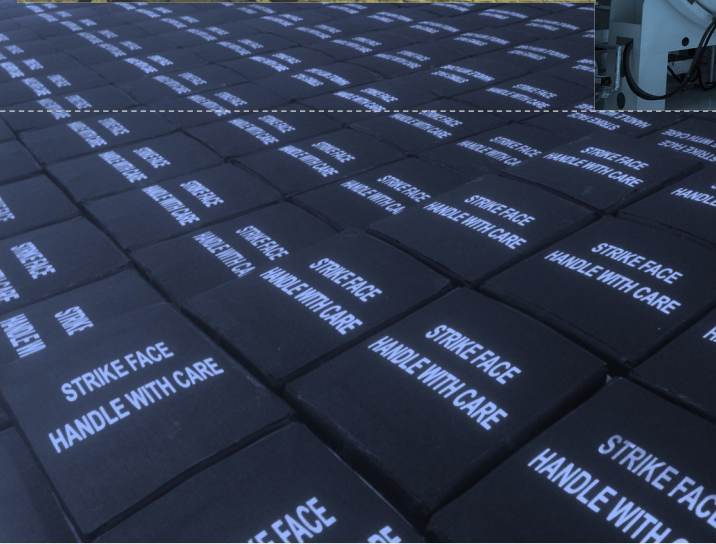


SAFE BACK HOME™

ADVANCED CERAMIC ARMOR SOLUTIONS



- *Ballistic Ceramics*
- *Body Armor Plates*



We, as KIM, are specialized in manufacturing high technology composite and ceramic materials in its 8,000 m2 facility located in Kayseri, Turkey.

With our custom technology and dedicated R&D, we are able to produce versatile armor solutions for the most stringent application conditions at the highest and most sustainable quality standards available in the market

Our technology offers many advantages over conventional materials and competitor solutions. Our specially formulated ceramic armor materials provide:

- Low weight
- High hardness
- Controlled, uniform microstructure
- Dimensional stability over wide temperature range
- Compatibility for use in finished armor systems

with proven ballistic performance for National Institute of Justice (N.I.J.) and international design standards.

Contact

KIM Technologies

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Our E-mail Addresses

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Laboratory

Services: lab.services@kimtechnologies.com.tr

After Sales: customercare@kimtechnologies.com.tr

Accounting : finance@kimtechnologies.com.tr

Procurement: procurement@kimtechnologies.com.tr

Human Resources: hr@kimtechnologies.com.tr

For Other Issues: contact@kimtechnologies.com.tr



Superior Reliability Infinite Varieties



Environmental Coating
(Polyurethane, Cordura etc.)

Various Composite Layers
(UHMWPE, Aramid, Carbon etc.)

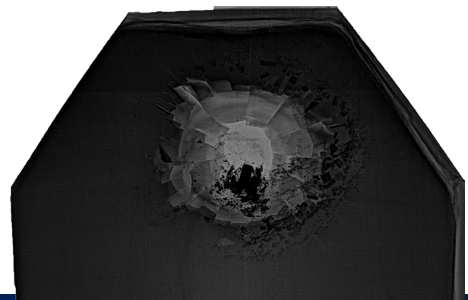
Transition Layer

Advanced Ceramic Layer
(Al₂O₃, B₄C, Si₃N₄, SiC etc.)

Spall Cover

Environmental Coating

Our diversified and completely traceable ceramic manufacturing capability allows to serve our customers with nearly endless solutions based on technical, performance and budgetary criteria's. With our in-house ballistic test center, we are ready to support our customers with any development project or requirement



Flexibility

Design



All KIM products, are fully compliant with NIJ standards and have been re-tested numerous times.

Besides all KIM products are furthermore complaint with MIL-STD-810 Standards for temperature cycling, moisture, liquid penetration, vibration and low/high temperature criterias.

