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Aquaforce™

One-part water-based polyurethane wood floor finish.

PRODUCT DESCRIPTION:

Spartan Chemical Company's Aquaforce is a water-based wood floor finish that utilizes a unique blend of durable, easy-to-apply polyurethane chemistry. Aquaforce is designed for easy application to the floor through forgiving leveling, low foam, low odor, no mixing, and up to 1,000 ft² per gallon coverage rates. At 28% non-volatile solids Aquaforce creates a clear, high-gloss coating while maintaining excellent resistance to black heel marks, scuffs, and abrasions.

Meets *OTC and California VOC (Volatile Organic Compounds) Emission Levels

The low VOC level of Aquaforce meets the State of California and the Ozone Transport Commission's VOC emission regulations. At the same time, low VOC content minimizes odors traditionally associated with polyurethane wood coatings. Aquaforce is non-flammable.

**The (OTC) The Ozone Transportation Commission is a multi-state organization whose main focus is to develop regional solutions to the ground-level ozone problem in the Mid-Atlantic and Northeast region of the US.*

Versatile Application – No Adhesion Promoter or Bridge Coat Necessary

Being a water-based formula, Aquaforce can be applied on top of both water-based and solvent-based (oil modified) polyurethane coatings. Aquaforce does not require bridge coats or adhesion promoters prior to use. For long-term successful results using Aquaforce, thorough screening and preparation of the floor are imperative. A dry screening process is strongly recommended.

Fast Recoat and Return to Use Times

Aquaforce dries to the touch in approximately 3 hours and reaches full cure in 3 days when the temperature is between 70-75°F and relative humidity is 50% or less. Gentle air circulation is recommended between coats to help reduce recoat and return-to-use times. After the final coat of Aquaforce is applied, the floor can be opened for light foot traffic in 1-2 days and heavy foot traffic or athletic events in 3 days.

Excellent Clarity and Gloss Build

Aquaforce provides a clear gloss finish that enhances the natural color and look of wood floors. The water-based formula dries with clarity and will not change the color of the existing coating or floor itself. Aquaforce is designed to simplify screen and recoat maintenance routines and should not be applied to unsealed bare wood panel sports floors. Bare wood panel floors must be sealed with a sanding seal prior to coating with Aquaforce.

High Coverage Rate and Slip Safe

Aquaforce is designed to be applied directly from the container. The moderate viscosity of Aquaforce enables easy flow and forgiving leveling during application while allowing for

coverage rates up to 1000 ft² per gallon. Easy clean up with plain water or diluted Strategic Cleaner simplifies working with the coating. Aquaforce meets the industry standard for slip safety – ASTM D2047 – with a static coefficient of friction greater than 0.5.

Recommended Areas for Application

Aquaforce is formulated for use on heavy-traffic interior wood floors. **Education:** gymnasium, sports floors, lounges, libraries, offices; **Institutional:** health care facilities, hospitals, nursing homes, physician's offices; **Commercial:** offices, retail sales floors, hotels & motels, restaurants, private clubs, museums; **Residential:** kitchens, entries, great rooms, family rooms.

Important Notes:

1. Proper floor preparation is paramount.
2. Do not topcoat Aquaforce with conventional floor finish.
3. "De-fuzz" or "de-lint" all soft pad applicators prior to use.
4. Eliminate as much dust as possible from the environment.
5. Evaluate condition of existing coating and select starting screen grit accordingly. Floors with more severe wear and tear will require a deeper screening (lower screen grit).
6. Regardless of starting grit, progressively work up in screen grit number until reaching a minimum 150-grit. Always finish with 150-grit or higher. SPP pads can be used for final pass.
7. Thoroughly tack the floor until no residue remains. Do not re-use towels or tack rags.
8. Do not use oil treated dust mops for sweeping and tacking.
9. Do not use soap-based detergents. Strategic Cleaner is formulated without soap and is specifically designed for use on polyurethane coated floors.
10. Do not saturate the floor with tacking solution.
11. Ensure the floor is **uniformly dull, clean, and allowed to thoroughly dry** before coating.
12. Maintain a "wet" edge during Aquaforce application.
13. Do not create puddles or heavy lap ridgelines. Should they occur, work out immediately.
14. The average coverage rate when applying 2 coats is approximately 800 ft² per gallon.
15. Use lightweight T-bars only and do not apply pressure during Aquaforce application.
16. Do not close up the area where the floor is being coated.
17. To ensure proper film formation and decrease dry times: DO aim clean, dust-free fans above the floor to provide ambient air circulation. DO NOT run fans directly on drying coating.
18. Do not use tape as court lines.
19. Dry times vary depending on temperature and humidity at the time of application.
20. **Do not apply when temperatures are below 65°F or above 90°F. Do not apply when relative humidity is 80% or greater.**

