



MILITARY DIVISION



**Your Solutions Partner**



## **Rhino Linings®**

- Unconventional Armor
- Composite Armor
- Blast Mitigation
- Fuel Tanker Self-Sealing Technology
- Other Military Applications

When it comes to protecting buildings, vehicles or other structures from violent attacks, RhinoArmor™ lining is your solution. Used in combination with other components, RhinoArmor lining provides you with your ultimate protection. Our spray-applied durable coatings and linings help deflect the energy from ballistics and explosive blasts. The encapsulating and protective properties of the Rhino® linings reinforce concrete, masonry and steel structures. These properties permit the structures to stay intact and help prevent shrapnel and flying debris from causing serious injury or death.

At Rhino Linings, we partner with all branches of the military, government contractors and equipment suppliers around the world to provide durable, unmatched protection for everything from body armor to entire buildings.

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## Unlike Conventional Armor

RhinoArmor™ coating and lining systems form a seamless, monolithic blanket of protection. Once applied, the coatings tightly adhere to prepared steel, aluminum, concrete, wood and many plastic surfaces.

Better still, they conform to any unusual shape or contour. Since the product can be applied to your desired thickness in a single coat or multi-pass application, you control the level of Rhino® protection, from light to extreme.

Rhino Military products are 100% solids (zero VOC) spray-applied coatings and linings that are environmentally responsible.



For military and police force protection, Rhino Linings has the best solution for:

- Tactical wheeled vehicle protection
- Ballistic shields
- CARC compatible systems
- Enhanced vehicle armor for trucks and heavy artillery
- Fuel trucks and storage tank protection
- Sand and abrasive resistant surfaces
- Non-slip requirements
- Marine and safe boat surfaces



# Composite Armor

## Composite Armor

Composite Armor™ coating not only provides greater protection when compared to hardened steel armor, it is also considerably lighter which means it cuts fuel consumption due to weight.

The secret is in the elastomeric polymer that is the core of Composite Armor coating. With its elastomeric membrane design and integrity, it displaces the energy of a ballistic round or debris hitting the surface, thereby stopping the threat with minimal damage to the underlying surface. Composite Armor coating can be used to add a shield of protection to a wide variety of vehicles, artillery, boats and structures.

- Customized so you determine the thickness and weight
- 3D matrix designed for high structural integrity in displacing energy
- Stops a variety of threats including small arms, AP, IEDs, EFP, LCS and others
- Lightweight composite saves on fuel
- Rapid application for fast deployment
- Easy to using in a retrofit or factory floor production
- No fuel leaking due to small arms fire. Helps to minimize fire threat
- Handles a wide variety of ballistics with ease – including .50 caliber fragments
- Helps to protect passengers, crew and cargo from injury due to shrapnel
- Remains cooler to the touch in hot, desert environments and flexible in cold, below zero environments
- Provides anti-vibration and acoustic dampening properties
- Highly resistant to corrosion and abrasion



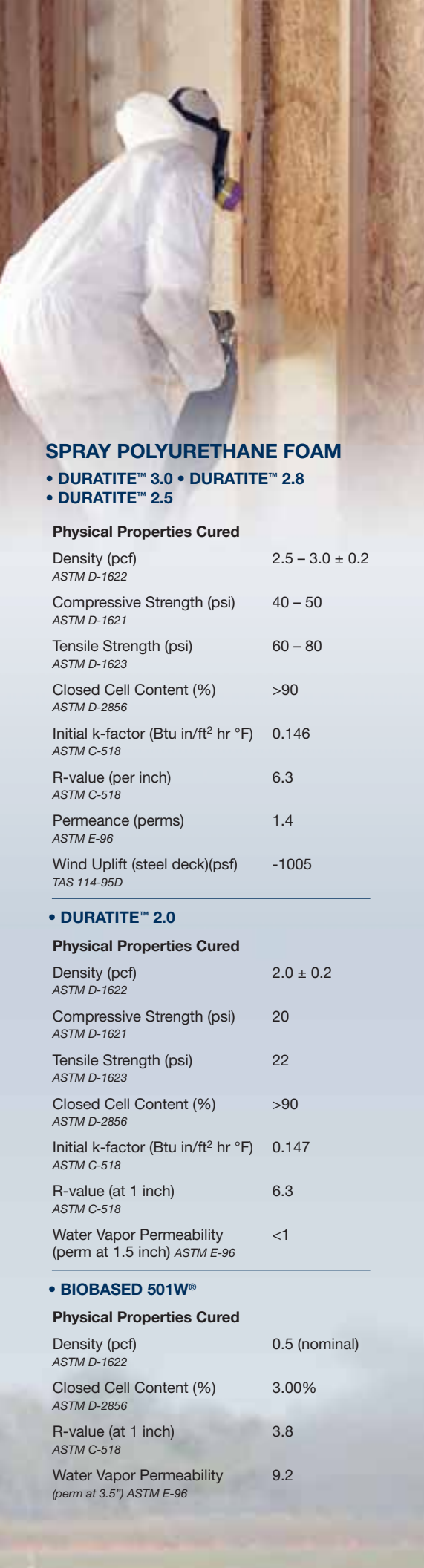
# Fuel Tanker Self Sealing Technology (FTSS)

Tankers that hold potentially dangerous fuels and chemicals can be protected from the effects of shrapnel and spalling with the unique self-sealing characteristics of Battle Jacket® lining\*.

