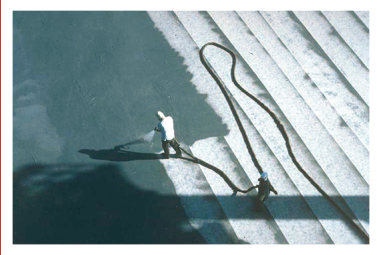


**The
Versatile
Coating
System**



**High
Performance
Polyurea
Coating Systems**

X-CALIBUR™
CONSTRUCTION SYSTEMS

Polyurea

High Performance Technically Advanced Coating Systems

What are Polyureas?

Polyurea systems consist of polyether amines which typically react very fast and cure to form tough durable coatings and sealants. The fast reactivity and cure characteristics of polyurea allow for rapid turnaround and application to a wide variety of substrates, even at high humidity. The speed of reaction also means polyureas are weather tolerant and can be applied at extremely low or high temperatures.

Polyureas are elastomeric, have high tensile strength and are resistant to impact, abrasion and chemical attack.

Typical Uses

- Primary and secondary containment
- Waterproofing
- Industrial floors
- Stadium walkways
- Ramps
- Line marking
- Helidecks
- Renovation of cooling towers
- Roof restoration
- Wastewater facilities
- Operating theaters
- Institutional shower stalls
- Clean rooms
- Food processing plants
- Aquaculture facilities

Features

- Fast return to service shortens costly down time
- Can be applied and used in service at low and high temperatures
- Waterproof. Withstands both positive and negative hydrostatic pressure
- UV resistance ensures no loss of properties when used in direct sunlight
- Resistant to a wide variety of industrial chemicals, caustics, solvents, fuels, salts and most acids
- Acceptable in USDA inspected facilities
- Easy to clean and sterilize
- Restores old steel and concrete surfaces
- Prevents deterioration and extends life of concrete surfaces
- Protects floors from heavy traffic, impact and harsh cleaning agents
- Withstands high pressure wash downs
- High film build achievable with a single coat application
- Low odor. Can be applied without evacuating premises
- Custom colors available on request

	Product	Characteristics	Elongation %	Tensile Strength psi/MPa	Shore Hardness	Gel/Tack free Time	Return to Service	Application Temperature	Service Temperature	
										X-Shield Polyurea Coatings
	FS450	High elongation. Bridges cracks to 1/8 inch (3mm). Forms a flexible, seamless, impermeable and chemical resistant barrier.	450	2500/17	45D	3/10 sec.	1 hour	-10 to 120°F (-23 to 49°C)	-60 to 350°F (-51 to 177°C)	
	CS450	Color stable aliphatic version. Standard color is white. For use in direct sunlight and internally in hospitals, food preparation areas, wet rooms and dairies.	450	3000/21	80A	10/120 sec.	2 hours	-10 to 120°F (-23 to 49°C)	-60 to 350°F (-51 to 177°C)	
	FS200	Abrasion resistant version for heavy duty applications. Provides a dense, hard, and impact resistant surface.	200	2500/17	50D	3/10 sec.	1 hour	-10 to 120°F (-23 to 49°C)	-60 to 350°F (-51 to 177°C)	
	FS590	Slower setting version. Designed to be applied by low pressure cold spray equipment.	590	2500/17	38D	45/120 sec.	2 hours	-20 to 120°F (-29 to 49°C)	-60 to 250°F (-51 to 120°C)	
	FR380	Flame resistant version. Special fire retardant formulation for use in mines and tunnels.	380	1700/12	42D	45/120 sec.	2 hours	-10 to 120°F (-23 to 49°C)	-60 to 350°F (-51 to 177°C)	
	RG40	Roller grade, color stable, abrasion resistant coating. Forms a tough, hard, fast turnaround coating.	40	3000/21	70D	20/45 mins.	2 hours	-20 to 120°F (-29 to 49°C)	-20 to 150°F (-29 to 66°C)	
	ProCoat	Single component, high build, aliphatic hybrid polyurea. Applied by squeegee, roller or airless spray. Used as a UV resistant solar reflective coating for roofs, decks and walls.	220	2700/19	80A	30/60 mins.	6 hours	40 to 150°F (4 to 66°C)	-60 to 176°F (-51 to 80°C)	
	ProFlex One	Single component, high build, aromatic hybrid polyurea. Applied by squeegee, roller or airless spray. Used as a base coat for roofs, decks and walls prior to application of topcoat.	250	2600/18	80A	30/60 mins.	6 hours	40 to 150°F (4 to 66°C)	-60 to 176°F (-51 to 80°C)	
	ProFlex Two	Two component, fast setting, high build, aromatic hybrid polyurea. Applied by squeegee, roller or airless spray. Used as a base coat for roofs, decks and walls prior to application of topcoat.	400	2200/15	65A	20/45 mins.	3 hours	20 to 150°F (-7 to 66°C)	-60 to 176°F (-51 to 80°C)	
	FixCoat	Hand mix version. Used to repair fast setting polyurea coatings or in areas where cracks and voids must be filled.	250	1400/9.7	85A	7/12 min.	1 hour	60 to 90°F (16 to 32°C)	-40 to 350°F (-40 to 177°C)	
	X-Shield Primers									
	PolyPrime S	Two component, 100% solids (zero VOC), polyurea based primer. Used for priming substrates prior to application of polyurea coatings or sealants.	N/A	N/A	N/A	*1 to 8 hrs.	N/A	50 to 120°F (10 to 49°C)	-60 to 150°F (-51 to 65°C)	
	PolyPrime LT	Two component, 100% solids (zero VOC), low temperature tolerant primer for concrete and steel.	N/A	N/A	N/A	*1 to 2 hrs.	N/A	10 to 50°F (-12 to 10°C)	-60 to 150°F (-51 to 65°C)	
	ProPrime S	Two component 100% solids (zero VOC), water based low odor epoxy primer. Can be used on concrete less than 28 days old.	N/A	N/A	N/A	*1 to 8 hrs.	N/A	50 to 120°F (10 to 49°C)	-60 to 150°F (-51 to 65°C)	
	Primer HB	Two component, 100% solids (zero VOC), fast setting high build epoxy primer and resurfacer for horizontal use.	49	2600/18	N/A	*0.5 to 2 hrs.	N/A	60 to 85°F (16 to 29°C)	-20 to 150°F (-51 to 177°C)	

