Smith's Product Data Sheet

CHEMICAL-RESISTANT POLYURETHANE

HI-WEAR 90S

HIGH TRAFFIC, LOW SHEEN FINISH, ALIPHATIC CHEMICAL RESISTANT URETHANE

HW90S-PDS-04-28-2026

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)*:
As a topcoat in heavy traffic environments over resinous flooring:
- Heavy Industrial Manufacturing Floor areas
- Avionics & Hangar Floors
- Healthcare, Veterinary, Pharmaceutical & Laboratory Floors
- Food & Beverage Floors
- Vehicle Assembly & Automotive Service areas

HIGHLIGHTS:
- Superior long-term protection & service life vs. other topcoats:
  - *2 times longer life cycle vs. moisture cured urethanes*
  - *3 to 4 times longer life cycle vs. Polyaspartics*
  - *5 to 6 times longer life cycle vs. 100% solids multi-purpose epoxy*
- Resists development of traffic patterns & finish dulling
- Excellent rolling load resistance to forklift & pallet jack traffic
- Improves light reflectivity
- Chemical & Stain Resistant - Easy to clean
- Does not harbor bacteria nor fungus growth
- Nil odor during application & Low VOC's
  - *Complies with VOC regulations for industrial maintenance coatings in the OTC & SCAQMD*
  - *Meets FDA Title 21 subparagraph (b) CFR 174.5 – indirect food contact*
- Overnight return to service

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

SUBSTRATE SURFACE TEMPERATURE:
Between 54°F (12°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

OPTIONAL SOLID COLOR:
- 1.15-gallon Kit = 1 unit ISC per kit
- 4 gallon Kit = 4 units ISC per kit

Sold Separately:
Smith's ISC COLOR PACK
INDUSTRIAL SOLID COLORANT

LIMITATIONS:
- For industrial floors with wheeled traffic/forklift 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°F of the temperature.
- Application is NOT recommended while ambient humidity is above 80% or less than 25% at time of installation
- DO NOT APPLY to substrates with surface temperature below 54°F (12°C) at time of installation as long-term adhesion can be compromised when applied to cooler surfaces while curing
- NOT water clear – may discolor underlying layer when applied clear
- *NEVER EXCEED 4 mils WFT – Foaming possible when applied too thick*
- *Must be dip & rolled* – Do NOT Spray apply Smith's Hi-Wear 90S
- Must be applied with an 18-inch width roller cover
  ** DO NOT USE 9 inch wide or smaller rollers to apply over large areas **



NECESSARY TOOLS and EQUIPMENT:
- Low speed ½" drill *(300 to 450 RPM)*
- Wide paint trays *(for dip & roll applying)*
- Multiple Extension Poles
- Several 18" wide, non-metallic Paint Roller Frames
- Premium, solvent-resistant, non-shed 3/8" nap roller covers
- Plastic Sheeting or Ram Board to cover floor for mix station
- Solvent-resistant masking tape *(i.e. autobody masking for smooth surfaces)*
- Cleaning Solvent for tools *(Acetone, MEK, or Xylene)*



