# BROTERT SYSTEMS

# INDUSTRIAL FLOORING SOLUTIONS OVERVIEW



# PROTECT SYSTEMS INDUSTRIAL FLOORING SOLUTIONS

# SYSTEMS VS PRODUCTS

Physical Properties of free standing individual products are not easily correlated with actual flooring needs. It is the time proven combination of products that forms actual solutions. Therefore PIP takes a system approach, which is a combination of PIP product technologies layered together as an extension of the concrete substrate to achieve unlimited performance or aesthetic results.

There are four main series within the Protect Systems lineup, each with their own unique attributes that drive the performance and determine the lifespan of the finished floor. Each system within a series can be custom-built to include enhanced structural performance, customer-specific attributes, personalized finish elements, and the appropriate bond approach.

# CT-SERIES

A coating system is a protective film over the concrete that creates a durable, cleanable, stain resistant and aesthetically desirable finish.

# SL-SERIES

A slurry is comprised of a polymer resin filled with fine aggregate(s). When placed, the batter like substance self levels and cures, filling concrete voids and forming a shield over concrete.

# **BC-SERIES** BROADCAST FLOORING SYSTEMS

A broadcast system is an aggregate enhanced coating system that provides increased durability, a built in texture, and improved impact characteristics.

# MT-SERIES MORTAR FLOORING SYSTEMS

A mortar is an engineered mix of aggregate bound together with polymer resin and then compacted to form a very dense shield over concrete.

# BETTER BOND BETTER FLOOR



It does not matter what type of polymer flooring system you have, if it's poorly bonded to the concrete substrate, it will fail.

# **BOND APPROACH**

Bond pertains to the process of adhering an industrial flooring system to the concrete substrate. True bond is accomplished by utilizing the concrete surface profile (minimal to aggressive) and primer selection. With the correct combination, the selected Protect System becomes an actual extension of the concrete substrate allowing the system's intended performance to be fully realized.

#### BONDING THROUGH CHEMISTRY

#### MECHANICAL BOND

A PHILIPAC

A minimal profile requires an added emphasis on primer selection to ensure adequate chemical adhesion between flooring system and substrate.

An aggressive profile creates greater substrate surface area for the flooring system to mechanically lock into



Imagine your left hand is the substrate and your right hand is the flooring system. The objective is to "glue" them together. The primer (glue) selection is critical when placing your hands flat together. Locked hands reduce reliance on primer (glue) selection as there is more of a physical (mechanical) grip holding them together.



# CUSTOMIZED FLOORING SYSTEMS TO MEET YOUR NEEDS

**F** 

6

The customizable nature of the Protect Systems combined with a holistic understanding of how to adhere each system to the concrete substrate, allows these industrial flooring solutions to meet your facility's specific flooring needs.



# **USYSTEM DESIGN OPTIONS**

# SYSTEM SERIES

BOND APPROACH CHEMISTRY

PERFORMANCE MODIFIERS
DINCREASED DURABILITY
CHEMICAL RESISTANT
THERMAL SHOCK RESISTANT
FAST TURNAROUND
FLEXIBILITY

#### 

MOISTURE BLOCKING
PERMEABLE
ADDED IMPACT
ECONOMICAL
OIL TOLERANT
ADDED SPEED
DECORATIVE OPTIONS
ADDED ABRASION

#### FINISH ELEMENTS



□ GLOSS □ SATIN

TEXTURE OPTIONS
GLOSS GRIP
DIAMOND WEAR

SPECIALTY TECHNOLOGY

# **CT-SERIE5** FLOOR COATING SYSTEMS

# IT'S MORE THAN PAINT

Paint dries but coatings cross-link to create a thermosetting durable protective film.

# CLEANABILITY

Impervious surface preventing soak in and concrete dusting to create a more cleanable surface.

# STAIN RESISTANT

Withstands a wide array of chemical contact including strong acids, caustics and solvents.

# EXISTING STRUCTURAL CONCRETE CAP

The structural performance is based entirely on the existing concrete. If the cap still retains its original performance ratings and those align with your operational demands, the CT Series will create a high-wearing, cleanable, stain-resistant and aesthetically-desirable finish.

### COATINGS OFTEN GET A BAD WRAP

When placed in environments where the structural cap of the concrete is damaged, contaminated, or lacking adequate performance characteristics, these structural **concrete** cap deficiencies will lead to bond related issues and cause premature system failure.

