

Smith's

Product Data Sheet

CHEMICAL-RESISTANT POLYURETHANE

HW90S-PDS-01-22-24

HI-WEAR 90S

ALIPHATIC CHEMICAL
RESISTANT URETHANE WITH
HIGH TRAFFIC ADDITIVE

DESCRIPTION: Smith's Hi-Wear 90S is a low sheen finish, Aliphatic, 3-component clear or 4-component pigmented chemical resistant 90% CRU for use in high traffic environments needing a highly durable, chemical & abrasion resistant U.V. Stable topcoat.

RECOMMENDED USES (including but not limited to):

- Avionics & Hangar Floors
- Food & Beverage Floors
- Forklift traffic areas
- Heavy Industrial Manufacturing Floor areas
- Pharmaceutical Floors
- Vehicle Assembly & Service Floor areas
- Healthcare & Veterinary as topcoat over resinous flooring
- more

HIGHLIGHTS:

- Developed for heavy traffic and abusive environments
- Greatly improves the service life of the coating system
- Resists development of traffic patterns and finish dulling
- Excellent rolling load resistance to forklift traffic
- Improves light reflectivity
- Easy to clean
- Chemical Resistant
- Does not Harbor Bacteria
- Meets FDA standards
- Overnight return to service

STORAGE: Indoors between 65°F (18°C) to 90°F (32°C)

SUBSTRATE SURFACE TEMPERATURE:

Between 50°F (10°C) to 90°F (32°C) with 20% to 80% Humidity

**Elevated temperatures & humidity with significantly lessen the working time*

SHELF LIFE: 18 Months in original, unopened containers

AVAILABLE KIT SIZES:

SCS-MCUWEAR90S-128kit 1.15 Gallon kit
SCS-MCUWEAR90S-512kit 4 Gallon kit

OPTIONS:

Colors: Use Smith's Industrial Solid Colorant packs at the quantity per kit size stated below:

- 1.15 gallon Kit = 1 unit per kit
- 4 gallon Kit = 4 units per kit



LIMITATIONS:

- For industrial floors with wheeled traffic/fork lift traffic conditions, minimum CSP 3 profile is required for mechanical preparation as well as underlying resinous system
- Priming required over porous surfaces as the liquid may absorb too much leaving the powder filler loose on the surface.
- Does NOT block U.V. light when applied clear over a non-U.V. Stable product (i.e. Epoxy or aromatic coatings)
- Do NOT install coatings when the Dew point is within 5° of the temperature.
- Application is NOT recommended above 80% at time of install
- NOT water clear – may discolor underlying layer when applied clear
- Do NOT Spray apply Smith's Hi-Wear 90S – Must be dip & rolled
- Foaming possible when over applied (too thick)
NEVER EXCEED 4 mils WFT
- Must be applied with an 18 inch width roller cover – *Do NOT Use 9 inch wide or narrower rollers to apply*



CURE TIMES (@ 50% Humidity):

**Cure time is affected by temperature & humidity*

	50°F	72°F	90°F
Pot-life	3 hours	2 ½ hours	1 hour
Working Time	3 hours	2 ½ hours	40 min.
Recoat Window	N/A	N/A	N/A
Tack-Free	6 hours	3 hours	2 hours
Light Traffic (i.e. foot traffic)	24 hours	12 hours	9 hours
Heavy Traffic (i.e. Forklift, etc.)	40 hours	24 hours	16 hours
Chemical Resistance (Full Cure)	10 days	7 days	5 days

CURED COATING PROPERTIES (DRY FILM):

Property	Test Method	Results
Abrasion Resistance, mg/loss* Taber Abraser	ASTM D4060	16.8 mg loss
VOC's	ASTM D3960	±43 g/L
Gloss (60°)	ASTM 1455	20° (±5°)
Hardness (Pencil)	ASTM 3363	3H
Impact	ASTM D2794	140 in.lbs. Direct & Reverse
Adhesion to Steel - Pull Strength, psi (MPa)	ASTM D4541	2,625 psi (18.1 MPa)
Percent Elongation	ASTM D2370	6%
Water Absorption 24-hour immersion test	ASTM C413	<0.02%
Viscosity – Mixed	ASTM 2196	383 cP
Flash Point – Liquid State	ASTM 3278	200°F (93°C)
Volume Solids (Mixed)	ASTM D2196	±90%