CURE TIMES (@ 50% Humidity):
**Cure rate is affected by temperature & humidity*

	54°F (12°C)	72°F (22.2°C)	90°F (32.2°C)
Pot-life	3 hrs.	2 ½ hrs.	1 hr.
Working Time	3 hrs.	2 ½ hrs.	40 min.
Recoat Window	***N/A – Must Fully Degloss to Recoat***		
Tack-Free	6 hrs.	3 hrs.	2 hrs.
Light Traffic (i.e. foot traffic)	24 hrs.	12 hrs.	9 hrs.
Heavy Traffic (i.e. Forklift, pallet jacks etc.)	40 hrs.	24 hrs.	16 hrs.
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	10.89 mg loss (mean) **Results of testing range from 6.19 mg - 16.8 mg loss*
Gloss (60°)	ASTM D1455	20° (±5°)
Hardness (Pencil)	ASTM D3363	3H
Sward-type Hardness	ASTM D2134	36 to 40
Koenig Hardness (76.2 micron resin only)	ASTM D4366	171.3
Impact	ASTM D2794	140 in.lbs. Direct & Reverse
Adhesion to Steel - Pull Strength, psi (MPa)	ASTM D4541	2,625 psi (18.1 MPa)
Elongation	ASTM D2370	6%
Water Absorption 24-hour immersion test	ASTM C413	<0.02%
Resistance to Yellowing (after 1,000 consecutive hours U.V. exposure in QUV)	ASTM G154	<10 increase of yellow units *(CIE Lab Ab)* if pigmented
Viscosity – Mixed	ASTM D2196	383 cP
Flash Point – Liquid State	ASTM D3278	200°F (93°C)
VOC's – Clear, Mixed	ASTM D3960	±43 g/L
Volume Solids – Clear, 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 application thickness, floor profile & absorbency of the substrate.
Coverage Equation: 1604 ÷ milage x 0.9 = Dry Film Thickness

Mil Thickness	Approximate Yield per kit per square foot	
Wet Film Thickness (Dry)	1.15 gal kit	4 gal kit
2.5 mils (2.25 mils DFT)	737 sq.ft./kit	2,566 sq.ft./kit
BEST 3 mils (2.7 mils DFT)	614 sq.ft./kit	2,136 sq.ft./kit
3.5 mils (3.15 mils DFT)	527 sq.ft./kit	1,833 sq.ft./kit

How to Apply Video **CLICK HERE**

**** DO NOT EXCEED 4 mils Wet Film Thickness to avoid foaming ****
***** See pages 4 – 5 for proper roller application instructions *****
****** Mix entire kit – Do NOT Reduce the amount of Part C ******
******* NO RECOAT WINDOW – REQUIRES thorough sanding to fully abrade the surface to achieve adhesion to itself *******

Smith Paint Products® • 2200 Paxton Street • Harrisburg, PA 17111 • 717-233-8781 • www.smithpaints.com

©2018 Smith Paint Products

CHEMICAL-RESISTANT POLYURETHANE

HI-WEAR 90S

HW90S-PDS-04-28-2026

HIGH TRAFFIC, LOW SHEEN FINISH, ALIPHATIC CHEMICAL RESISTANT URETHANE

TYPICAL CHEMICAL & STAIN RESISTANCE

Covered Spot Test - 3 mil film (WFT) clear & tinted w/ 20% ISC-5500 White at 7 day cure:
***E** - Excellent; **G** - Good (slight sign of exposure / stains, coating recovers);*
***D** - Discolored / stained; **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 & 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 & materials must be maintained between 54°F (12°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: Test to determine whether the moisture vapor transmission exceeds the maximum allowed for the finished system(s) to be applied prior to installing any coatings.

Test moisture & pH using a combination of all three methods below. *Readings below are acceptable when tested in accordance with the stated ASTM standard in a climate-controlled environment which has been acclimated with HVAC to the intended service temperature for no less than 48 hours prior to testing.

**** See related products for acceptable moisture & pH test results for traditional systems as Smith's Hi-Wear 90S must be applied over a primer or coating system, not directly to bare concrete.***

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.

Acceptable results when used in conjunction with *Smith's CPR*, *Smith's Epoxy VCB38*, *Smith's Epoxy VCB46P*, or *Smith's Poly-FLEX*:

- ✓ Comparative Gravimetric Moisture Content meter (ASTM F2659) ≤5% MC
- ✓ Calcium Chloride testing (ASTM F1869) *<18 lbs. per 1,000 sq.ft./24 hours pH 9 to 13*
- ✓ Relative Humidity (ASTM F2170) *<97% RH*

**Smith's Epoxy MAC100*, **Smith's Epoxy MAC125*, *Smith's Epoxy VCB38*, or *Smith's Epoxy VCB46P*, in conjunction with proper testing & mechanical preparation, can reduce the moisture vapor emission rate to a level within the tolerance of subsequent coatings & traditional floor covering needs.

