



Sika's One Shot Technology: *True Innovation in Traffic Coatings*

PRESENTED BY:

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BUILDING TRUST



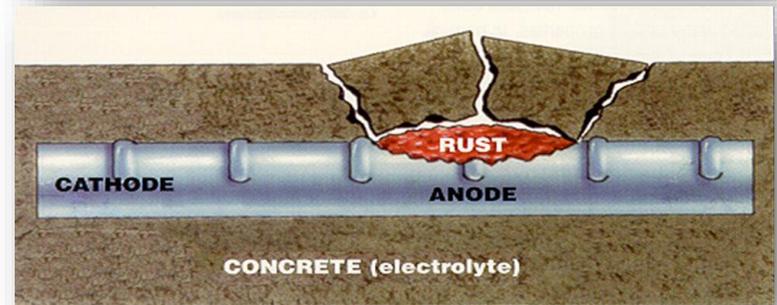
ONE SHOT TECHNOLOGY: AGENDA

- 1 THE NEED FOR TRAFFIC COATINGS
- 2 SUBSTRATE PREPARATION OVERVIEW
- 3 STANDARD TRAFFIC SYSTEMS
- 4 THE ONE SHOT CONCEPT
- 5 SIKALASTIC 720 ONE SHOT
- 6 SIKALASTIC 726 BALCONY ONE SHOT



WHY TRAFFIC MEMBRANES?

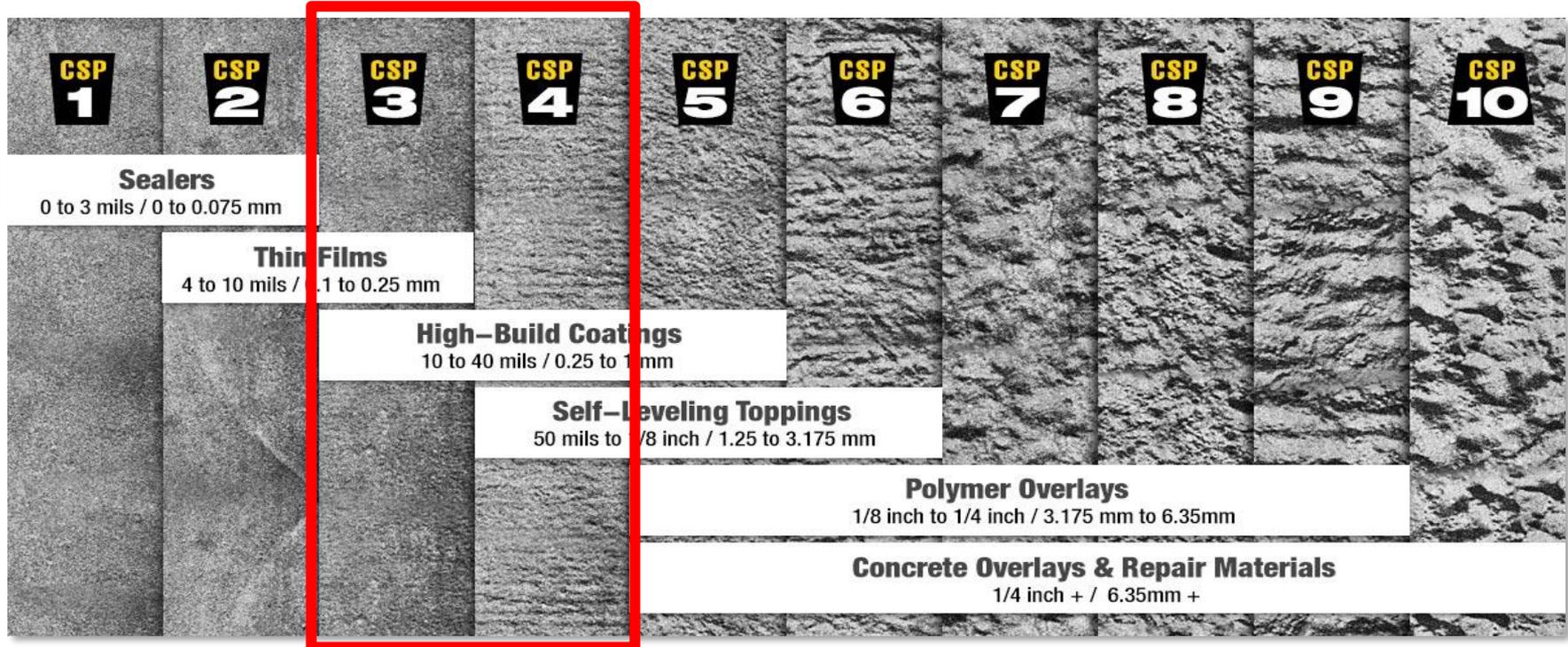
- Protect the structure....
- From what:
 - Moisture
 - Temperature cycles (freeze/thaw)
 - Contaminants
- Prevent concrete/structural deterioration!