**CS-17 Taber Abrasion Wheel, 1,000 gram load, 1,000 revolutions Results are based on conditions at 77°F (25°C), 50% relative humidity.*

APPROXIMATE COVERAGE (DRY FILM):

Coverage will vary depending on the application thickness, floor profile & absorbency of the substrate.
Coverage Equation: $1604 \div \text{milage} \times 0.9 = \text{Dry Film Thickness}$

Mil Thickness	Approximate Yield per kit per square foot	
	1.15 gal kit	4 gal kit
Wet Film Thickness		
2 mils	830 sq.ft./kit	2,888 sq.ft./kit
2.5 mils	660 sq.ft./kit	2,300 sq.ft./kit
3 mils	550 sq.ft./kit	1,924 sq.ft./kit

**DO NOT EXCEED 4 mils Wet Film Thickness to avoid foaming*

NECESSARY TOOLS and EQUIPMENT:

- Plastic Sheeting or Ram Board to cover floor for mix station
- Premium, solvent-resistant, non-shed 3/8" nap paint roller covers
- Several 18" wide, non-metallic Paint Roller Frames
- Paint mixing paddle
- Low speed ½" drill (≤450 RPM)
- Wide paint trays (for dip & roll applying)
- Multiple Extension Poles
- Cleaning Solvent (Acetone, MEK, or Xylene)



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TYPICAL CHEMICAL & STAIN RESISTANCE

Covered Spot Test [ASTM D1308] - 3 mil film after 7 day cure:

E - Excellent; G - Good (slight sign of exposure/stains, coating recovers);

NR - Not Recommended (Permanent Damage)

ACIDS 24 hour Exposure

Acetic Acid 25% (Vinegar)	E
Citric Acid 10%	E
Lactic Acid (Milk)	E
Phosphoric Acid 85%	E (Clear) / G (Tinted)
Sulfuric Acid 25% (Battery Acid)	E
Sulfuric Acid 98%	G (Clear) / NR (Tinted)
Hydrochloric Acid 32% (Muriatic)	E
Nitric Acid 50%	NR

BASES

Ammonium Hydroxide 10%	E
EBGE	E
Sodium Chloride 20%	E
Sodium Hydroxide 50%	E
Sodium Hypochlorite (Bleach)	E
Trisodium Phosphate 10%	E

ALCOHOLS

Ethylene Glycol (Antifreeze)	E
Hand Sanitizer	E
Isopropyl Alcohol 91%	E
Methanol	E

SOLVENTS

Acetone	E
d-Limonene	E
MEK	E
Methylene Chloride	E
Mineral Spirits	E
PGMEA	E

HYDROCARBONS

Brake Fluid	E
Transmission Fluid	E
Motor Oil	E
Gasoline	E
Kerosene	E
Hydraulic Fluid	E
Skydrol® - LD-4	E

MISCELLANEOUS

Coffee	E
Coke®	E
Dish Detergent (Dawn®)	E
Hydrogen Peroxide 3%	E
Ketchup	E
Monster Energy® Drink	E
Mustard	E
Povidone-iodine (BETADINE®)	G
Tide® 1%	E
Windex® (Ammonia Based)	E
Wine - Red	E

Coke® is a registered trademark of Coca-Cola. Monster Energy® is a registered trademark of Monster Energy Co. Skydrol® is a registered trademark of Eastman Chemical. Dawn® & Tide® are registered trademarks of Proctor & Gamble. Windex® is a registered trademark of S.C. Johnson & Son, Inc. Betadine® is a registered trademark of Avrio Health L.P.

INSPECT THE SUBSTRATE: Ensure the substrate is structurally sound and solid as well as free of any contaminants that may act as a bond breaker, such as oil, paint, densifier/sealers, curing compounds, wax, silicone, etc.

TEMPERATURE & HUMIDITY: Substrate temperature and materials must be maintained between 50°F (10°C) to 90°F (32°C) with less than 80% Ambient Humidity for 24 hours prior to & 24 hours after installation. Do not install coatings when the Dew point is within 5° of the temperature.

CHECK FOR MOISTURE: Testing concrete moisture via both the Calcium Chloride (ASTM F1869) & In-situ Relative Humidity (ASTM F2170) methods is highly recommended to accurately determine both the Moisture Vapor Emission Rate (ASTM F1869) & the available Moisture Content (ASTM F2170) at the time of testing. Using only one test method will not provide all necessary information & may not indicate other potential risks such as contaminants, etc. that may pose a risk for delamination, chemical attack, etc. which are not caused by moisture vapor emissions or high alkalinity.