**It is recommended to fully sand the surface of Smith's Epoxy MAC products the following day then degrease the surface to clean & thoroughly clean water rinse prior to any subsequent layers.*

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. If 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.)*

©2018 Smith Paint Products

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.

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 / HYDROCLORIC 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 contaminates 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.

GENERAL CLEANING: Detergent scrub with a neutral pH detergent then rinse with clean, potable water to remove surface dirt, light surface grease / oil and contaminants prior to mechanical preparation. Heavy grease & 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.

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

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 a heavy-duty degreaser using an auto-scrubber followed by a thorough clean water rinse when temporary heat has been in use

SUBSTRATE PREPARATION

NOTE:

1) Methyl Methacrylate (MMA) is NOT an acceptable substrate & delamination will occur if topcoated
2) *DO NOT USE* MURIATIC / HYDROCHLORIC ACID TO PREPARE CONCRETE AS CHLORIDE CONTAMINATION CAN OCCUR
3) *NOT COMPATIBLE with Smith's Poly-SEAL+*

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 & extent of traffic anticipated. Please refer to the individual system application guide or contact Smith Paint Products for recommendations. As a rule of thumb, thicker coating systems require a more extensive surface profile / texture than a thin system.

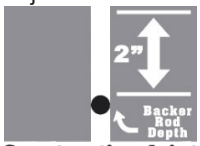
If a densifier or dissipative curing compound is believed to have been present, see "Silicate Contamination" section on the left column of this page for treatment using *Smith's Green Clean Pro* after mechanical preparation.

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 remain at or above 50°F (≥10°C) 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 JF/FC*, 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 out debris & freshly clean the side walls of the joint. Ensure that all loose edges and broken pieces of the concrete are removed and repaired prior to filling the joint with *Smith's Poly JF* or *Smith's Poly JF/FC*. 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.



Control Joint



Construction Joint

©2018 Smith Paint Products

Smith's Product Data Sheet

CHEMICAL-RESISTANT POLYURETHANE

HI-WEAR 90S

HW90S-PDS-04-28-2026

HIGH TRAFFIC, LOW SHEEN FINISH, ALIPHATIC CHEMICAL RESISTANT URETHANE

AS A TOPCOAT OVER A NEW COATING SYSTEM: Ensure the previous layer has cured enough to receive another layer, shows no indication of blushing & has NOT exceeded the recoat window unless sanding prior to topcoating. 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 sandpaper 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 & difficult to dull, therefore, *it may be easier to diamond grind the surface with metal bond 120 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 & 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, sound & solid, 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 & 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 grit sandpaper or more course as well as darkens & readily absorbs water within 60 seconds in order to maintain long term adhesion to the substrate & 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 required prior to applying Smith's Hi-Wear 90S 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.

Priming for grind & seal applications is highly recommended with:

- *Smith's MCU-60*
- **Smith's Epoxy U100*
- **Smith's Epoxy VCB38*
- **Smith's Epoxy VCB4P8*
- **Smith's Epoxy FW38*
- **Smith's Epoxy FC125*
- **Smith's Epoxy MP300*
- *Smith's Polyaspartic 1000*
- *Smith's Polyaspartic 2000*
- *Smith's Polyaspartic 5000LO*
- *Smith's Polyaspartic 7000LO*
- *Smith's Polyaspartic 8000LO*

** Ambering should be expected when Smith's Hi-Wear 90S is applied as a clear topcoat over this product - Not U.V. Stable*

Other primers may be necessary depending on the application, substrate porosity, etc.

** Smith's Poly-SEAL+ is not compatible for use in conjunction with Smith's Hi-Wear 90S*

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.