TRAFFIC COATINGS: SURFACE PREPARATION

INTERNATIONAL CONCRETE REPAIR INSTITUTE (ICRI)

Recommended preparation for each material



COMPARISON OF PREPARATION METHODS FOR FLOORING



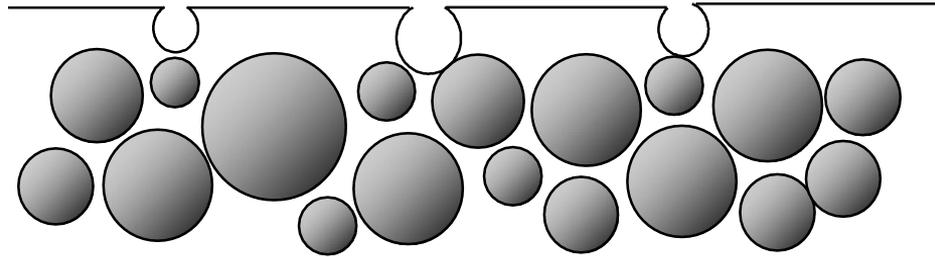
After bush hammering



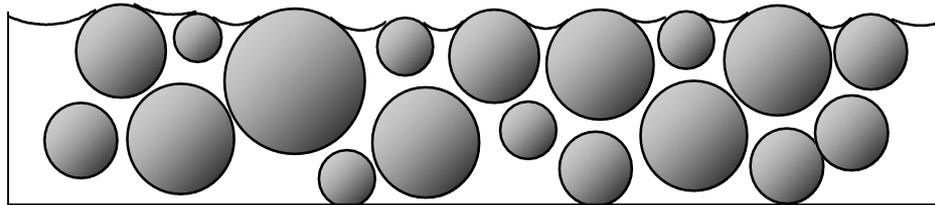
After shot/sand blasting

THE REASON FOR SURFACE PREPARATION

SUBSTRATE BEFORE PREPARATION



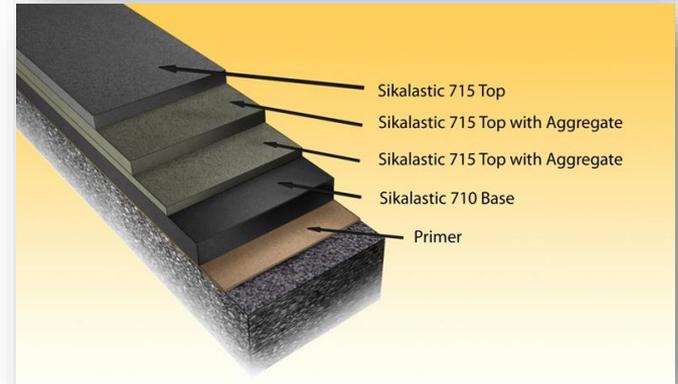
SUBSTRATE AFTER PREPARATION



TRAFFIC COATINGS: STANDARD SYSTEMS

THE STANDARD TRAFFIC COATING SYSTEM

- A typical multi-step system is comprised of:
 - BASE COAT
 - TOPCOAT 1 (wear coat)
 - AGGREGATE BROADCAST
 - TOPCOAT 2
 - AGGREGATE BROADCAST



STANDARD TRAFFIC COATINGS: THE BASE COAT

- Primary waterproofing layer
- Uninterrupted monolithic layer
- Flexible and crack bridging membrane



STANDARD TRAFFIC COATINGS: THE TOP COAT

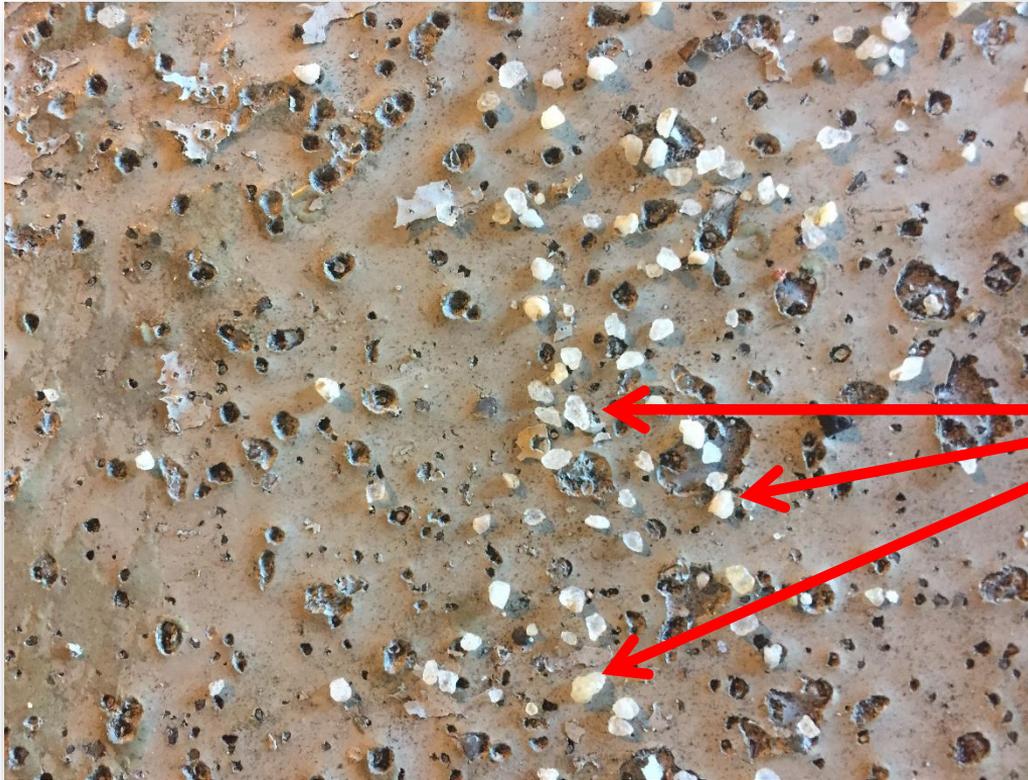
- The base coat must be protected.
- Topcoat creates a layer that protects the base coat.
- A main element of the topcoat is to prevent the base coat (the waterproofing layer) from being compromised.