Maximum moisture readings are as follows:

ASTM F2659 <4% MC

ASTM F1869 <3 lbs. / 1,000 sq.ft. / 24 hours with 9 to 12 pH

ASTM F2170 <75% Relative Humidity

Testing pH levels with a pH pencil or Litmus paper along with distilled water is a very inexpensive, easy way of identifying a potential risk, in conjunction with Moisture Vapor testing methods to determine whether more in-depth testing should occur.

[Smith's Epoxy MAC100](#) or [Smith's Epoxy MAC125](#), in conjunction with proper testing and mechanical preparation, will reduce the moisture vapor emission rate to a level within the tolerance of subsequent coatings & traditional floor covering needs.

Follow the testing manufacturer's instructions precisely or visit www.astm.org, see ASTM F1869 or F2170, to purchase the test methods. Testing MUST occur within an acclimated, interior environment for the results to be valid & conclusive.

Smith Paint Products is strictly a product manufacturer & does NOT offer any testing or analysis but may be able to offer guidance to an appropriate testing lab or third-party inspector. When in doubt, hire a qualified third-party testing firm with appropriate certifications & credentials.

CONTAMINATION OF SUBSTRATE: Concrete is porous & can become contaminated with oils, chemical from spills, etc. which act as a bond breaker. Determine if a potential bond breaker exists & a proper course of remediation. *Core sample Petrographic Analysis is the best method for testing of concrete for contaminant type & depth as well as for documenting & determining if other risks exist prior to proceeding with quoting & application of a flooring system. It is the contractors' responsibility to determine the substrate suitability & the course of action for remediation.*

Delamination and/or breakdown due to the following causes are examples of substrate contamination:

- [AAR \(Alkaline Aggregate Reaction\)](#)
 - [ACR \(Alkali-Carbonate Reaction\)](#)
 - [ASR \(Alkali-Silica Reaction\)](#)
- Near Surface ASR (may occur in certain environments which have been topically treated with Sodium Silicates or Potassium Metasilicates)
- Substrate contamination (i.e. Oils, Solvents, PERT, PCB's, Silicone, etc.)

CHEMICAL CONTAMINATION - Chemical contamination should be determined & may require additional testing. Once the type of contaminant is determined, contact Smith Paint Products for remediation recommendations while following local regulations regarding contaminant & disposal.



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GENERAL CLEANING: Detergent scrub with [Smith's Neutral Detergent](#), or similar, then rinse with clean, potable water to remove surface dirt, light surface grease/oil and contaminants prior to mechanical preparation. Heavy grease and oil should be removed using [Smith's Oil Clean](#). If a densifier or dissipative curing compound is believed to have been present, use [Smith's Green Clean Pro](#) biodegradable etching gel after mechanical preparation methods.

SILICATE CONTAMINATION – Substrates previously treated with Potassium or Sodium Silicates, such as polished or burnished concrete as well as certain surface hardeners such as Ashford Formula® or similar, may skew moisture testing results. In some cases where the concrete did not have enough available calcium hydroxide for the silicate to react with when originally applied may result in crystallized yet unreached, water soluble silicates that can expand beneath a coating causing the surface of the concrete to fracture at the bond line between the coating & the concrete.

Potential silicate contamination may be seen during traditional moisture testing with abnormally high pH (above 11.5 to 14 pH) along with CaCl results below 6 lbs. & RH readings above 85%. In such cases, concrete cores samples in conjunction with Petrographic Analysis may offer the most in-depth analysis of the situation.

Concrete contaminated with silicate densifiers / hardeners of these types must be mechanically prepared followed by cleaning [Smith's Green Clean Pro](#) 24 hours prior to moisture vapor & pH testing in order to obtain accurate readings.

NOTE:

- DO NOT USE MURIATIC / HYDROCHLORIC ACID TO PREPARE CONCRETE AS CHLORIDE CONTAMINATION MAY OCCUR
- When etching, ensure all [Smith's Green Clean Pro](#) has been thoroughly removed with potable water with no remaining soapy residue or cement slurry
- DO NOT USE [Smith's Green Clean Pro](#) on "Green" concrete (less than 30 days old), Hard Trowel Finished concrete or previously sealed/coated/painted concrete to including any type of curing compound

OIL CONTAMINATION – [Smith's Oil Clean](#) may be used to remove oils, such as petroleum, synthetic, or food oils, from concrete & other mineral based substrates surfaces prior to mechanical preparation.