Elcometer® is a registered trademark of Elcometer Limited

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 transferring to the concrete surface & 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 & sandpaper texture. Thoroughly rinse with potable water & allow it to dry. Should shiny areas remain, further treatment with *Smith's Green Clean Pro* will be necessary.

NOTE:

- *DO NOT USE* MURIATIC / HYDROCLORIC 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 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

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

MIXING: Add entire contents of Part B into Part A container; including optional *Smith's ISC Industrial Solid Colorant Packs*, mixing with a slow speed drill *(300 to 450 RPM)* with a paint mixing paddle for 1 minute. Then slowly add in the Part C powder while continuing to mix for an additional 3 minutes to ensure no powder clumps remain.





Avoid whipping air into the mixture as bubbles will occur in the finished coating & under mixing may leave lumps in the finish or lessen the coating properties.





Sold Separately:

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 as a very thin film of 3 mils in a single layer which foams when applied too thick.



Any imperfections, sanding marks/swirls, scratches, gouges, etc. that can be felt by hand or catch a fingernail 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. Minor surface defects are purely aesthetic which 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.

Wooster® is a registered trademark of Wooster Brush Company

©2018 Smith Paint Products

DO NOT POUR Smith's Hi-Wear 90S onto the floor then 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 fillers will concentrate in the drip & may not evenly disperse while finishing the coating.

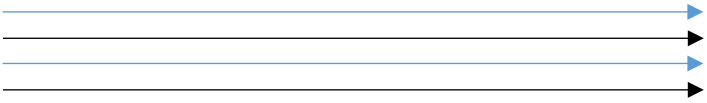
NOTE: *DO NOT TURN THE MIXING VESSEL UPSIDE DOWN ON THE SUBSTRATE TO ALLOW THE RESIDUAL PRODUCT TO DRAIN ONTO THE FLOOR TO AVOID THE RISK OF ANY UNMIXED OR NON-THOROUGHLY CATALYZED PRODUCT FROM THE SIDES & BOTTOM OF THE MIXING VESSEL FROM REACHING THE FINISHED FLOOR.*

Best practice is to pour the mixed contents into a paint tray then dip & roll onto the substrate when applying Smith's Hi-Wear 90S.

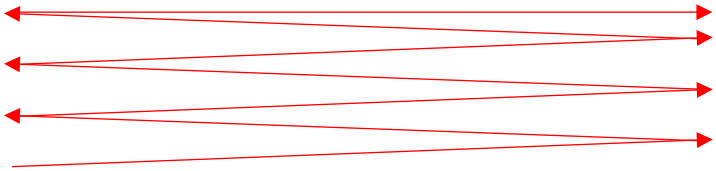
Roll out two parallel pathways roughly 8 to 10 feet in length.



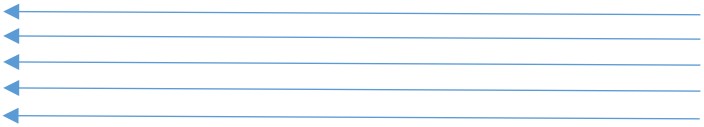
Then rewet the roller & repeat.



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 & evenly place Smith's 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 & 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 & finishing process to ensure productivity & a uniform appearance to avoid roller lines.

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

Continue until the entire area desired is topcoated & 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 if applied too heavy.

This product is not intended to be recoated as it is more difficult to prepare for adhesion of an additional layer or recoat than traditional topcoats.

Recoating should be avoided unless necessary for repairs / damage or in the event the topcoat has worn out as delamination of the new topcoat is likely if the previous layer is not thoroughly deglossed.

RECOATING Smith's Hi-Wear 90S **–** Due to how chemical resistant & dense of a film this product creates, there is no chemical recoat window. Therefore, diamond grinding or sanding to degloss is necessary to adhere a new layer of Smith's Hi-Wear 90S to itself, regardless of how recently the previous layer was applied.