Battle Jacket lining is a uniquely formulated system that combines Rhino Linings® specialized spray elastomer working in conjunction with proprietary components. Forming a self-sealing membrane, Battle Jacket lining delivers fuel leakage protection from blasts of IEDs, mines and small fire arms.

*\*Patented technology by High Impact Technology, LLC*





# SPRAY FOAM INSULATION

## Spray Foam Insulation

Rhino Linings® spray polyurethane foams (Rhino® SPF) are an all-in-one insulation, air-sealing system for temporary and permanent building and structures. Rhino SPFs have a fast rise and cure time to allow for fast installation. They offer a high R-value to help reduce hot/cold spots in a building envelope and improve energy efficiency and comfort. Since these foams are monolithic, they form a secondary moisture-vapor barrier to reduce moisture intrusion and potential mold. Better still, Rhino SPFs will add structural integrity to walls and roofs.

### SPRAY POLYURETHANE FOAM

- DURATITE™ 3.0 • DURATITE™ 2.8
- DURATITE™ 2.5

#### Physical Properties Cured

Density (pcf) <i>ASTM D-1622</i>	2.5 – 3.0 ± 0.2
Compressive Strength (psi) <i>ASTM D-1621</i>	40 – 50
Tensile Strength (psi) <i>ASTM D-1623</i>	60 – 80
Closed Cell Content (%) <i>ASTM D-2856</i>	>90
Initial k-factor (Btu in/ft <sup>2</sup> hr °F) <i>ASTM C-518</i>	0.146
R-value (per inch) <i>ASTM C-518</i>	6.3
Permeance (perms) <i>ASTM E-96</i>	1.4
Wind Uplift (steel deck)(psf) <i>TAS 114-95D</i>	-1005

#### • DURATITE™ 2.0

#### Physical Properties Cured

Density (pcf) <i>ASTM D-1622</i>	2.0 ± 0.2
Compressive Strength (psi) <i>ASTM D-1621</i>	20
Tensile Strength (psi) <i>ASTM D-1623</i>	22
Closed Cell Content (%) <i>ASTM D-2856</i>	>90
Initial k-factor (Btu in/ft <sup>2</sup> hr °F) <i>ASTM C-518</i>	0.147
R-value (at 1 inch) <i>ASTM C-518</i>	6.3
Water Vapor Permeability (perm at 1.5 inch) <i>ASTM E-96</i>	<1

#### • BIOBASED 501W®

#### Physical Properties Cured

Density (pcf) <i>ASTM D-1622</i>	0.5 (nominal)
Closed Cell Content (%) <i>ASTM D-2856</i>	3.00%
R-value (at 1 inch) <i>ASTM C-518</i>	3.8
Water Vapor Permeability (perm at 3.5") <i>ASTM E-96</i>	9.2

# SOUND ATTENUATION

In addition to being a great insulator, Rhino SPFs will also help attenuate sound between floors or common walls. A few inches of Rhino SPFs in the floor or walls can dramatically reduce sound vibrations. Rhino SPFs fill all the open areas and gaps in a structure that could be short cuts for sound. These products are great underneath stairways, around water/waste pipelines and around air duct work to cut down on unwanted sound.



# Blast Mitigation & Facility Protection & Facility Protection

The United States military and independent organizations have put RhinoArmor™ coating and lining systems through a series of live fire tests.

RhinoArmor lining has been shot at, blown up and assaulted with various weapons on numerous occasions. Each time RhinoArmor lining has emerged as a reliable coating to withstand most conventional weapon

and explosive threat conditions. We have proven to even the

most ardent skeptics that a few millimeters of

RhinoArmor™ lining will bend but not break

when it comes to blast protection.



- RhinoArmor™ coating deflects energy blast while keeping structures intact
- Easy to apply to new construction or retrofitted facilities
- High flexible coating absorbs and stops shrapnel and flying debris
- Conforms to any substrate texture or shape
- Thickness can be determined by the applicator for the threat level
- Adheres to properly prepared surfaces like steel, concrete, masonry, wood, fiberglass and aluminum



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