DO NOT USE simple green® or Soy based detergents.

Once the oil & grease have been removed from the surface & thoroughly rinsed with clean, potable water, mechanically prepare the concrete as stated in the "Mechanical Preparation of Concrete" sub-section under "Substrate Preparation" later in this page.

If oil continues to "weep" out of the concrete after mechanical preparation, clean again with [Smith's Oil Clean](#) then encapsulate the oil/grease remaining in the concrete while the substrate remains "damp dry" with water but ensure no standing water puddles exist prior to application of 10 to 12 mils of [Smith's Epoxy MAC125](#) primer. Allow to cure for a minimum of 5 hours or overnight then use a sanding screen under a green floor buffing pad under a low-speed floor machine to remove any contaminants that may have floated to the surface of the epoxy before it hard set as well as scuff the surface dull. Vacuum off the sanding dust then tack rag with Acetone on a microfiber mop repeating with a fresh, clean microfiber until no dust residue can be seen on the microfiber

DO NOT USE Denatured Alcohol or Xylene for this application.

simple green® is registered trademark of Sunshine Maker's Inc. Ashford Formula® is a registered trademark of Curecrete Chemical Company, Inc.

SUBSTRATE PREPARATION

NOTE:

- 1) Methyl Methacrylate (MMA) is NOT an acceptable substrate and delamination will occur if topcoated
- 2) DO NOT USE MURIATIC / HYDROCHLORIC ACID TO PREPARE CONCRETE AS CHLORIDE CONTAMINATION CAN OCCUR

TEMPORARY HEAT: Moisture vapor is emitted by fueled temporary heaters which creates condensation to occur on the floor surface and may cause an amine blush with epoxy products. Many temporary heating methods also can emit unburned petroleum into the air which act as a bond breaker once it falls onto the surface of the substrate

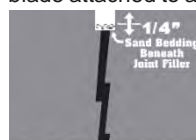
- Precautions must be taken when using LP, gasoline, diesel, etc. fueled temporary heat
- Always shut off temporary heat at least 2 to 3 hours prior to application to reduce risk of an amine blush
 - Fisheyes are a result of surface contamination or an amine blush
- Ensure exhaust emissions & toxic fumes from temporary heaters exhaust to the exterior of the building to prevent health hazards & damage to work.
- Always clean the mechanically prepared surface with [Smith's Oil Clean](#) or TSP using an auto-scrubber followed by a thorough clean water rinse when temporary heat has been in use

MECHANICAL SUBSTRATE PREPARATION: Achieve a CSP 2 to 5 (Concrete Surface Profile in accordance with ICRI Guideline 310.2R2013, as published by the International Concrete Repair Institute) on concrete to yield an absorbent substrate. Extent of concrete surface profile (CSP) necessary will be determined based on the total thickness of the floor coating system being applied while considering the type and extent of traffic anticipated. Please refer to the individual system application guide or contact Smith Paint Products for recommendations. As a rule thumb, thicker coating systems require a more extensive surface profile / texture than a thin system.

If a densifier or dissipative curing compound is believed to have been present, see "Silicate Contamination" section on the left column of this page for treatment using [Smith's Green Clean Pro](#) after mechanical preparation.

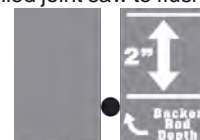
JOINTS – Honor expansion joints at the finish floor elevation. Follow ACI 224.3R-95: Joints in Concrete Construction guidelines for proper filling of construction and control joints. ACI recommends allowing a concrete slab to cure for a minimum of 60 to 90 days or longer to allowing the slab to shrink and acclimate to the intended joint width thus reducing the risk of joint wall separation from the joint filler. Cooler climate applications must be remain at a minimum of 45°F substrate temperature for no less than 10 days prior to as well as 7 to 10 days after filling with an appropriate semi-rigid joint filler, such as [Smith's Poly JF](#) or [Smith's Poly JFEC](#), ideally longer if possible. Static joints may allow the coating system to bridge over [Smith's Poly JF](#) but it is NOT recommended to install a floor coating system over caulking, silicone, cement patching compounds, Polyurea & traditional Polyurethane flexible joint fillers.