STANDARD TRAFFIC COATINGS: ADDING SLIP RESISTANCE

- Without texture the system would be too slippery, so texture had to be added to the topcoat.
- Broadcasting silica sand into the topcoat created a textured surface for slip resistance.

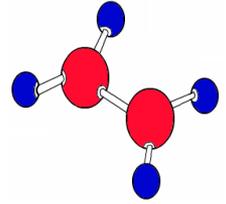




**Aggregate kickout
caused by improper
aggregate selection**

Grinding effect

TEXTURED TOPCOATS – STATE OF THE ART



- Integral Proprietary Texture (non-silica)
 - ✓ Better abrasion resistance
 - ✓ Better aggregate retention
 - ✓ More durable



THE ONE SHOT CONCEPT: INNOVATION

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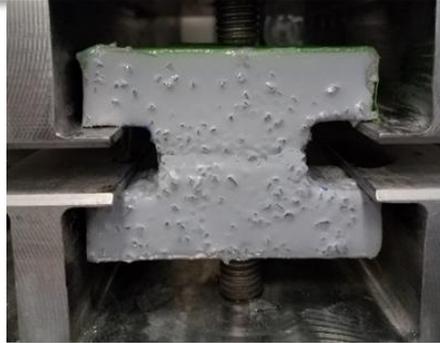
THE SIKALASTIC ONE SHOT CONCEPT

A **One** Coat Traffic System

MONOLITHIC
WATERPROOFING LAYER



FLEXIBLE
FOR CRACK-BRIDGING



HIGH DURABILITY
FOR WEAR RESISTANCE



WORK SMARTER NOT HARDER!

THE SCIENCE BEHIND SIKALASTIC ONE SHOT

The Sikalastic One Shot systems were achieved by building on **innovation** in two areas:

- **Polymer innovation**
- **Integral aggregate innovation**



SIKA'S POLYMER INNOVATION

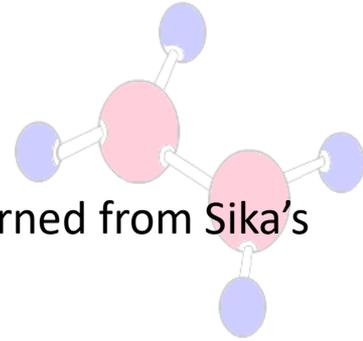
- Polyurethane resin that is
 - ✓ flexible enough to bridge cracks.
 - ✓ hard enough and durable enough to handle traffic
- Allows the Sikalastic One Shot approach to go **against** the traditional theory that there has to be a separate flexible base coat and separate wear resistant topcoats.



INTEGRAL AGGREGATE INNOVATION



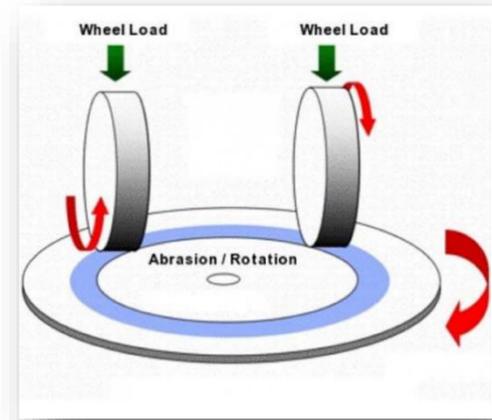
- Based on the lessons learned from Sika's Textured TopCoats
- Aggregate that forms a **chemical bond** with Resin.
- The **chemical bond** helps support the aggregate resistance to kick out.
- The **chemical bond** helps support the aggregate as the membrane is flexing with cracks.



