


BALLISTIC POLYMER MATERIAL

BPM



"your safety is our first priority"

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GENERAL PROPERTIES

FAST CURING

- ready to use within 24 hours of application

SEAMLESS COATING

- provides a seamless coating application

EASY APPLICATION

- Applicable by spray or roller brush
- Customized solutions

HIGH STRENGTH

- High mechanical resistance against any kind of attacks

CHEMICAL RESISTANCE

- Resistant to all kinds of chemical attack

CORROSION RESISTANCE

- Resistant to all kinds of corrosion attack

ABRASION RESISTANCE

- Resistant to all kinds of abrasion attack

USAGE AREAS

BUILDINGS

- Strengthening military posts, watch towers and buildings

CONTAINERS

- Strengthening housing containers,

MILITARY EQUIPMENT

- Armour vehicles
- Armored panels
- Bulletproof vest
- Helmets

TANKS

- Liner for fuel tanks

PIPELINES

- Liner for oil pipelines

STORAGES

- Strengthening ammunition magazine storage

BPM is a two-component, highly reactive flexible pure polyuria spray coating material formed by the reaction of the isocyanate based prepolymer and amine based resin mixture.

Specially designed ballistic polymer with its unique combination of hard and soft segments in its polymeric structure, distributes and absorbs the kinetic energy in its own structure and protects the coated area from blast effect and small arms fire.



TECHNICAL PROPERTIES

PROPERTY	RESULTS	METHOD	UNIT
APPLICATION	BALLISTIC PROTECTION	N/A	N/A
APPLICATION METHOD	SPRAYING/ROLLER BRUSH	N/A	N/A
100 % MODULUS	5-6 M/mm ²	ASTM D 412	N/mm ² (Mpa)
TEAR STRENGTH	30-55 N/mm	ASTM D 624	N/mm
TENSILE STRENGTH	15-20 N/mm ²	ASTM D 412	N/mm ² (Mpa)
ELONGATION	500-600 %	ASTM D 412	%
HARDNESS	90-100 Shore A	DIN53505	SHOREA
GEL TIME	3-5 sec	IN HOUSE	SECOND
TACK-FREE	13-15 sec	IN HOUSE	SECOND

TEST RESULTS

BLAST TEST TARGET

#	Target Type	Quantity	Target Property
1	Walls	11 pieces	Reinforced Concrete
			Brick
			Briquette
			Rock and stone
2	Container	2 pieces	Steel Plate
3	Fuel Tank	2 pieces	2 mm Steel
4	Armored Vehicle	1 piece	APC

REFERENCES & EXPLOSIVE TYPES

- References
- AASTP-1 Edition 1 Manual of NATO Safety Principles For The Storage of Military Ammunition and Explosives
 - 60A-1-1-4 Technical Manual 24 Explosive Ordnance Disposal Procedures Protection Of Personnel & Property
 - Turkish Armed Forces Engineering Training Center Experiences

- Explosive Charges
- TNT
 - Tetrytol



SHOOTING TEST TARGER

#	Target Type	Quantity	Target Property
1	Walls	16 pieces	Rock and stone
			Brick
2	Container	2 piece	Shipping Container, Steel Plate
			Prefabricated Housing Container
3	Fuel Tank	3 pieces	2 mm Steel Plate
4	Armored Vehicle	1 pieces	APC
5	Concrete Sentry Box	2 pieces	Reinforced Concrete

SHOOTING TEST WEAPON / AMMUNITION TYPES

#	Weapon/Ammunition Types	Range
1	RPG-7 A/T	100 m
2	40 mm Projectile	50 m
3	Hand Greandes	Adjusting
4	Claymore Mine AP	1.5 m
5	Light Wepons	Pistol: 25 m
		Mg3/G3 : 200 m



NORMAL



**WITH
BPM**



Wall Type	:	Reinforced concrete, brick, briquette, rock and stone
Dimensions	:	300x200x30
Exp Type	:	TNT ve Tetrytol
Exp Quantity	:	0,450-6,450 kg
Distance	:	0-90 cm

