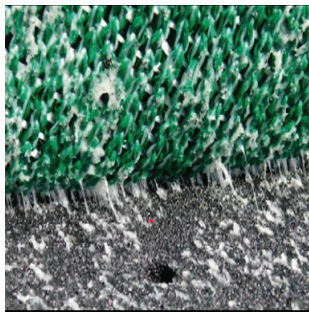
Film almost dry when touched lightly, but has high strength and stubby adhesive “legs” when firmly pressed



Too Late For Bonding ☹️

Phase #5 (No Grab)

Film is dry with no transfer when pressed and/or heated



- Reduce both time and labor costs - thanks to its much faster and efficient application
- One-part, solvent based urethane - easy to apply, not hazmat after the solvent evaporates and far superior to other liquid solvent-free adhesives
- High green strength (grab) - vital for successful outdoor installations especially when windy
- Use year-round whatever the temperature
- Extraordinary water resistance
- Proven outdoor long-term durability
- Perfect for the installation of all areas of sport, recreational and aquatic surfaces
- When airless sprayed, has unique “spider-web” spray pattern, negligible overspray and minimal airborne mist