PROVING DURABILITY PERFORMANCE – THE OLD WAY

- ASTM 957 - Section 5.9 Abrasion Resistance – **Test method C-501** (Taber Abraser test)
 - 5.9.1 Cast test samples of entire membrane **excluding aggregate** to a minimum total cured thickness of 20 mils
 - 5.9.3 Run test for 1000 cycles using CS-17 abrasion wheel

- All standard traffic systems **PASSED** this specification including Abrasion Resistance Test
- **SHEAR STRESS** and **FLEXING MOVEMENTS** ???
braking, acceleration and turning the vehicles



For an abrasion resistance testing to be accurate needs to include aggregate!

PROVING DURABILITY PERFORMANCE – THE SIKA WAY

Sika has developed its own abrasion resistance testing machine

Including:

- ✓ A **real** tire
- ✓ Shear stress & Flexing movement
- ✓ Tests **Full** system including Aggregate

EXPERIMENTAL SETUP

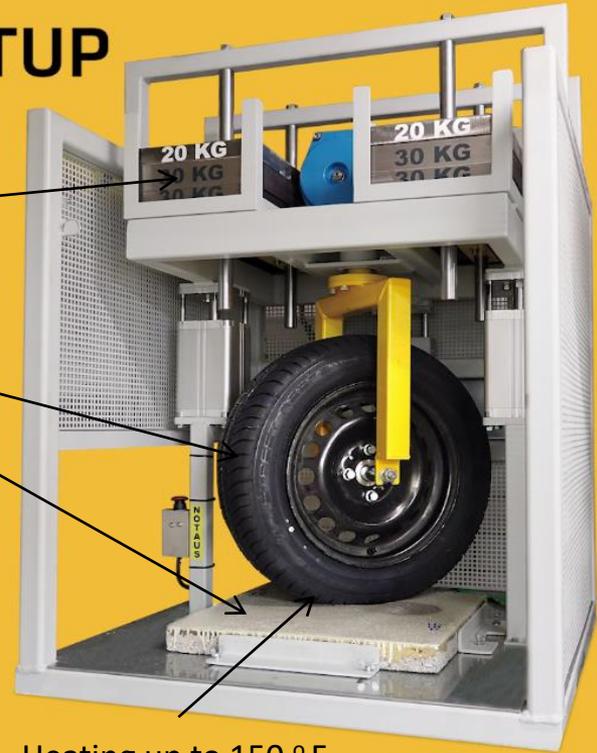
880 lbs wheel load – simulating 3500 lbs standard vehicle load