Always route out joints with an appropriate width diamond cutting blade attached to a vacuumized and dust controlled joint saw to flush



Control Joint

out debris and freshly clean the side walls of the joint. Ensure that all loose edges and broken pieces of the concrete are removed and



Construction Joint

repaired prior to filling the joint with [Smith's Poly JF](#) or [Smith's Poly JFEC](#). Should joint walls require extensive repairs, cut out the weak concrete back to a sound, solid area then fill with [Smith's SKM](#), [Smith's Epoxy FRM](#) or similar.



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AS A TOPCOAT OVER A NEW COATING SYSTEM: Ensure the previous layer has cured enough to receive another layer, shows no indication of blushing and has NOT exceeded the recoat window. Correct any surface imperfections in the previous layer prior to top-coating. If the previous layer has cured beyond the recoat window, the surface must be mechanically abraded using 100 to 120 grit sand paper or screens to a uniformly dull surface with no remaining shiny areas then cleaned to remove all dust/debris prior to receiving a topcoat of Smith's Hi-Wear 90S. Smith's Hi-Wear 90S is very abrasion resistant and difficult to dull, therefore, it may be easier to diamond grind the surface with transitional diamonds or hard bond metal 150 grit diamonds with all weight removed from the head of a floor grinder.

NOTE: DO NOT USE RESIN Bond diamonds to dull prior to recoating due to residue that will cause adhesion and finish issues in the next layer.

TOPCOATING EXISTING FLOOR COATING SYSTEMS:

Adhesion to any existing coating system is only as good as the adhesion the existing coating system has to its substrate. Always test to determine the suitability of an existing substrate and mock-ups are highly encouraged. Allow the mock-up to cure for no less than 1 week before performing adhesion testing, such as a tape test or using an Elcometer. To verify the existing coatings bond strength to its substrate, follow ASTM D 4541 using an Elcometer to determine an in-situ direct tensile pull-off strength greater than 250 psi (1.7 MPa) to pass the test. Once the existing coating system has been deemed to be well bonded and sound, thoroughly degrease as necessary using [Smith's Oil Clean](#) prior to diamond grinding with 100 to 150 grit diamonds or sanding the entire surface with 80 to 120 grit sandpaper or screens to a uniformly dull finish. Ensure no shiny areas remain then thoroughly vacuum and tack rag the entire surface with Acetone.



BARE CONCRETE: Achieve a CSP 2 to 3 (Concrete Surface Profile in accordance with ICRI Guideline 310.2R2013, as published by the International Concrete Repair Institute) yielding a surface texture similar to 80 to 120 grit sandpaper or more course in order to maintain long term adhesion to the substrate and to ensure a porous substrate. Follow the preparation requirements for the primer layer and/or system as high build systems may require a greater profile.

Priming is highly recommended when applying over porous surfaces, such as concrete, as the liquid may absorb too much leaving the powder filler loose on the surface if no primer was installed prior to Smith's Hi-Wear 90S. **Priming is highly recommended**, with [Smith's Epoxy U100](#), [Smith's Epoxy FC125](#), [Smith's Epoxy MP300](#), [Smith's Epoxy MPP3](#), [Smith's Epoxy FW38](#), [Smith's MCU-60](#), [Smith's Polyaspartic 1000](#), [Smith's Polyaspartic 2000](#), or [Smith's Polyaspartic 5000LO](#). Other primers may be necessary depending on the application, substrate porosity, etc.

When applying Smith's Hi-Wear 90S as a topcoat directly over [Smith's Epoxy MAC100](#) or [Smith's Epoxy MAC125](#), sanding to a fully deglossed surface is required prior to topcoating.

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Recommended preparation methods below:

Diamond Grind: Use 25 to 80 grit metal bond diamonds with an appropriate industrial, weighted head floor grinder to thoroughly remove the concrete surface until uniformly white. Do NOT use resin bond diamonds to prepare concrete to be sealed due to the risk of resin residue transfer to the concrete surface and potential for fisheyes or a bond breaker.

***Etching Compound:** [Smith's Green Clean Pro](#) etching compound may be used as follows:

- Remediation method for removing densifiers/silicates

When using [Smith's Green Clean Pro](#), ensure a uniformly dull appearance and sandpaper texture. Thoroughly rinse with potable water and allow to dry. Should shiny areas remain, further treatment with [Smith's Green Clean Pro](#) will be necessary.

