



Solutions



[World-Class Protection™]

# Water and Wastewater Solutions



# SOLUTIONS

## Water & Wastewater Treatment

If it can corrode, fail, or leak—it will. That's why water and wastewater treatment facilities globally choose Rhino Linings® polyurea-polyurethane coatings as their protection solution!

Rhino Linings Corporation ("Rhino") has over 15 years of industrial technological experience delivering proven monolithic corrosion and spill prevention solutions. All formulations are thick elastomeric linings designed for long life under extreme environmental conditions. Industrial strength Rhino products shield against corrosion, chemicals, bacteria, hydrogen sulfide, abrasion and skidding.\*

### Monolithic Sprayed-on Linings

- Family of Products
- Polyurethane / Polyurea / Hybrid
- Monolithic Seamless Lining
- Bond to Virtually Any Surface
- Air-Tight, Water-Tight Seal
- Chemical Resistant
- Protect Against Corrosion, Abrasion, Spills, UV and Color Fading
- Reduce Slippage

Rhino product solutions are 100% solids, VOC free and can be sprayed or cast onto virtually any substrate, including steel, concrete, wood, fiberglass, metals and geotextiles. All formulations are tack free within seconds and fully cure in 24 hours under most conditions.\*\* Our applications offer quick turnarounds, dramatically reducing structure or equipment downtime and maintenance costs.

### Global Application Examples

- **Potable Water Tank:** Missouri, USA
- **Wastewater Treatment Facilities:** Mauritius Islands; Brisbane, Australia
- **Wastewater Sludge Bin:** Wisconsin, USA
- **Digester Tanks:** Arizona and Virginia, USA
- **Primary & Secondary Chemical Containment:** USA, Europe, Australia, Latin America and Canada

Contact Rhino™ for case studies



# YOUR SOLUTION

## Economical Long-term Solution



### Certifications

- ACI 308.2R-04 (containment of hazardous materials)
- CAFO 40 – 412 (secondary containment)
- FAC 62-762.501 (Florida storage of hazardous waste)
- FDA 21 CFR 175.300 and 177.1680 (incidental food contact)
- NSF 50 (hot water – pools and spas)
- NSF 61 (potable water)
- SSPC 40 – CFR 112 & 264 (oil pollution)
- SSPC-TU2/NACE 6G197 (Florida DEP approved)

### Product Application

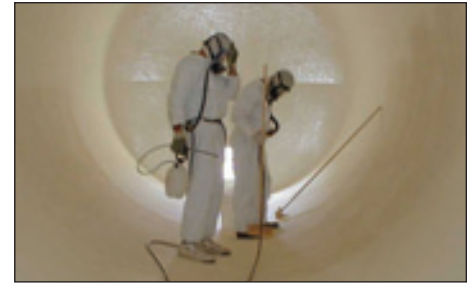
Product	Plural Component Spray Equipment	Ratio Formulation
<b>Rhino Extreme™</b> Pure Polyurea	High Pressure	2:1 / 1:1
<b>Rhino Hybrid™</b> Hybrid Polyurea	High Pressure	2:1 / 1:1
<b>TuffGrip®</b> Polyurethane	High Pressure or Low Pressure	2:1 / 1:1
<b>HardLine®</b> Polyurethane	High Pressure or Low Pressure	2:1 / 1:1
<b>Hi-Chem™</b> polyurethane	High Pressure or Low Pressure	2:1
<b>Hi-Chem™ 65D-PW</b> Polyurethane	High Pressure or Low Pressure	2:1



Pipe Exterior (HardLine)



Containment Tank



Frac Tank (Hi-Chem)

# FLAGSHIP

## Formulations

### Rhino Extreme™

100% polyurea chemistry - formulated for extreme, outdoor environments and colder substrate applications.

#### Rhino Extreme Lining Applications

- Clarifiers
- Digesters
- Equalization basins

### Rhino Hybrid™

Polyurea/Polyurethane chemistry - ideal for high humidity, corrosion and abrasion protection.

#### Rhino Hybrid Lining Applications

- Cooling towers
- Lift stations
- Wet wells

### Hi-Chem™

High chemical stability for immersion and chemical resistance applications with superior molecular cross-linking.

#### Hi-Chem Lining Applications

- Primary and secondary containment
- Pipes - inside and outside
- Chlorine systems

### Hi-Chem 65D-PW

Specifically formulated for potable water applications. Carries Hi-Chem product's superior molecular cross-linking.

#### Hi-Chem Lining Applications

- Potable water
- Water filtration systems
- Water softeners



### HardLine®

General purpose lining that delivers maximum abrasion and impact protection.

#### HardLine Lining Applications

- Material handling equipment
- Sludge bins and tanks
- Sediment basins

### TuffGrip®

Versatile lining with superior non-skid, elongation and abrasion resistance properties.

#### TuffGrip Lining Applications

- Thickeners tanks
- Floors, walkways and decks
- High flexing applications

Properties†	Rhino Extreme	Rhino Hybrid	Hi-Chem	Hi-Chem PW	HardLine	TuffGrip
Hardness (Shore) - ASTM D2240	55D +/- 5	55D +/- 5	70D +/- 5	65D +/- 5	55D +/- 5	85A +/- 5
Tensile Strength (psi) - ASTM D-412	2200 – 2500	2200 – 2400	3500 – 3700	2000 – 2200	2100 – 2200	1100 – 1300
Elongation (%) - ASTM D-412	300 – 350	90 – 100	25 – 30	60 – 80	50 – 80	250 – 350
Tear Resistance - ASTM D-624	330 – 400	300 – 330	180 – 190	190 – 210	200 – 250	200 – 250
Chemical Resistance	Good	Good	Excellent	Excellent	Good	Good
Corrosion Resistance	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
Slip Resistance	Excellent	Good	Good	Good	Good	Excellent
Abrasion Protection	Excellent	Excellent	Good	Good	Excellent	Excellent
Extreme Condition Applications	Excellent	Excellent	Good	Good	Good	Good
NSF 61 & 50 Certified (Potable Water)	No	No	No	Yes	No	No

†Properties are based on using 2:1 ratio products.

# THE

## Rhino™ Solution

Rhino Linings Corporation ("Rhino") has a global commercial, industrial, military and retail network of over 1400 independently owned businesses and applicators in almost 80 countries. Our world-wide offices include USA, Canada, Latin

America, Europe and Australia. The Rhino family of proven urethane solutions are sprayed providing a water-tight, monolithic seal with strong chemical resistance, color stability, adhesion to virtually any surface and excellent protection against:

abrasion, corrosion, impacts, slipping and vibrations. All Rhino formulations: Rhino Extreme™, Rhino Hybrid™, Hi-Chem™, Hi-Chem PW, HardLine® and TuffGrip® are 100% solids, environmentally-friendly and contain no VOCs, CFCs or solvents. They can be sprayed onto virtually any surface to match a specific need or application.



### About Rhino Industrial Division

Rhino Industrial Division is a strategic business unit of Rhino. For nearly 20 years, Rhino Industrial elastomeric polyurethane, polyurea and hybrid and solution have been providing

maximum spray-on protective coatings for the Water and Wastewater industry. Additional industries that have taken advantage of the Rhino customized formulations include: Commercial/Industrial, Construction, Manufacturing, Marine, Military, Mining and Municipal, Theme and Transportation.

For detailed information about Rhino industrial solutions or to learn about exciting opportunities, please visit our web site at [www.rhinolinings.com](http://www.rhinolinings.com).



A Division of Rhino Linings Corporation

[www.rhinolinings.com](http://www.rhinolinings.com)

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