



WITH THE PERFECT COATING

Amshield[®]
Deck

Solvent Free, Thick Film, Liquid Applied, Polyurethane Parking
Deck, Industrial Floor & Clean Room Floor Coatings

Revision 04



CREATE THE FLOORING OF YOUR DREAMS

OVERVIEW

Amshield Deck is a 100% Solids, two component Polyurethane Coating system that contains no solvents, noxious smells and is non-flammable. It has been formulated specifically as a high-performance Parking Deck, Industrial Floor & Clean Room Floor Coating.

Amshield Deck provides long term protection to your concrete floors. Once coated, the floor is resistant to impact, abrasion, chemicals, dust generation. X-Bac variants containing anti-microbial agents will kill microbes on contact making it invaluable for food processing, hospitals, Pharma and clean rooms.

Despite its hardness and toughness and unlike brittle Epoxy floors, Amshield is elastic which eliminates cracking on heavy load impact. Applied as a thick film (1.50 - 3.00 mm), this premium, high performance product has a very long service life.

It comes in two variants for Parking Decks and General Industrial : 75E (approx. 75% Elongation and 70 Shore D Hardness) and 65D Aliphatic, Colour Fast (approx. 75% Elongation and 65 Shore D Hardness). For Heavy Industrial 15E (with approx. 15% Elongation and 80 Shore D Hardness) is recommended.

PRODUCT FEATURES



SEAMLESS MEMBRANE, EASY TO APPLY

Liquid polyurethane applied as a seamless, monolithic membrane to a thickness of 1.00 – 3.00 mm. Simply mix the two components, pour and spread using roller to specified thickness in one or two coats. Special two component 100% Solids Damp Tolerant Polyurethane Primer will seal concrete prior to application of Amshield Deck main coat. Unlike other Polyurethane floor coatings, the hydrophobic nature of Amshield allows application even in high humidity environments without blistering.

SMOOTH, EASY TO CLEAN

Smooth finish allows minimal dirt accumulation and an easy to clean surface. Available in Gloss, Matt and Textured Anti-Skid surface. The Aliphatic 65D retains colour in the long term, even in sunlight exposed areas.



EXCELLENT CHEMICAL RESISTANCE

Amshield Deck is highly resistant to a wide variety of Acid, Alkalis, Salts, Alcohol, Petrol, Diesel, Oil, Grease etc. In most cases, they are even suitable for immersion in these media!! 15E has even higher resistance to Alkalis and Solvents.

TOUGH, DURABLE FILM

Amshield Deck film is a very tough, durable membrane. 75E has a tensile strength of approx. 20 N/mm² (2,900 Psi), hardness of 70+ Shore D and elongation @ break of approx. 75%. 15E has a tensile strength of approx. 27.50 N/mm² (4,000 Psi), hardness of 80+ Shore D and elongation @ break of approx. 15%. Aliphatic 65D has hardness of 65 Shore D, Tensile of 2,450 Psi (17 Mpa) and Elongation > 75%.



HIGHLY ABRASION RESISTANT

Being hard and yet elastic, Polyurethane's can dissipate strain and have the highest wear resistance. Rigid coatings will wear out much faster. The sports shoe Polyurethane sole lasts forever compared to the hard-sole shoe. In Taber Abraser wear tests, Amshield Deck will lose < 50 mgs/1000 cycles (1000 gms. weight per arm) compared to 200-300 mgs/ 1000 cycles) for Epoxy Flooring.

ELASTIC NATURE, CRACK SPANNING

75E and 65D are Elastic membranes with >75% elongation. They are unaffected by temperature cycling and will span hairline cracks in concrete. Brittle products such as Epoxy will simply crack in service.



HIGH ADHESION

Bonds strongly to the substrate. In pull off tests, break takes place within the concrete and not at the interface. Adherent films will not peel off at edges and transitions.

ANTI-MICROBIAL

X-Bac variants contain anti-microbial agents which kill fungi, bacteria and algae on contact. The anti-microbial agent is non-toxic containing no phenols, tin, lead, heavy metals etc. On contact with the microorganism, the anti-microbial agent will work by disrupting the cell membrane and destroys the microbial cell. This makes it ideal for keeping hospitals, clean rooms, food processing, pharma industry free from microbial contamination.



TYPICAL APPLICATIONS

- Mall and Commercial Basement Parking
- Automotive, Chem & Heavy Industrial
- Apartment Basement Parking
- Pharmaceutical Plants
- General Commercial
- Food & Beverage
- Rail and Metro Platforms
- Hospital & Clean Rooms

LV PRIMER

A 100% solids damp tolerant, two component polyurethane primer with excellent adhesion to damp and dry concrete. Penetrates and reinforces concrete surface. Seals and

prevents outgassing and pin-holing. Reacts with moisture present in the concrete.