# BOND LINE

CT Series systems rely primarily on chemical adhesion for bonding

TM

# STRUCTURAL CAP PERFORMANCE COMPARISON CT Series VS Concrete Cap Point Load Deflection N/A ☆☆☆☆☆ Compression Resistance N/A ☆☆☆☆☆ Gouge N/A



WEAR RESISTANCE

# DESIGN OPTIONS Protect CT-500

### PROTECTIVE FILM

CT Series is a protective film placed over the structural cap of concrete

# PERFORMANCE OPTIONS

Modifiers	Description	Technologies Available
Increased Durability	At least double wear and abrasion-resistance to repetitive, abusive activity	Urethane, Urea and Hybrid Polymers
Chemical Resistant	Greater polymer cross link density enhances penetrative resistance to many acids/solvents	Novalac, Ureas and Vinyl Esters
Thermal Shock Resistant	Resists cracking and de-bond- ing from thermal expansion stress (up to 50 degree delta)	Cementitious Urethanes and Hybrid Polymers
Fast Turnaround	Accelerated product technolo- gies for faster return to service	Polyaspartics, Reactive Urethanes and Epoxies
Flexibility	Flexible, targeted modulus for enhanced protection against blunt impact	Elastomerics, Hybrid Polymers

# CUSTOM ATTRIBUTES

Impact Resistance • Permeability • Vapor Mitigation Oil Tolerance • Decorative Finish • Installation Speed Added Stain Resistance • Moisture Tolerance



# BC-SERIES

# SHOP FLOOR DURABILITY

The design of the broadcast makes it ideal for basic industrial settings.

# SLIP RESISTANCE

Broadcast aggregate is encapsulated into a polymer bed, creating a high friction surface.

# IMPACT DEFLECTION

Encapsulated aggregate acts as shock absorbers to prevent direct shock to the bond line, reducing chipping.

# IMPROVED STRUCTURAL CAP

Structural performance is improved by using the BC Series design of aggregate encapsulated in resin. This nested and bound aggregate improves point load and gouge resistance while relying on the existing concrete cap for the balance of physical properties.

BC Series is an **improvement of**, but not a replacement for the concrete cap. If cap replacement is required for damage, contamination, or inadequate performance characteristics, SL or MT Series are required.

# BOND LINE

BC Series systems utilize chemistry along with some mechanical profile for adhesion.

#### STRUCTURAL CAP PERFORMANCE COMPARISON

	BC Series	VS	Concrete Cap
Point Load Deflection	☆☆☆☆☆		✿✿☆☆☆
Compression Resistance	✿✿✿☆☆		✿✿✿☆☆
Gouge Resistance	<b>☆☆</b> ☆☆☆	T	****



**RESTORATION CAPABILITIES** 

# PROTECTIVE FILM

A finish coat placed over the improved structural cap creates inseparable chemical adhesion to a broadcast system.

# DESIGN OPTIONS Protect BC-500

2000 UR [ 3 - 5 MILS ] -1000 HB [ 10 - 16 MILS ] -FULL BROADCAST SILICA -1000 HB [ 10 - 16 MILS ] -1000 HB [ 10 - 16 MILS ] -

# PERFORMANCE OPTIONS

Increased DurabilityAt least double wear and abrasion-resistance to repetitive, abusive activityCarbide, Oxide and Ceramic	
Chemical ResistantGreater polymer cross link density enhances penetrative resistance to many acids/solventsSpecialty Mineral, Novalac, Ureas and Vinyl Esters	
Thermal Shock ResistantResists cracking and de-bond- ing from thermal expansion stress (up to 100 degree delta)Insulating Fillers, Hybrid Polymers, Cementitious Urethanes	
Fast TurnaroundAccelerated product technolo- gies for faster return to servicePolyaspartics, Accelerated Urethanes	
<b>Flexibility</b> Flexible, targeted modulus for enhanced protection against blunt impact Elastomerics, Hybrid Specialty Fibers	ł

# CUSTOM ATTRIBUTES

Impact Resistance • Permeability • Vapor Mitigation Oil Tolerance • Decorative Finish • Installation Speed Added Stain Resistance • Moisture Tolerance



CHEMICAL

# SLURRY FLOORING SYSTEMS

# RAPID PLACEMENT

A resin-rich aggregate blend allows for a self-priming, single step, high speed installation.

# VARIABLE STRENGTH

The ability to control the amount and type of aggregate loaded into the resin allows for customized durability to match physical abuse.

# SELF-LEVELING

As the suspended aggregate settles toward the substrate, the resin rises to the surface, to create a smooth surface - even in congested areas.

### BETTER STRUCTURAL CAP

The SL Series design allows structural cap restoration ranging from mild to moderate. The adjustable thickness, aggregate filled design can serve to selectively improve physical, chemical and thermal protection. The very nature of a resin/aggregate slurry surface helps to extend and maintain the structural integrity of the concrete substrate.

SL Series systems modify the structure cap to offer specific performance enhancements including chemical, thermal and surface travel.

# BOND LINE

SL Series systems utilize chemistry and heavy mechanical profile for adhesion.