RESULT WALL



NORMAL



**WITH
BPM**



RESULT CONTANIER

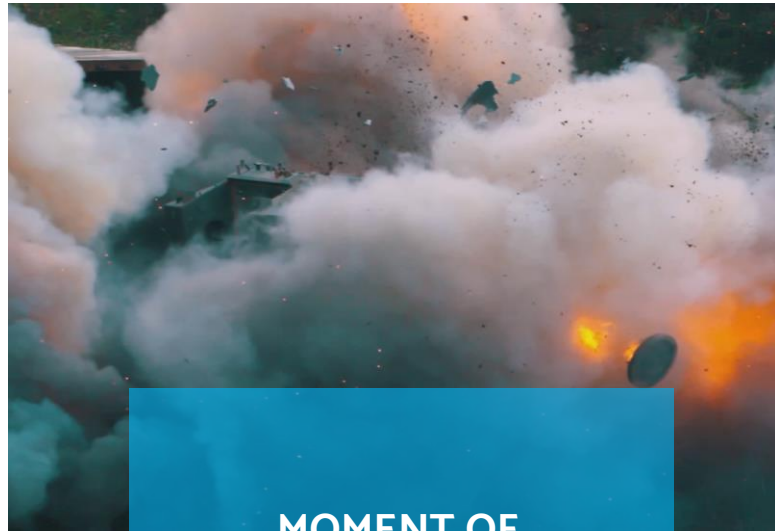
Container Type : ISO 20 ft
Exp Type : TNT
Exp Quantity : 1,8 kg
Distance : 50 cm



BEFORE



AFTER



MOMENT OF
DETONATION

RESULT ARMOURRED
VEHICLE

Vehicle Type : APC
Exp Type : TNT
Exp Quantity : 9,9 kg
Distance : 40 cm



NORMAL



WITH
BPM

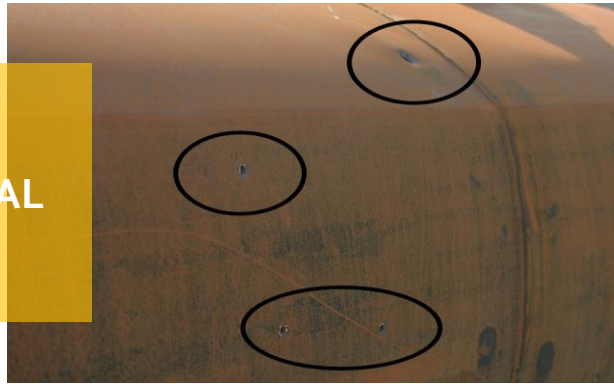
Tank Type	:	Steel, 2 mm
Capacity	:	2,5 tons
Exp Type	:	TNT
Exp Quantity	:	0,450 kg
Distance	:	20 cm

RESULT FUEL TANK

RESULT FUEL TANK



NORMAL



WITH
BPM

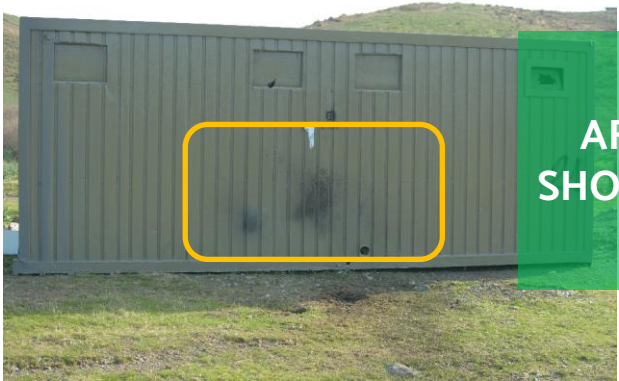


Tank Type	:	Steel, 2 mm
Capacity	:	2 tons
Weapon/Ammo Type	:	MG-3
Range	:	200 m

RESULT PREFABRIC HOUSE CONTAINER



BEFORE
SHOOTING



AFTER
SHOOTING

Container Type	:	Housing, made of prefabric material
Weapon/Ammo Type:		40 mm Projectile
Range	:	50 m

RESULT RPG-07



NORMAL



WITH
BPM

Weapon/Ammo Type : RPG-7
Range : 100 m

GENERAL EVALUATION



BLAST TEST

Blast tests have found that it provides **100% protection** against walls, containers, fuel tanks and armored vehicles.



SHOOTING TEST


Against hand grenades, claymore A/P mine, 40 mm projectile **provides 100% protection** against all targets,

Maintains building integrity on the walls against RPG shots and provides great protection by preventing fragmentation effect.

Against RPGs , it has been found to provide protection by interfering with the fragmentation of the armored vehicle.

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