Standard Tire 175/65 R14T
Tire pressure 36 psi

2' x 2' concrete block + traffic system

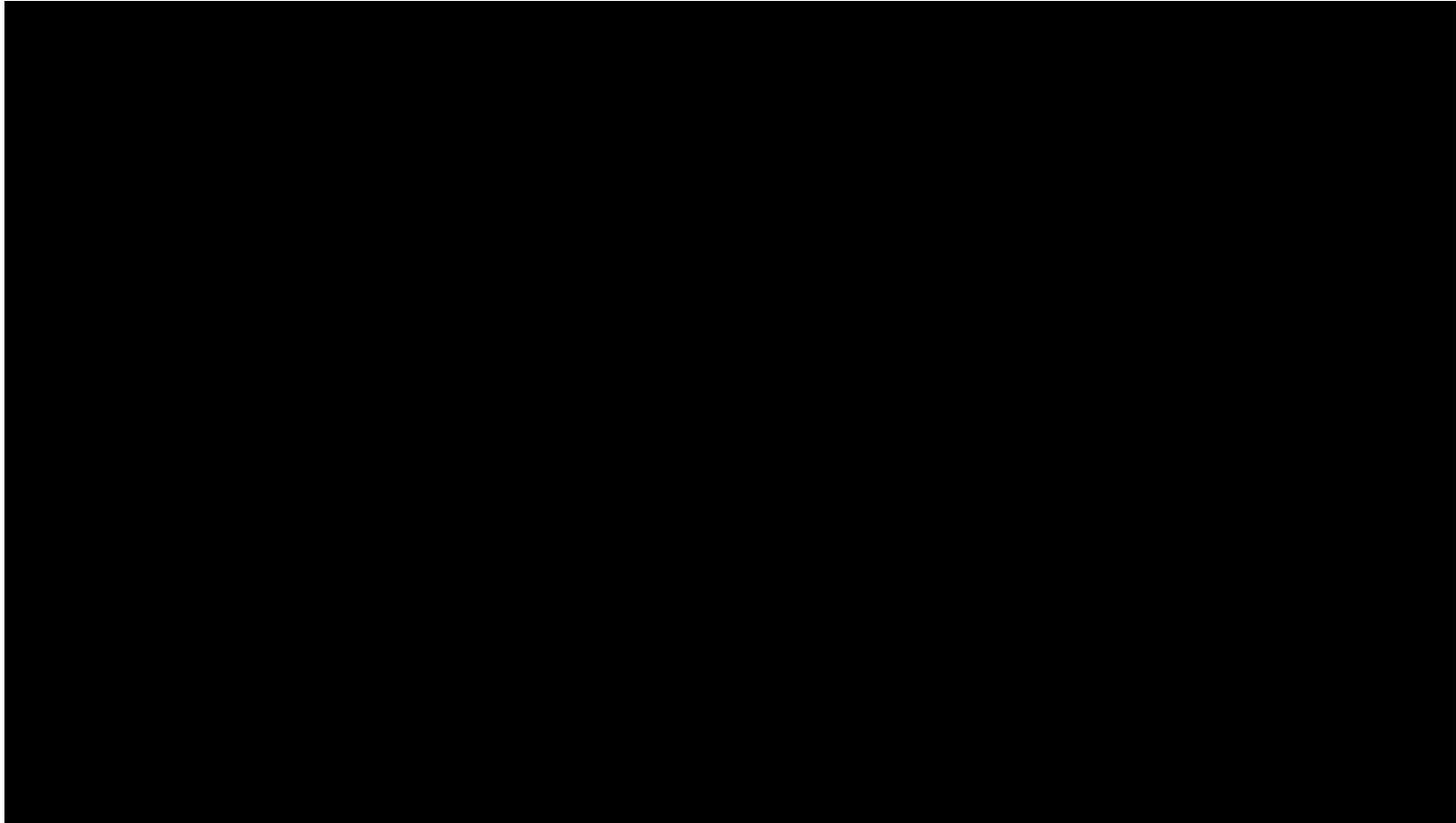
Rotation by 90° angle

1 cycle profile is defined as
5 seconds rotation
followed by 6 second pause



Heating up to 150 °F

THE SIKA PAT TEST IN ACTION



Performance comparison between Standard System (seeded), Textured System and One Shot System

Standard system



Textured system



One Shot System



THE SIKALASTIC ONE SHOT PRODUCTS

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SIKALASTIC ONE SHOT PRODUCTS

SIKALASTIC-720 ONE SHOT

- A two-component, elastomeric polyurethane waterproofing coating intended for vehicular traffic.
- An extremely durable vehicular traffic coating system!



Sikalastic One Shot Innovation

SIKALASTIC-726 BALCONY ONE SHOT

- A two-component, primerless polyurethane pedestrian traffic coating
- Perfect for balconies and pedestrian coating applications!



SIKALASTIC 720 ONE SHOT: OVERVIEW

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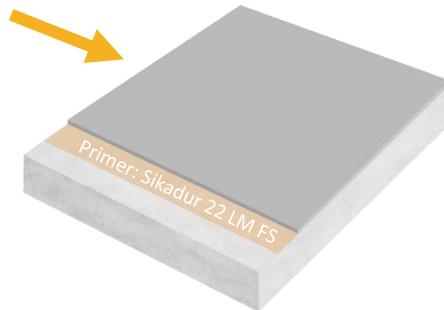
SIKALASTIC 720 ONE SHOT

Sikalastic®-720 One Shot is a two-component, aliphatic, elastomeric polyurethane waterproofing traffic coating intended for vehicular and heavy vehicular traffic.

Features

- ✓ Single coat system of 45 mils
- ✓ One thickness for drive lanes and parking stalls
- ✓ Meets ASTM C957 requirements
- ✓ Open to vehicular traffic in just 36 hours!

45 mils of membrane and wear layer
– ALL IN ONE!



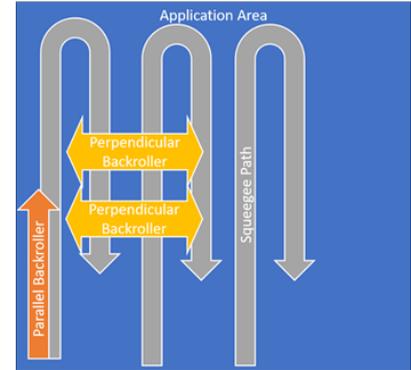
SIKALASTIC 720 ONE SHOT: KEY APPLICATION TIPS

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SIKALASTIC 720 ONE SHOT: KEY TIPS

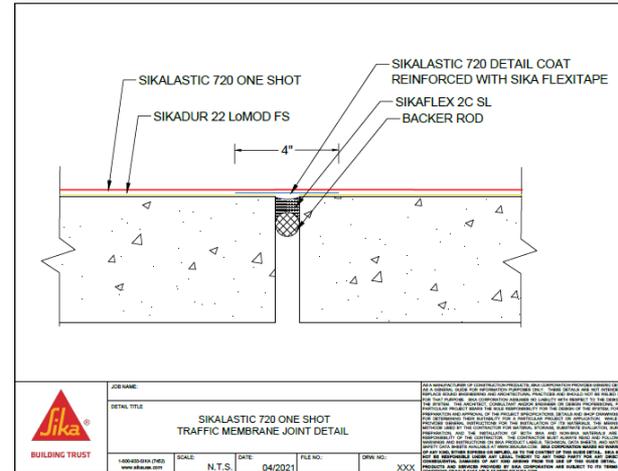
- Have a clear plan! Know who is squeegeeing, backrolling, mixing, & pouring out the material before starting.
- “Keep the train moving!”