NOTE:

- DO NOT USE MURIATIC / HYDROCHLORIC ACID TO PREPARE CONCRETE AS CHLORIDE CONTAMINATION CAN OCCUR.
- When etching, ensure all [Smith's Green Clean Pro](#) has been thoroughly removed with potable water with no remaining soapy residue or cement slurry.
- DO NOT USE on "Green" concrete (less than 30 days old), Hard Trowel Finished concrete or previously sealed/coated/painted concrete to including any type of curing compound.

Please refer to ICRI Guideline 310.2R2013 for more in-depth preparation details and recommendations.

MIXING: Add the entire contents of Part B into the Part A container as well as any optional Smith's ISC Industrial Solid Colorant Packs mixing with a slow speed drill (≤ 450 RPM) with a paint mixing paddle for 1 minute. While continuing to mix, slowly add in the Part C powder then continue to mix for an additional 2 to 3 minutes to ensure no powder clumps occur.



DO NOT ATTEMPT TO PART MIX KITS. Avoid whipping air into the mixture as bubbles will occur in the finished coating and under mixing may leave lumps in the finish or lessen the coating properties.



Smith's ISC COLOR PACK
INDUSTRIAL SOLID COLORANT

Optional Smith's ISC Color Packs per kit size:

1.15 gallon Kit = 1 ISC color pack per kit

4 gallon Kit = 4 ISC color packs per kit



APPLICATION: Smith's Hi-Wear 90S is strictly a finish topcoat product intended for no more and will blister if applied too thick. Any imperfections, sanding marks/swirls, scratches, gouges, etc. that can be felt by hand or catch a finger nail when pulled across the area in the prior layer may transfer through this finish due to the minimal thickness of Smith's Hi-Wear 90S in a single coat application. Surface defeats are purely aesthetic and pose no threat to the long term performance of the coating system.



Once mixed, immediately pour Smith's Hi-Wear 90S into a tall paint tray, such as a Wooster® Wide Boy™ 5 gallon paint tray.

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DO NOT POUR Smith's Hi-Wear 90S onto the floor and spread!

Dip the 3/8" nap roller into the mixture to coat the roller head then roll off any excess into the paint tray avoiding liquid build-up on the sides of the roller caps and/or the frame.

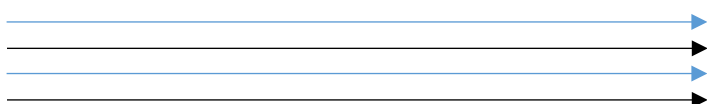
Avoid dripping Smith's Hi-Wear 90S during placement on the floor as the metallic fillers will concentrate in the drip and may not evenly disperse while finishing the coating.

NOTE: DO NOT TURN THE MIXING VESSEL UPSIDE DOWN ON THE SUBSTRATE TO ALLOW THE RESIDUAL PRODUCT TO DRAIN ONTO THE FLOOR TO AVOID THE RISK OF ANY UNMIXED OR NON-THOROUGHLY CATALYZED PRODUCT FROM THE SIDES AND BOTTOM OF THE MIXING VESSEL FROM REACHING THE FINISHED FLOOR. Best practice is to pour the mixed contents into a paint tray then dip and roll onto the substrate when applying Smith's Hi-Wear 90S.

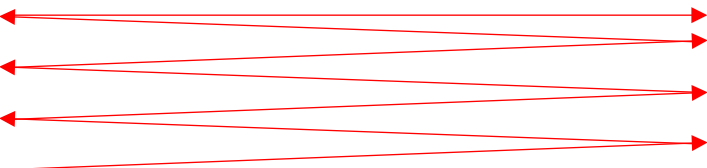
Roll out two parallel pathways roughly 8 to 10 feet in length



Then rewet the roller and repeat.



Next, cross roll in a V-shaped pattern starting at one of the lines on the end working across the area while overlaying one side of the roller to connect and evenly place the Hi-Wear 90S ensuring a uniform film thickness.



Finish by extending the roller out to the furthest point of this area and pull back across the surface with light pressure in a straight line to remove roller marks and overlap each pass by 1/2" continuing across the entire section.



Occasionally use the roller cover to remix the filler into the liquid in the paint tray. Ideally every 20 minutes.

On larger projects, it is recommended to have a separate person perform for each stage of the product placement, V-roll and finishing process to ensure productivity and a uniform appearance to avoid roller lines.

If the appearance is less than unsatisfactory, repeat the finish roll process again until a satisfactory appearance is achieved.

Continue until the entire area desired is topcoated and allow to cure.