Abrade the entire surface dull, with no shiny areas remaining using:

- Orbital Floor Machine ≤3,000 rpm with sandpaper *(80 to 120 grit)*
- Diamond Grinder with all WEIGHTS REMOVED using 120 to 150 metal bond diamonds – ***DO NOT USE RESIN BOND / CERAMIC / TRANSITIONAL DIAMONDS to dry grind as these may cause damage to layers beneath the topcoat due to the heat created and/or leave a residue which may contribute to fisheyes or adhesion issues***

  ** Only wet grind when using any non-metal diamonds*



Check any scratches to ensure none are deep enough to catch with your fingernail. Any that do will need additional attention as the topcoat will not fill in marks that deep.

Once the surface is completely dull & lightly abraded, vacuum the entire surface well followed by a first dry microfiber dust mopping then solvent wipe using fresh microfiber mop heads lightly dampened with Acetone until no dust transfer can be picked up after wiping the floor. Allow the surface temperature to acclimate back for roughly 60 minutes prior to topcoating with a fresh coat of Smith's Hi-Wear 90S.

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.

©2018 Smith Paint Products

CHEMICAL-RESISTANT POLYURETHANE

HI-WEAR 90S

HW90S-PDS-04-28-2026

HIGH TRAFFIC, LOW SHEEN FINISH, ALIPHATIC CHEMICAL RESISTANT URETHANE

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 pH cleaner or water exposure, to include auto-scrubbers, swing buffers, sweepers, etc. Only dust & wet mopping may occur the first week.***



Click here for:
Smith's Floor Cleaning & Maintenance Recommendations

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 encounters 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 maximum 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 FDA 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. A neutral pH detergent with the maximum recommended water dilution ratio may be used for general purpose cleaning. Use *Smith's Oil Clean*, or a heavy-duty degreaser, for more degreasing & heavy duty weekly or monthly cleaning.

DO NOT USE simple green® or Soy based detergents!

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 is cleaned before a set-in stain occurs using a d-Limonene based degreaser & some mild agitation using an orbital, low speed floor machine.

Tynex® is a registered trademark of E. I. du Pont de Nemours and Company. LEXAN® is a registered trademark of Saudi Basic Industries Corporation (SABIC). Plexiglas® is a registered trademark of Arkema.

LIMITED LIABILITY: Upon information, belief and to the best of our knowledge, the information contained herein is true accurate as of the date of issuance of this particular document and any and all information conveyed, whether expressed or implied, is subject to change without prior notice. We guarantee our products to confirm to Smith Paint Products quality control standards, but not to any other standards unless specifically stated in written documentation. Smith Paint Products assumes no liability for coverage, performance, injury results from use, misuse or usage not described in any promotional materials or regulatory infraction determined by using our products. The applicator assumes all liability for use and local regulatory compliance. Promotional materials are not a supplementation to any product purchase agreement, nor should such documents be considered a type of contract, if any is reduced to writing.

Liability is limited to replacement of defectively manufactured product of the same type and cost of the originally purchased product upon presentation of a valid, fully paid invoice at the time of a claim. No warranty shall be granted for outstanding invoices or for accounts with unpaid balances until paid in full. No damages, whether consequential, liquidated, or other, shall be provided under this Limitation of Liability and Limited Warranty. Should a product defect be suspected at the time of application, cease use of the product immediately and notify Smith Paint Products for investigation as you will be responsible for the cost to repair or replace any work performed with product(s) suspected of defect. Record batch codes and save all products you purchased in order for any warranty to occur along with the invoice that matches said quantity.

NO OTHER WARRANTY OR GUARANTEE OF ANY KIND IS MADE BY SMITH PAINT PRODUCTS, EXPRESSED OR IMPLIED, STATUTORY, BY OPERATION OF LAW, OR OTHERWISE, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. DO NOT PURCHASE AND USE THIS PRODUCT IF YOU HAVE NOT AGREED TO THE ABOVE TERMS.

©2018 Smith Paint Products