DIRECTIONS FOR USE

IMPORTANT NOTES:

Some individuals may be sensitive to ingredients in this product. Before use, read product label and Safety Data Sheet. If questions remain, consult your employer or a physician. Wet floors may be slippery. Prevent pedestrian traffic with signs or barricades. The primary intended use of this product is screening and recoating previously finished wood floors. New or freshly sanded wood floors must be professionally painted and sealed before applying Aquaforce.

Use product as supplied.

Do not dilute product.

Apply with a clean, designated waterborne applicator.

Always provide adequate ventilation during any coating process.

Never coat over waxes and/or conventional floor polishes.

Application Equipment

Application of Aquaforce is simple – use light weighted T-bars equipped with a Padco "Big Foot Floor Coater" pad or equivalent. Do not use heavy weighted T-bars. Apply finish in parallel lines with the direction of the boards. Always apply thin coats. Work out puddles and ridgelines.

Previously Finished Floors

Compatibility Patch Test

Before recoating a previously finished floor, perform a small patch test in an area exposed to normal traffic to confirm coating compatibility, wear performance, and viability of desired screening procedure. A dry screening process is strongly recommended.

➤ **Floor Preparation:**

1. Inspect floor. Using a putty knife or scraper, scrape any gum or other adhered debris from the floor.
2. Dust mop and then clean area using Strategic Cleaner. Allow floor to dry.
3. a. Screen floor until entire area is uniformly dull. All existing blemishes and gloss should be removed. Exact screen grit should be selected based on current wear condition of existing coating. Severe wear dictates more aggressive, deeper screening (starting with lower grit number). Light wear requires less aggressive, lighter screening (starting with a higher grit number).
- b. Each screening pass should be made with progressively higher grit screens. Never transition from low to high grit screens without a gradual, stepwise increase in grit number.
- c. Use screens at a maximum rate of 500 ft² per screen (250 ft² per side). The final pass should always be made with a minimum 150-grit screen. Maroon floor prep pads (3M SPP or equivalent) may be used after 150-grit for final screen pass. Lightly worn floors may only require 150 grit or even SPP alone – one goal of this patch test is to determine the most efficient screening procedure for the floor.
4. Vacuum and then tack the floor using properly diluted Strategic Cleaner as a tack rag solution to remove all screening dust. Tacking should be continued until there is no dust present on tack rag. When the test area is clean, dry and appears uniformly dull with no areas of gloss present, it is ready to be coated.
5. Follow the **Application/Recoating** steps below to apply Aquaforce to the patch test area.

After the test patch confirms Aquaforce is compatible with the existing finish and desired screening procedure, scale the Floor Preparation procedure used above to the entire surface of the floor. Once complete, follow the recoating procedure as listed below:

Application/Recoating

1. Using a light weighted T-bar, apply Aquaforce as evenly as possible with the grain of the

wood, targeting the recommended coverage rate of 600-1000 ft² per gallon. Do not allow ridgelines, lap-lines or puddles to develop. Should they occur, work out immediately.

2. Allow each coat to dry completely tack-free (approximately 3-5 hours depending on temperature and humidity**) before applying additional coats. To ensure proper and faster drying, incorporate gentle but adequate ambient air circulation using clean, portable fans aimed far above the surface. Central HVAC systems can agitate dust from elevated surfaces, cause it to become airborne and ultimately settle in the wet coating. Central HVAC systems should be avoided as the source of air circulation unless no alternatives are available.
3. Apply additional coats as desired. Aquaforce was designed to meet expectations for gloss and performance after two coats applied at 600-1000 ft² per gallon on most floors. Additional coats will add protection and higher gloss to the floor. Always ensure floor is tack-free and able to withstand light foot traffic (without leaving footprints or marks) before applying subsequent coats. **It is not necessary to screen between coats unless more than 24 hours have passed since the last coat of Aquaforce was applied and dried tack-free. Should the 24-hour window of opportunity to recoat pass, re-screen the entire surface with the same grit used on the final pass during the initial screening of the floor. Thoroughly vacuum and then tack the floor using Spartan's Strategic Cleaner. Allow the floor to dry and ensure uniform dullness. Proceed with additional coat(s).**
4. Allow a complete 72 hours (3 days) for before returning the floor to full use. Light foot traffic can begin after 1-2 days. Heavy foot traffic, or athletic activities, can resume after 3 days. Never place carpets or rugs over freshly finished floor for at least 2 weeks.