* Temperature dependent - see technical data sheet



High Production - Fast setting application for a variety of substrates



Priming - Roller and spray grade primers for maximum adhesion



Topcoats - Aliphatic topcoats for maximum UV protection

Cold Spray

Tomorrow's Technology Today

X-Shield FS590 is the best cold spray product on the market today. When used with a custom designed low pressure pump and spray tip, production up to 3000ft² (300m²) per day is easily achievable.

Advantages

- Fast return to service - just like hot spray
- Low capital cost of equipment
- Easy maintenance and clean up
- Low rebound and over spray
- Quick and easy set up
- Small and confined areas can be quickly sprayed

Chemical Resistance

Polyureas have very good chemical resistance. The table below shows resistance to commonly used chemicals.

	No visible damage	Slight surface effect
Motor	✓	-
Brake Fluid	-	✓
Gasoline	-	✓
Diesel	✓	-
Crude Oil	✓	-
Kerosene	✓	-
Jet A Fuel	✓	-
Ethylene Glycol (Anti-freeze)	✓	-
MTBE	✓	-
Methanol	✓	-
Toluene	✓	-
Hydraulic Fluid	✓	-
Hexane	✓	-
Acetone	-	✓
Propylene Glycol	✓	-
Isopropanol	✓	-
Sodium Hypochlorite, 12.5%	-	✓
Copper Arsenate	✓	-
Urea Ammonium Nitrate	✓	-
Ammonium Polyphosphate	✓	-
Acetic Acid, 5%	✓	-
Sulfuric Acid, 20%	✓	-
Sodium Hydroxide, 10%	✓	-

Recommended Thicknesses

X-Shield polyurea coatings should be applied at the thicknesses shown below

	mils	mm
Primary containment	60 to 120	1.5 to 3.0
Secondary containment	50 to 60	1.2 to 1.5
Walls (non immersed)	30 to 60	0.8 to 1.5
High abrasion	70 to 120	1.8 to 3.0
Pedestrian traffic	40 to 60	1.0 to 1.5
Vehicular traffic	55 to 80	1.4 to 2.0

The most comprehensive and technically advanced range of polyurea coatings



X-Shield FS450

High elongation, elastomeric, chemically resistant waterproof coating. The product is an aromatic, 100% solids (zero VOC), two component pure polyurea. Recommended for primary and secondary containment as a waterproofing membrane and as a liner for ponds and landfill.

X-Shield CS450

Color stable, high elongation, elastomeric, chemically resistant waterproof coating. The product is an aliphatic, 100% solids (zero VOC), two component pure polyurea. Available in white as standard and is recommended for interior wall and floor waterproofing and as an exterior coating for any structure exposed to direct sunlight.



X-Shield FS200

Fast setting, elastomeric, chemically resistant waterproof coating with very high abrasion resistance. The product is an aromatic, 100% solids (zero VOC), two component pure polyurea. Recommended as an abrasion-resistant coating for floors and tanks and as a protective coating for concrete, wood, steel and other metals.