COVERAGE: Apply approximately 3 mils or less (534 to 650 sq.ft. per mixed gallon) to achieve the most monolithic appearance. When exceeding 4 mils WFT, foaming and/or a blotchy appearance should be expected.

MAINTENANCE: *The coating system must be allowed to cure for no less than one week before using any mechanical cleaning equipment on the surface & no less than 48 hours before neutral cleaner or water exposure. This includes auto-scrubbers, swing buffers, sweepers, etc. Only dust & wet mopping may occur the first week.*

Dust mopping, removal of debris & regular cleaning is crucial to maintaining the aesthetics of the coating & obtaining the maximum life span of the floor coating system. Cleaning cannot occur too often & inefficient cleaning will cause the floor to wear out prematurely & possibly stain or discolor depending on what comes in contact with the floor. Spills should be removed quickly. *Avoid the use of Polypropylene or abrasive bristle (Tynex®) brushes as these brushes will cause the development of scratch patterns & lessen the sheen.*

To maximize your investment with proper floor care & maintenance, remove all particles that may scratch and/or dull the floor coating using the least aggressive method necessary to clean the floor.

It is good practice to develop a floor maintenance schedule to be performed at the end of each shift & a set day per week or month for heavy cleaning:

- Daily = Sweep & dust mop or water only mopping/auto-scrubbing; spot clean spills & oils
- Weekly or Monthly = Scrubbed once per week or month depending on the amount & type of soils present.

Health Department or DEA regulations may necessitate more frequent & stringent cleaning practices as will areas more prone to oils, inks, chemicals, etc. on the floor surface.

DETERGENT: Always use the least aggressive detergent necessary to remove the residue. *Smith's Neutral Detergent*, or similar, may be used for general purpose cleaning. Use *Smith's Oil Clean*, or similar degreaser, for more degreasing & heavy duty weekly or monthly cleaning.

Caution: Do not drag or drop heavy objects across any floor as scratching, gouging or chipping may occur to the concrete or the coating itself. This includes the tip of the forks on a forklift, nails protruding from a pallet, etc.

Avoid spinning tires on the surface of a coated floor. The heat created from the friction of a spinning tire will quickly soften the coating causing permanent damage to the finish.

Should a gouge, chip or scratch occur, touch-up the damaged areas immediately to avoid chemical or water intrusion to the concrete which could create additional damage. A thin layer of clear nail polish to the damaged area will provide some minimal protection until the area can be properly repaired.

Rubber tires are prone to plasticizer migration, especially aviation tires & high performance car tires. Plasticizer will stain coating & commercial flooring leaving an amber, yellow-like stain that can be permanent. This can be more noticeable where aircraft or vehicles are stationary for longer period, more so in non-climate controlled environments such as aircraft hangar with lighter colored floors. To avoid plasticizer staining, use a piece of Plexiglas® or LEXAN® panels, cut a few inches in diameter larger than the tires that will rest on the panels, between the floor & the contact point of the tire when storing rubber tired vehicles on any floor, including floor coating systems. Some tire stains can be removed if cleaned before a set-in stain occurs using a d-Limonene based degreaser & some mild agitation using an orbital, low speed floor machine.

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**MINIMUM
3 DAY
@ 72°F
CURE
BEFORE**
Parked Vehicles • Rugs
Plastic bins • Planters
Rubber Mats • etc.



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Product Data Sheet

CHEMICAL-RESISTANT POLYURETHANE

HW90S-PDS-01-22-24

HI-WEAR 90S

**ALIPHATIC CHEMICAL
RESISTANT URETHANE WITH
HIGH TRAFFIC ADDITIVE**

SLIP RESISTANCE: Smith Paint Products recommends the use of slip-resistant aggregate in all coatings that could be exposed to wet, oily or greasy conditions as well as any condition where increased traction may be necessary. It is the contractor and end users' responsibility to determine the appropriate traction needs and the footwear necessary for such conditions to include setting performance parameters prior to beginning the application, in-situ testing to determine parameters have been met upon completion to achieve the end users documented safety standards.

Mock-ups are highly recommended as part of the evaluation process to determine the appropriate amount of slip-coefficient necessary for the environment.

Do NOT Use [Smith's A/O 325 Mesh Aluminum Oxide](#) for increased traction as it is too fine to be considered "Anti-skid". Instead use [Smith's Resin Sand](#), [Smith's Glass Bead](#), or similar 20 to 60 mesh (depending on the traction necessary) when using a traction additive.

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