**Temperature and humidity levels may significantly increase or decrease recoat times. Pay close attention to these conditions and the coating itself when determining the appropriate recoat times.

New or Freshly Sanded Wood Floors

Floor Preparation

All newly installed wood floor must be allowed to dry/acclimate for a minimum of six weeks before finishing.

The new floor must be sanded prior to sealing and finishing. Additionally, old and worn floors with severe coating wear and/or deep, underlying issues with previous coats should be drum sanded to a fresh, uniform surface when possible. Sanding requires professional technicians and/or experienced maintenance personnel achieve optimum results. One improper sanding will ruin a floor. All sanding should be conducted with a drum sander in continuous forward motion. (Cuts that are too deep or down to the tongue and groove will result in splintering. Splintering reduces – and can possibly destroy – the structural strength and integrity of the floor. In certain cases, improper sanding technique can result in permanent “rippling” or “wave” distortions on the surface of the floor). Follow industry standards, such as NOFMA or MFMA, when sanding.

Application

Generally, a 4-coat system is recommended for newly sanded floors. This includes 2 coats of a water-based sanding seal followed by 2-3 coats of Aquaforce. When applicable, regulation lines should be painted by professional technicians between the first and second coat of sanding sealer. Prior to application of both line paint and second coat of sanding seal, grain raise from

the initial coat of sanding seal should be screened off with a 150-grit or higher sanding screen. **Tacking the floor with Strategic Cleaner is always required after any screening.** After successful sanding seal and line paint application, the floor is ready to be coated with Aquaforce. If any coat of sanding seal or Aquaforce is allowed to dry for more than 24 hours, screening is required using a 150-grit or higher screen before additional coats can be applied. Always allow tacked floor to dry **completely** before applying or re-coating Aquaforce.

TROUBLESHOOTING AQUAFORCE

<p><u>Slow Dry:</u></p> <ul style="list-style-type: none"> - Low floor & air temperature - High humidity - No ambient air movement after application - Excessively thick coats (low coverage rate) - Failure to avoid/work out lap lines & puddles - Applying finish before floor is <u>completely</u> dry <p><u>Peeling:</u></p> <ul style="list-style-type: none"> - Inadequate/improper screening & floor prep <p><u>Streaks:</u></p> <ul style="list-style-type: none"> - Excessively thin coats (high coverage rate) - Failure to re-screen after 24 hours 	<p><u>Fisheyes:</u></p> <ul style="list-style-type: none"> - Foreign material/contaminate on surface - Insufficient or rushed tack cleaning - Over-working the product with applicator <p><u>Wrinkling:</u></p> <ul style="list-style-type: none"> - Recoating too soon - Excessively thick coats (low coverage rate) - High temperatures during application <p><u>Foam/bubbling:</u></p> <ul style="list-style-type: none"> - Over-working the product with applicator - High temperatures during application
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TECHNICAL SPECIFICATIONS

Non-volatile solids: 28%

Appearance: White Dispersion

Odor: Mild

Weight per gallon: 8.65 lbs

Flash point (TCC): >212°F

VOC content: <275 g/L

Coverage rate: 600-1000 ft²/gal

NOTE: The playing area of a typical high school basketball court is 4200 ft². Outside court boundaries will significantly add to this area. Aquaforce coverage rates typically increase with each additional coat applied to the floor. The following coverage rate can be used for estimating total volume of Aquaforce needed for two coats on a properly prepared floor: 750 ft² per gallon.

Packaging:

Aquaforce is available in gallons (4 per case) and 5-gallon pails.

Guarantee:

Spartan Chemical Company, Inc. warrants Aquaforce to be free from manufacturing defects. Variations in surface preparation, application method, environmental conditions (temperature, relative humidity, air flow, etc.), and other on-site conditions are beyond Spartan's control. These variables can – and do – affect the performance of Aquaforce. Spartan makes no other warranty, expressed or implied, with respect to wood floor coatings. Products determined by Spartan to be defective will be replaced. Spartan shall not be liable for any loss or damage including incidental or consequential damage arising from the use of Aquaforce. Use this product as directed. Read all precautionary statements prior to use. Please refer to the appropriate Material Safety Data Sheet, product literature, and product label.

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