#### STRUCTURAL CAP PERFORMANCE COMPARISON

	SL Series	VS	Concrete Cap
Point Load Deflection	☆☆☆☆☆		***
Compression Resistance	☆☆☆☆☆		☆☆☆☆☆
Gouge Resistance	☆☆☆☆☆	T. A	****



**RESTORATION CAPABILITIES** 

# PROTECTIVE FILM

A finish coat(s) placed over an improved structural cap creates inseparable chemical adhesion to slurry system.

# Protect SL-500

2000 UR [ 3 - 5 MILS ] -

UC-SL[60 - 120 MILS] -

# PERFORMANCE OPTIONS

Modifiers	Description	Technologies Available
Increased Durability	At least double wear and abrasion-resistance to repetitive, abusive activity	Specialty Aggregates, Resin Rich, Hybrid Polymers
Chemical Resistant	Greater polymer cross link density enhances penetrative resistance to many acids/solvents	Novalac, Ureas and Vinyl Esters
Thermal Shock Resistant	Resists cracking and de-bond- ing from thermal expansion stress (up to 150 degree delta)	Cementitious Urethanes and Hybrid Polymers
Fast Turnaround	Accelerated product technolo- gies for faster return to service	Polyaspartics, Reactive Urethanes and Epoxies
Flexibility	Flexible, targeted modulus for enhanced protection against blunt impact	Hybrid Polymers, Resilient Aggregates

# CUSTOM ATTRIBUTES

Impact Resistance • Permeability • Vapor Mitigation Oil Tolerance • Decorative Finish • Installation Speed Added Stain Resistance • Moisture Tolerance



# MORTAR FLOORING SYSTEMS

# LONGEST LIFESPAN

A full and integral upgrade of the subtstrate providing a maximum usable life.

# PEACE OF MIND

The highest guarantee of adhesion creating the lowest risk of future business interruption from premature failure.

# TOUGHEST SYSTEM

Chemically-fused, highly compacted aggregates that create the greatest physical properties available with unmatched durability.

# BEST STRUCTURAL CAP

Restores and enhances all the physical properties of the concrete cap. By replacing a cement-based binder with a high strength polymer, the structural performance properties are greatly increased to form a dense shield. This Mortar Shield greatly improves the cap of the concrete slab by diffusing surface abuse to protect the bond line to allow for a **maximum performance life.** 

# BOND LINE

MT Series systems rely primarily on mechanical profile for adhesion.

TM

# STRUCTURAL CAP

	MT Series	VS	Concrete Cap
Point Load Deflection	☆☆☆☆☆		✿✿☆☆☆
Compression Resistance	★☆☆☆☆		✿✿✿☆☆
Gouge Resistance	☆☆☆☆☆		****



**RESTORATION CAPABILITIES** 

# PROTECTIVE FILM

A finish coat(s) placed over an improved structural cap creates inseparable chemical adhesion to an MT system.

# DESIGN OPTIONS Protect MT-500

2000 UR [ 3 - 5 MILS ] -----

1000 GEL/ST [ 10 - 16 MILS ] -

3600 EM [ 3/16" - 1/4" ] -----

3600 P [ 8 - 10 MILS ] -

# PERFORMANCE OPTIONS

Modifiers	Description	Technologies Available
Increased Durability	At least double wear and abrasion-resistance to repetitive, abusive activity	Steel Aggregates, Resin Rich Designs
Chemical Resistant	Greater polymer cross link density enhances penetrative resistance to many acids/solvents	Novalac, Vinyl Esters and Ureas
Thermal Shock Resistant	Resists cracking and de-bond- ing from thermal expansion stress (up to 200 degree delta)	Cementitious Urethane, Specialty Aggregates and Hybrid Polymers
Fast Turnaround	Accelerated product technolo- gies for faster return to service	Polyaspartics, Accelerated Urethanes
Flexibility	Flexible, moderate modulus for enhanced protection against blunt impact	Resilient Aggregates, Hybrid Polymers, Elastomerics

# CUSTOM ATTRIBUTES

Impact Resistance • Permeability • Vapor Mitigation Oil Tolerance • Decorative Finish • Installation Speed Added Stain Resistance • Moisture Tolerance

# BOND APPROACH MT Series systems rely primarily on mechanical profile for adhesion. I II I II III

CHEMICAL

MECHANICAL



С Μ Μ Ν Ρ R В L Ε Μ S



#### PROTECTIVE INDUSTRIAL POLYMERS



PROTECTIVE INDUSTRIAL POLYMERS







ģ.

# THE FIRST IN MAKING IT LAST





P R O T E C T P O L Y . C O M I N F O @ P R O T E C T P O L Y . C O M (800) 974-1323