MATERIAL CHARACTERISTICS

SOLIDS VOLUME

100 percent

MIX RATIO (Resin : Activator)

Primer	2.0 : 1.0 By Volume
Screed SL	1.5 : 1.0 By Weight (Resin : Activator Only)
Main Coat 75E	3.5 : 1.0 By Volume (or weight)
Main Coat 15E	3.0 : 1.0 By Volume
Main Coat 65D	2.5 : 1.0 By Volume

RECOMMENDED DRY FILM THICKNESS

Primer	0.10 to 0.15 mm (single coat)
Screed SL	1.00 to 3.00 (single coat, with Quartz)
Main Coat 75E	1.00 to 3.00 mm (1 or 2 coats)
Main Coat 15E	1.00 to 2.00 mm (1 or 2 coats)
Main Coat 65D	0.50 to 2.00 mm (1 or 2 coats)

COVERAGE (THEORETICAL)

Primer	1 Sq.M @ 0.10 mm = 0.10 Litre
Screed SL	1 Sq.M @ 1.00 mm = 1.73 Kgs (With Quartz)
Main Coat 75E	1 Sq.M @ 1.00 mm = 1.00 Litre
Main Coat 15E	1 Sq.M @ 1.00 mm = 1.00 Litre
Main Coat 65D	1 Sq.M @ 1.00 mm = 1.00 Litre

SPECIFIC GRAVITY (Kgs / Litre; Resin / Activator / Mixed)

Primer	1.01 / 1.23 / 1.08
Screed SL	1.09 / 1.23 / 1.14 (Without Quartz, 1.73 With)
Main Coat 75E	1.23 / 1.23 / 1.23
Main Coat 15E	1.32 / 1.23 / 1.30
Main Coat 65D	1.32 / 1.15 / 1.27

CURE TIME

Gel Time

Tack Free

COLOUR

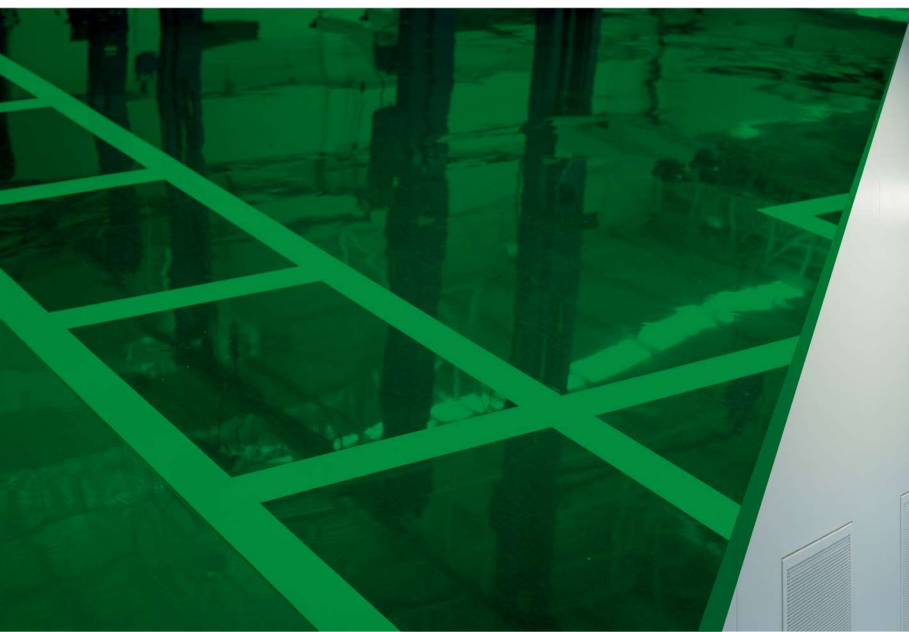
Primer	30-40 Mins.	120-150 Mins	Primer	Clear Dark Brown.
Screed SL	30-40 Mins.	120-150 Mins	Screed SL	Grey
Main Coat 75E	30-40 Mins.	120-150 Mins	Main Coat 75E	Green, Red, Mustard, Orange, Cream, Grey. Custom colour on request.
Main Coat 15E	30-40 Mins.	120-150 Mins	Main Coat 15E	Green, Red, Mustard, Orange, Cream, Grey. Custom colour on request.
Main Coat 65D	30-40 Mins.	120-150 Mins	Main Coat 65D	Green, Red, Mustard, Orange, Cream, Grey. Custom colour on request.

PACKING (Can Size / Contents) Litres: For retail sales only

Primer	Resin (2.0/1.06), Activator (0.53/0.53)
Screed SL	Sets of 4 Litres/ 6.95 Kgs with Quartz
Main Coat 75E	Resin (10.0/6.22), Activator (2.0/1.78)
Main Coat 15E	Resin (10.0/6.00), Activator (2.0/2.00)
Main Coat 65D	Resin (5.0/2.86), Activator (1.14/1.14)

STORAGE & SHELF LIFE

Temperature: Min. 4°C, Max. 50°C. Sealed containers in dry environment
12 months unopened drums.
12 months unopened drums.
12 months unopened drums.
12 months unopened drums.