X-Shield FS590

High elongation, elastomeric, chemically resistant waterproof coating. It has been specifically developed for application using low pressure cold spray equipment. The product is an aromatic, 100% solids (zero VOC), two component pure polyurea. Recommended for use in confined areas. Can be used for primary and secondary containment, as a waterproof liner and as a flooring material in freezer rooms.



X-Shield FR380

Flame resistant, high elongation, elastomeric waterproof coating. The product is an aromatic, 100% solids (zero VOC), two component pure polyurea. Recommended for primary and secondary containment and as a waterproof liner in mines and tunnels.



X-Shield ProFlex One

Single component, elastomeric, hybrid polyurea base coat used to waterproof and protect roofs, slabs, decks and walls. The product is 100% solids (zero VOC), moisture cured, and has been developed for application by squeegee, roller or airless spray. Can be applied on horizontal and vertical surfaces and is resistant to abrasion and ponded water. Recommended as a tough but economic base coat for roofs, floors and walls prior to coating with an aliphatic topcoat.



X-Shield ProFlex Two

Fast setting, two component, elastomeric hybrid polyurea base coat used to waterproof and protect roofs, slabs, decks and walls. The product is a solvent free, high solids elastomer that has been developed for application by squeegee, roller or airless spray. Can be applied on horizontal and vertical surfaces and is resistant to abrasion and ponded water. Recommended as a tough but economic fast setting base coat for roofs, floors and walls prior to coating with an aliphatic topcoat.



X-Shield ProCoat

Aliphatic, single component, elastomeric hybrid polyurea coating, specifically developed to waterproof and protect roofs, slabs and walls. The product is a 100% solids (zero VOC), moisture cured polyurea developed for application by squeegee, roller or airless spray. White and highly reflective aliphatic coating. Recommended for roofs and decks where resistance to solar radiation and ponded water is required.



X-Shield RG40

Two component, extended set aliphatic polyurea coating. It has excellent color stability and resistance to abrasion, weathering and a wide range of chemicals. It can be roller or spray applied on horizontal and vertical surfaces. Can be used as a skid resistant coating with the addition of aggregate broadcast to the surface.



X-Shield FixCoat

Two component, hand mixed elastomeric polyurea repair material. A 100% solids (zero VOC), hand applied aromatic pure polyurea with an easy 1:1 mix ratio. Can be used on vertical and horizontal surfaces and has good resistance to a wide range of chemicals. Recommended for the repair of blisters, pinholes and holidays in polyurea coatings.

Priming and Surface Preparation

X-Shield Primer HB

Fast curing two-component, 100% solids (zero VOC), self-leveling primer used to prime and level floors prior to the application of polyurea and other coating systems. Suitable for internal and external use depending on the topcoat used. Recommended as a primer and underlay for polyurea and polyurethane coatings.

X-Shield BugFill

High build thixotropic epoxy resin for filling bug holes (blow holes) in concrete and imperfect steel substrates prior to the application of epoxy and polyurea coatings. Can be used in immersed conditions; has a long pot life and is easy to apply.

X-Shield PolyPrime S

A 100% solids (zero VOC), polyurea based primer for use with polyurea coatings and sealants at temperatures between 50 and 120°F (10 to 49°C). Can be applied by roller, brush or airless spray and is recommended for use on concrete and steel substrates.

X-Shield PolyPrime LT

A 100% solids (zero VOC), polyurea based primer for use with polyurea coatings and sealants at temperatures between 10 and 50°F (-12 to 10°C). Can be applied by roller, brush or plural component spray and is recommended for use on concrete and steel substrates.

X-Shield ProPrime S

Two component, 100% solids (zero VOC), water based, low odor epoxy primer for use with polyurea coatings and sealants at temperatures between 50 and 120°F (10 to 49°C). Can be applied by roller, brush or airless spray. Recommended for use on concrete and brick substances. Can be applied to concrete less than 28 days old.

Other Polyurea Products

Joint Sealants

X-Seal Polyurea CJ for control joints

X-Seal Polyurea XJ for expansion joints

Both have high abrasion resistance; can be used at very low service temperatures and have fast return to service times.

Crack and Patch Repair

X-Roc CPR for fast repair of cracks and spalls

Can also be used as a healer sealer coat and anti-skid surface. It is available in easy to use bulk packs for application by hand or low pressure proportioning pump.



Your total solution supplier

X-Calibur supplies a full range of restoration and protection products including restoration mortars, joint sealants, chemical anchors, grouts, flooring systems and waterproofing products. This enables us to provide our customers with a total solution for restoration and protection.

X-Calibur Construction Systems Inc.

SW 52nd Street, Suite 508, Davie, FL 33314, USA, T +1 954 885 9912, F +1 954 885 9913

www.x-calibur.us