

SAVING THE ENVIRONMENT AGAINST DISASTERS AND POLLUTIONS BY PREVENTING THE FUEL LEAKAGE FROM TANKERS IN CASE OF ANY ACCIDENT OR CRASH.

BUYAN Self-Sealing Coating has overcome the limitations of traditional ballistic protection methods by sealing the hole instead of preventing it. BUYAN is a revolutionary technology designed to minimize or prevent leakage of fuel tankers or fuel pipes, due to smallarms fire, which can cause hazardous conditions for troops transporting fuel as well as operational risks caused by the resulting lack of fuel. BUYAN can be applying as coating for any metal or plastic fuel tank, including pipelines. Thanks to its unique technology and structure, BUYAN can seal off the undesired entrance and exit holes created by a projectile.



Key Attributes

- Applicable to both metal and plastic surfaces.
- Provides superior corrosion and abrasion protection.
- Tenacious adhesion for long-term service.
- Paintable


Technical Specifications

- Hardness, Shore A – 85
- Operational Temperature Range: -20 to 60 deg. C.
- Protection level STANAG 4569 Level III

Notes:

Fuel tanks protected by Tulpar BuyanTM do not need armored plates protection. Density of self-sealing solution by Tulpar (approx. 11kg/m² instead of armored steel approx. 80kg /m²) brings a very significant weight saving opportunity (up to -80%)

The BuyanTM is a specially developed self-sealing outer coating. Entry and exit holes seal instantly, retaining the fuel inside the tank and minimizing the potential ignition of spilled fuel. Depending on fuel tank design and specifications it seals ammunition wounds up to at least 7.62 NATO/AP, STANAG Level 3 protection. Other application up to; and even 12.7mm.

	Condition	Shot	Picture	Validation
1	Outdoor temperature	Caliber 7.62 Entrance		Instantaneous self-sealing
2	Outdoor temperature	Caliber 7.62 Exit		Instantaneous self-sealing

POSSIBLE APPLICATIONS

BUYAN self-sealing coatings can be applied to many types of military, government, private vehicles, buried fuel tankers, fuel tanker carriers and the fuel piping.











Military applications;

BUYAN is designed to offer progressive levels of ballistic protection. BUYAN is an ideal coating for armored cars, tactical and military vehicles, defense fuel tanks, battle tanks, personal carriers, armored vehicles, swat vehicles, and hazmat vehicles. BUYAN is designed to keep fuel contained and occupants safe.

Civil applications;

Tulpar provides self-repairing coating technology for preventing leakage of hydrocarbon storage vessels. This advanced coating automatically repairs the damages on the fuel pipelines, tankers, and facilities for fuel and petrochemicals transportation. This coating not only protects the pipelines from corrosion, but it can also repair the crashes such as the holes made by an accident. Application of this coating on fuel tankers and pipelines can prevent environmental disasters due to an accident and probable leakages.

BUYAN is ideal for protecting the following platforms

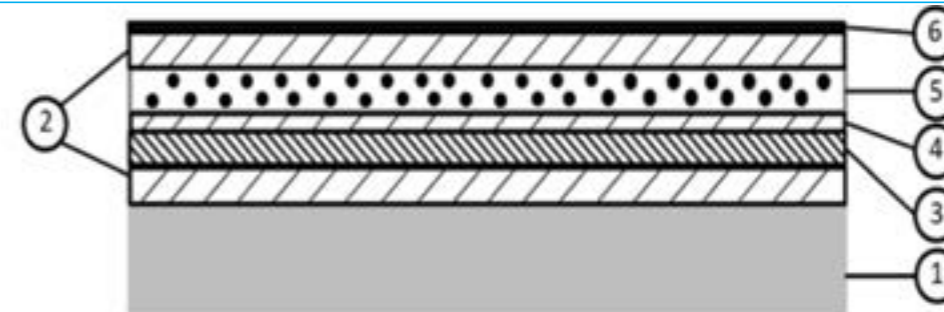
	Mine resistant ambush protected
	Armored cars
	Tactical law enforcement vehicle
	Fuel carrier
	All terrain armored vehicle
	Helicopter
	Battle tank
	Buried fuel tankers
	Fuel tanker carriers
	Fuel piping

DATASHEET

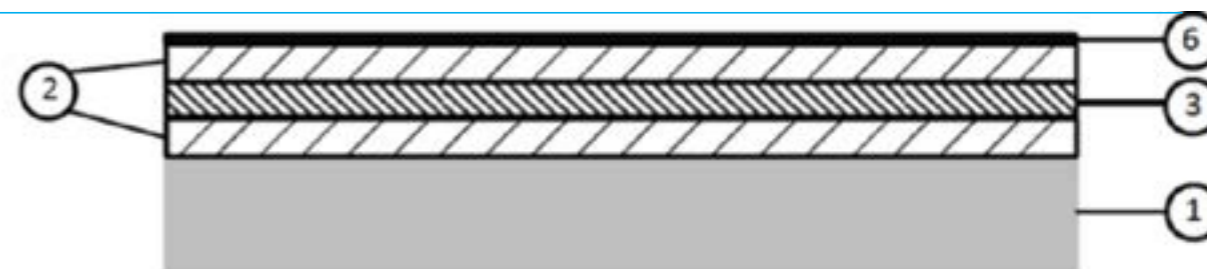
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|---|------------------------------|-------------------------------|
| 1 External surface of applied product (base) | 3 Solid polymer layer | 5 Liquid polymer layer |
| 2 Elastomer layer | 4 Separating layer | 6 External laminated |

Buyan™ is produced and applied in two versions:

- 1** BUYAN I is composed from composite materials and produce as a sheet. The sheets are adhered to the surface using vacuum. The required thickness of the BUYAN I is around 15 mm. BUYAN I is good choice for the gas storage vessels.



- 2** BUYAN II components are sprayed on the surface and cured in couple of second. The required thickness of the BUYAN II is around 10 mm. BUYAN II can be applied on any surface regardless of its materials and shape.



ASSEMBLY DETAILS

The BUYAN self-sealing coating is composed of several components. The first one is an elastic matrix that keeps all the elements of the coating together with. This elastic matrix adheres to the surface and decreases the size of the hole on the surface. The next component is the polymers that are placed inside the elastic matrix. The polymers decrease the leakage flow rate. The process of assembly is simple bonding process with vacuum bonding and spray.



Assembly Details:



Step 1

Degreasing the tank
(and sanding if necessary)



Step 2

First step coating



Step 3

Verification of the design



Step 4

Bonding the self-sealing
protection



Step 5

Vacuum processing for
gluing assembly



Step 6

Second step coating



Step 7

Finishing, control &
adjustment

Assembly 1 (Aluminum tanker 7000L):



Assembly 2 (Aluminum fuel tank of 300L):



Assembly 3 (Aluminum fuel tank 20L):