SIKALASTIC 720 ONE SHOT: DETAILING



- Coat upturns, verticals and edge detail work prior to initiating the larger horizontal portions of the project
 - It is critical **NOT** to work from the pail – either pour off into smaller pails or pour material along the base of any vertical



SIKALASTIC 720 ONE SHOT: KEY TIPS

- Know you have the right squeegee! We recommend the Seymour Midwest SpeedSqueegee® HD, 30" - 3/8" W x 1/4" D (30-45 mil), Black Neoprene



SPEEDSQUEEGEE[®] HD
HEAVY-DUTY REPLACEMENT BLADE APPLICATION SQUEEGEE

MIDWEST RAKE

IDEAL FOR HIGH VOLUME DECK-COATING, WATER-PROOFING AND URETHANE PRODUCT INSTALLATIONS

KEY PRODUCT FEATURES:

FRAMES:

- Heavy-duty aluminum frame with tapered handle adapter.
- Frame kit includes: frame, clamp, hardware bag and tapered handle adapter.
- Product is designed to be easily assembled without tools in just minutes.

BLADES:

- Rubber blade is pre-cut and prepunched allowing for easy assembly on the frame.
- Blades ends are color-coded to identify both size of notch and approximate WFT delivered.
- Blades offered in gray EPDM or black neoprene.
- Frames & blades are sold separately

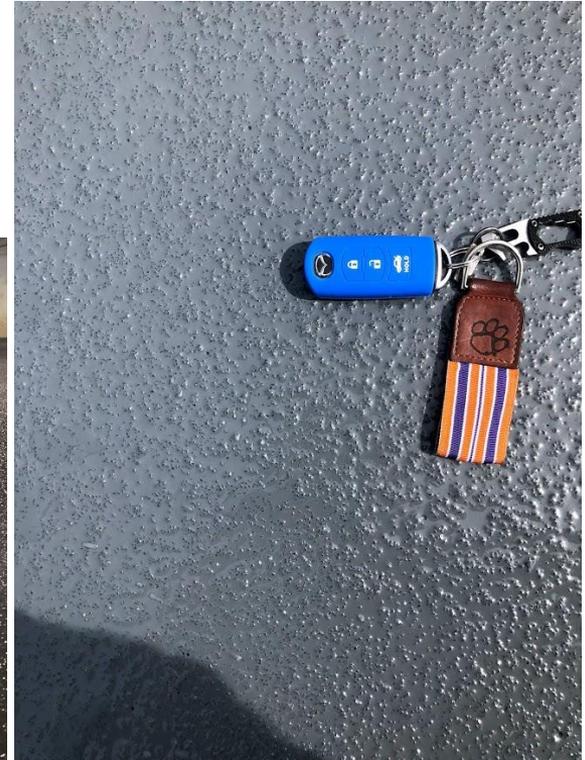


 FAMILY OWNED AMERICAN TOOL COMPANY SINCE 1872



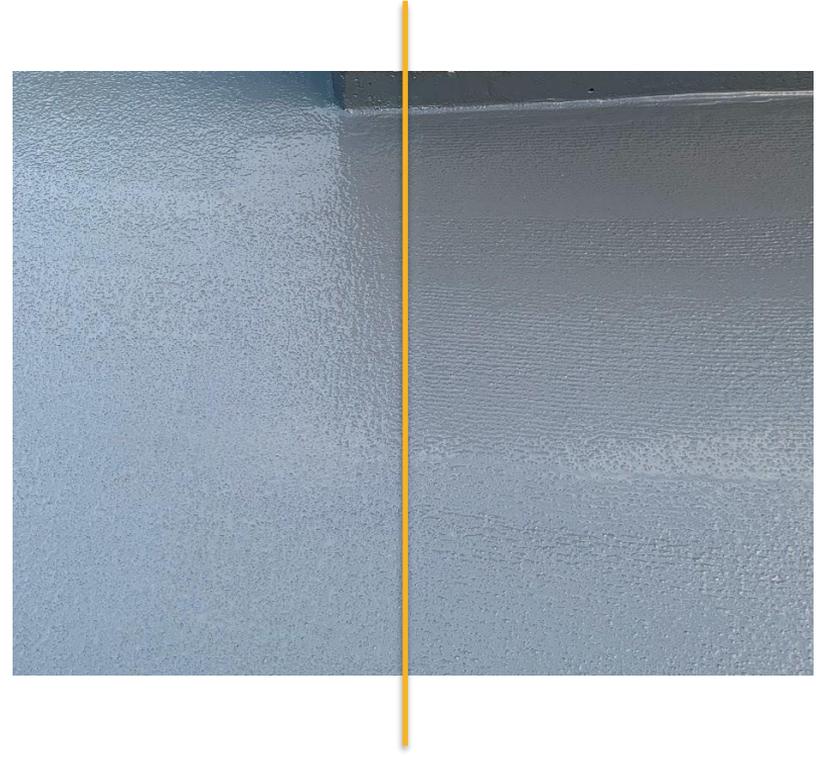
SIKALASTIC 720 ONE SHOT: KEY TIPS

- Check your thickness! A good indicator of proper thickness is seeing the aggregate after backrolling



SIKALASTIC 720 ONE SHOT: KEY TIPS

- Be systematic with your backrolling. Squeegee marks after application are areas missed when backrolling!