PERFORMANCE PROPERTIES - MAIN COAT

Property	ASTM Standard	75E – Parking Deck/ General Industrial	65D – Aliphatic Pkg.Deck/ General Industrial	15E – Heavy Industrial
Tensile Strength	D 638	2,900 Psi	2,465 Psi	4,000 Psi
Elongation @ Break	D 638	> 75.00%	> 75.00%	> 15.00%
Hardness, Shore D	D 2240	> 70 Shore D	> 60 Shore D	> 80 Shore D
Water Absorption	D570, Para 7.4	0.95%	< 1.50%	1.15%
Chemical Resistance	D 543 30 Days Weight Gain	10% H ₂ SO ₄ = 0.80% 30% NaOH = 1.50% 30% NaCl = 0.45% Diesel = 3.20%	10% H ₂ SO ₄ = 1.00% 30% NaOH = 2.00% 30% NaCl = 0.50% Diesel = 4.80%	10% H ₂ SO ₄ = 0.65% 30% NaOH = 1.10% 30% NaCl = 0.15% Diesel = 1.50%
Water Vapour Permeability	ASTM F 1249-13, Modulated Infrared Sensor, MOCON WVTR 90% RH, 38 deg C	1.845 gms/M ² / Day	2.10 gms/m ² / Day	1.948 gms/M ² / Day
		0.041 Metric Perms	0.176 Metric Perms	0.043 Metric Perms
		0.0034 Perm Inch	0.016 Perm Inch	0.0030 Perm Inch
Flexibility	D 522	1.50 mm film passes 12 mm mandrel	1.50 mm film passes 12 mm mandrel	1.00 mm film passes 12 mm mandrel
Abrasion Resistance	D 4060, CS17,1000g/1000cyl	< 50 mg	< 50 mg	< 50 mg
Adhesion to Concrete	D 4541	> Tensile Strength Of Concrete	> Tensile Strength Of Concrete	> Tensile Strength Of Concrete

APPLICATION

CONCRETE: Amshield Deck can be used directly over concrete with LV primer. Allow new concrete to fully cure for a minimum of 28 days (a concrete dryness test should be performed before application). Rectify defective concrete, honeycombs, cavities, joint cracks, voids and other defects by procedures laid out in SSPC TR-5.

MIXING OF MATERIALS: Use a heavy duty power drill with Jiffy Mixer attachment. Mix Resin for 1 minute before adding Activator. After adding Activator mix the combined materials for a minimum of 2 minutes moving the mix blade from top to bottom. Make sure to mix areas around side walls and bottom of pail. Improper mixing will result in non-curing material. Never fully invert empty pails in attempt to drain material will result in non curing material. Do not break down kits into smaller quantities –MIX ENTIRE KIT. Do not keep main coat in bucket after mixing - pour onto the surface immediately and spread.

SAFETY: 100% Solids Polyurethane systems are solvent free eliminating solvent health hazards and flammability concerns. All safety precautions warranted by good industrial hygiene practices and regulated by local, state or central laws must be taken into consideration while applying these coatings. Cured Amshield Deck is highly inert and will bond strongly to skin. Wear protective gloves, apparel and eyeglasses while applying these coatings.

SURFACE PREPARATION: Substrate must be clean of contaminants such as laitance, dirt, debris, oil, and grease that can affect adhesion. Create profile by abrasive blasting/ shot blasting as per Section 6 of SSPC-TR5. Verify that substrate is dry before proceeding with application of Amshield Deck.

FLOORING DESIGN: Follow procedures laid out in Section 7 of SSPC-SP-TR5. Contact Amchem for recommendations.

PRIMING: Substrate must be free of laitance, dust, oils and grease. Divide the surface to be coated into grids of 16 Sq.M each. Spread mixed materials using roller @ 1 Kit (1.07 L Resin + 0.53 L Activator)/ 16 Sq.m grid for 0.10 mm thickness. Protect primed area from rain and moisture.

COATING: Divide the surface to be coated into grids of 8 Sq.M each. Spread mixed materials using notched trowel and then roller @ 1 Kit per 8 Sq.m grid for 1.00 mm thickness. Before beginning application measure the dew point using a digital sychrometer and the surface temperature using non-contact IR thermometer. Avoid applying if the air dew point is less than 3°C below the ambient temperature. Avoid applying during times of rapidly rising temperatures (forenoon) or if inclement weather is imminent. Any residual surface air bubbles can be destroyed using hot air gun or spiked roller. After drying, apply another kit/ grid to obtain 2.00 mm thickness.

CONCRETE ROUGHNESS / SL Screed : In order to obtain an even surface and high quality finish, the use of Amshield self levelling Polyurethane screed is recommended, specially for rough concrete surfaces. Apply LV primer followed by a SL PU Screed of 1-3 mm (depending upon roughness) as usual. Dry screed to be coated with Amshield applied as above to obtain an excellent, smooth and even surface.

ANTI-SKID SURFACE: 75E, 65D and 15E are available in ARO topcoat variants. Add approx. 15% by combined volume (Resin plus Activator) of Quartz Sand (0.4-0.8 mm) in the ARO variant, mix thoroughly and spread evenly as the final coat. This will create a rough, textured, anti-skid surface.

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