SIKALASTIC 726 BALCONY ONE SHOT: OVERVIEW

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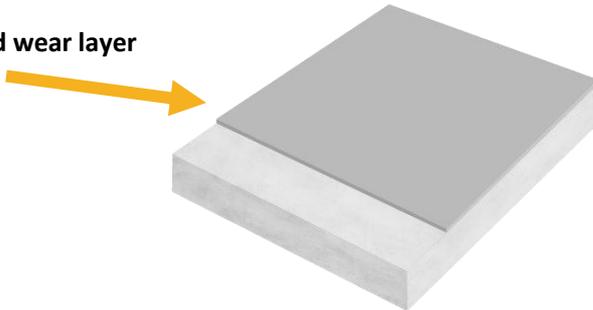
SIKALASTIC 726 BALCONY ONE SHOT

Sikalastic®-726 Balcony One Shot is a two-component, aliphatic, elastomeric, polyurethane waterproofing traffic coating that has both superior flexibility and abrasion resistance.

Features

- ✓ Single coat system of 35 mils
- ✓ Primerless application on concrete
- ✓ Convenient packaging - 100 ft² per kit
- ✓ Fast Turnaround - open to pedestrian traffic in just 8 hours!

35 mils of membrane and wear layer
– ALL IN ONE!



SIKALASTIC 726 BALCONY ONE SHOT: KEY APPLICATION TIPS

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SIKALASTIC 726 BALCONY ONE SHOT: KEY TIPS

- Have a clear plan! Know who is squeegeeing, backrolling, mixing, & pouring out the material before starting.



SIKALASTIC 726 BALCONY ONE SHOT: KEY TIPS

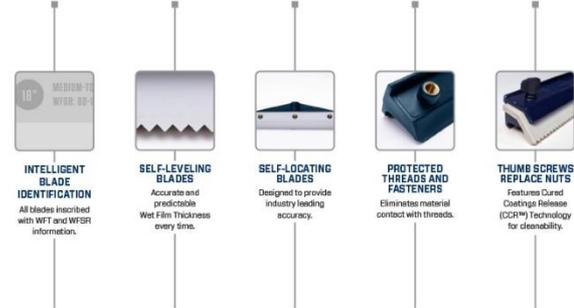
- Know you have squeegee! We recommend the Seymour Midwest 18" EasySqueegee® with 25-30 WFT Mills Blade



MIDWEST RAKE® S550
EASYSQUEEGEE™
CLEANABLE & REUSABLE PATENT PENDING, US
PRECISION APPLICATION SQUEEGEE SYSTEM



Frame is available in both 18" and 26" widths.



SIKALASTIC 726 BALCONY ONE SHOT: KEY TIPS

- Check your thickness! A good indicator of proper thickness is seeing the aggregate after backrolling



SIKALASTIC 726 BALCONY ONE SHOT: KEY TIPS

- Be systematic with your backrolling. Squeegee marks after application are areas missed when backrolling!



SIKALASTIC 726 BALCONY ONE SHOT: KEY TIPS

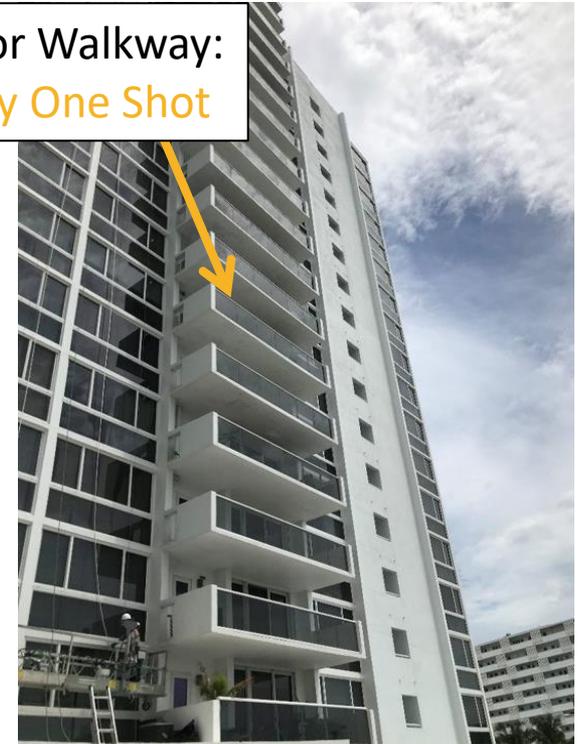
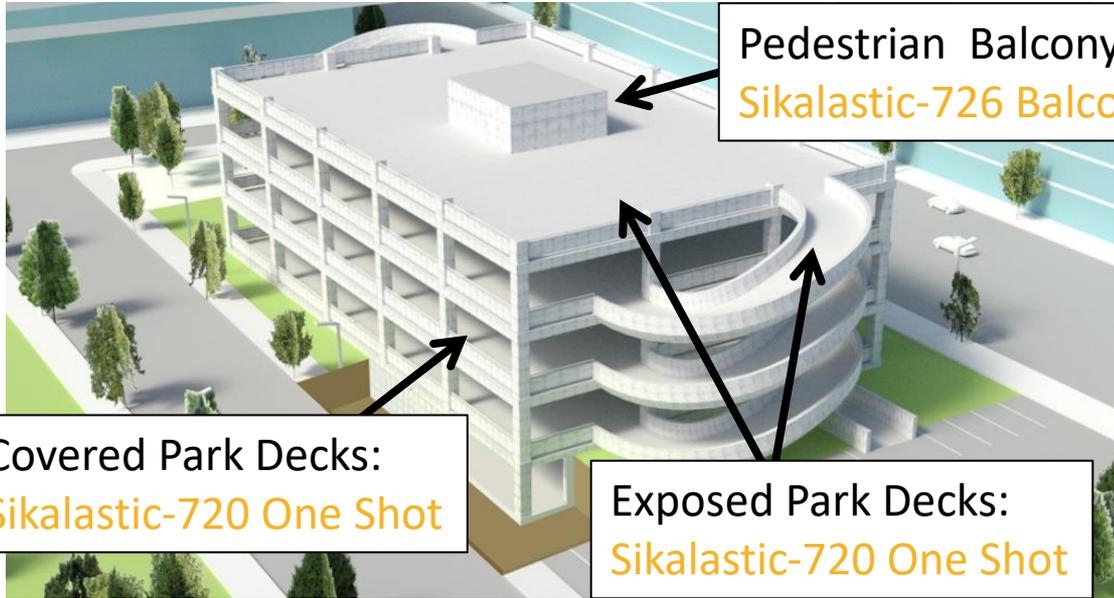
- Surface prep is essential when primerless! It is a one coat for performance and aesthetics



ONE SHOT INNOVATION: KEY BENEFITS



WHERE TO USE ONE SHOT:



SIKADUR 22 LO-MOD FS: A TRAFFIC COATING & WATERPROOFING PRIMER

Our most versatile primer!

- Fast setting formulation- cures in 2-4 hours
 - 36 hour recoat window
- Great for sealing the deck- helps prevent outgassing & pinholes
- Leaves the best surface for Sikalastic® One Shot Systems
- Variety of substrates
 - Concrete
 - Plywood
 - Existing PU Coatings
 - Select Metals

Sikadur® 22 Lo-MOD FS
FAST SET EPOXY PRIMER FOR SIKALASTIC® TRAFFIC COATING SYSTEMS

- Fast setting formulation- cures in 2-4 hours
- Great for sealing the deck- helps prevent outgassing & pinholes
- Leaves the best surface for Sikalastic® One Shot Systems
- Suitable for most substrates- concrete, plywood, existing coatings and more!

Packaging:

Pail 4 gal.	Drum 110 gal.	Tote Kits 660 gal.
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PROJECT HIGHLIGHT: LAX CONRAC, LOS ANGELES, CA

SIKALASTIC 720 ONE SHOT

Project Size: ~890,000 sf

Productivity: ~14- 18 workers, averaged
~45,000 – 55,000 sf of Sikadur 22 LM FS primer
and Sikalastic 720 One Shot a day

Labor Savings: ~\$1 million+

Completed ~65,000 sf in one day!



ADDITIONAL RESOURCES



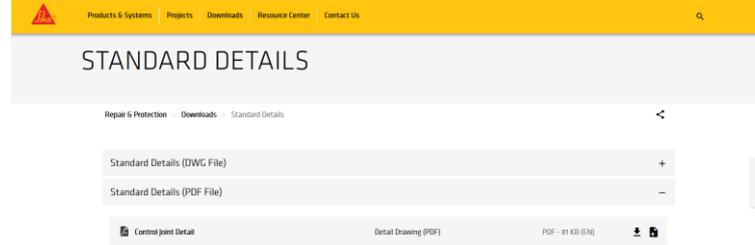
Sikalastic® DeckPro TRAFFIC SYSTEMS
APPLICATOR MANUAL
April 2019 Edition



Traffic Membrane
Troubleshooting Manual

Technical Manual
May 2019 Edition

- Description
- Cause
- Repair
- How to Avoid



720 One Shot Tips & Tricks

SIKALASTIC 720 ONE SHOT: KEY TIPS

Know you have squeegee! We recommend the Seymour Midwest SpeedSqueegee® HD, 30" x 3/8" W x 1/4" D (30-45 mil), Black Neoprene



726 Balcony One Shot Tips & Tricks

SIKALASTIC 726 BALCONY ONE SHOT: KEY TIPS

Check your thickness! A good indicator of proper thickness is seeing the aggregate after backrolling



Sika Technical Services

Phone: 1-800-933-7452 ext. 5



THANK YOU FOR YOUR ATTENTION!

“THERE’S A WAY TO DO IT BETTER – FIND IT.” – THOMAS A. EDISON

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