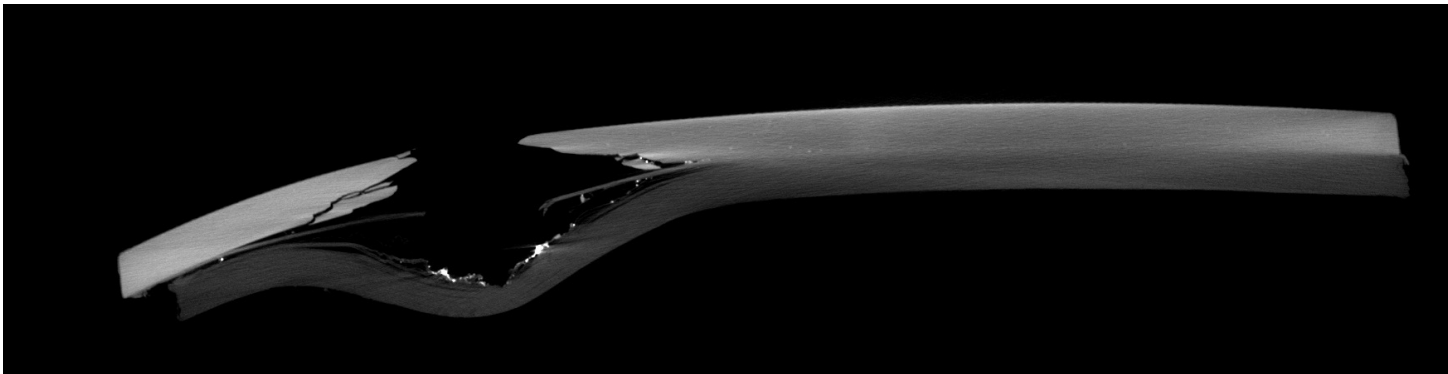
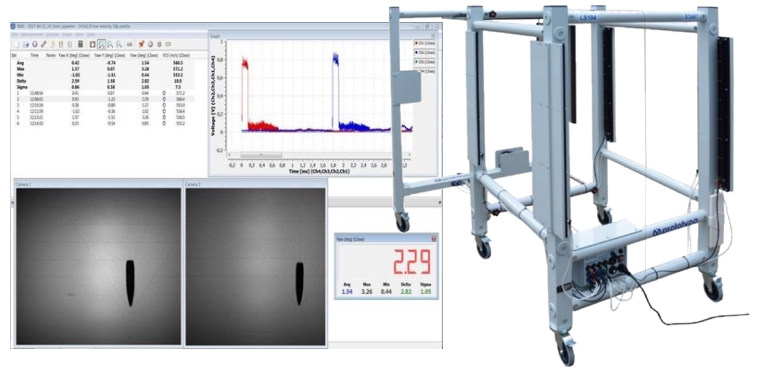
Full detailed test results can be provided upon request



Our Products are Specifically Designed for NIJ Level IV (7.62 x 63 AP @ 878 m/s)

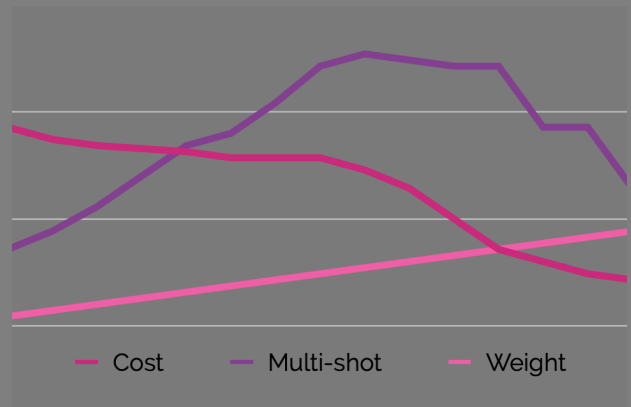
But also tested for various special threats such as

- 7.62x54R LPS
- 7.62x51 M80
- 5.56x45 M855
- 7.62x39 API

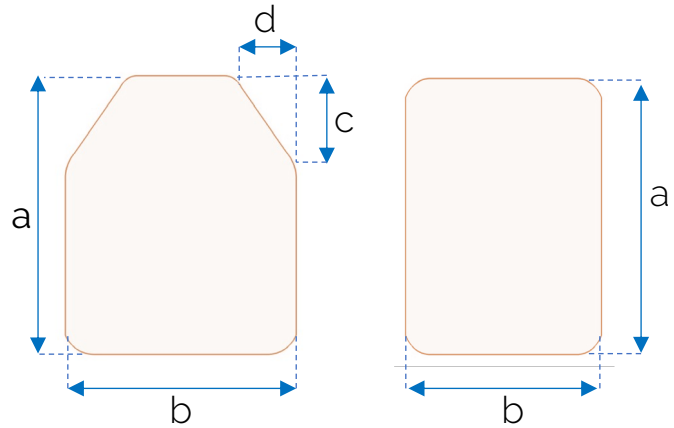


Our wide range of ceramic products allows multiple solutions for the same threat level.

For example for 7.62x63mm M2AP (NIJ Level IV) various designs are available, each with its own targeted advantages such as multiple shot capability, cost, weight etc.



A wide range of dimensions and curvatures are available upon request. Please contact sales@kimtechnologies.com.tr for immediate response and support.



Widely used plates (all standalone) are provided below for reference



American Standards

Size A (Inch.)	Size B (Inch.)	Size C (Inch.)	Size D (Inch.)	Curvature	Coating	Typical Weight (lbs)
8.8	11.8	2.1	3.1	Multicurve (SAPI/ESAPI)	Fabric / PU	3.55
10.0	12.0	2.6	2.7	Multicurve (SAPI/ESAPI)	Fabric / PU	4.17
11.0	14.0	2.6	3.6	Multicurve (SAPI/ESAPI)	Fabric / PU	5.35
6.0	8.0	0.5	0.5	Single Curve	Fabric / PU	1.70
10.0	12.0	0.5	0.5	Single Curve	Fabric / PU	4.17

All dimensions are $\pm 0.35"$, all weights are ± 0.50 lbs

European Standards

Size A (cm)	Size B (cm)	Size C (cm)	Size D (cm)	Curvature	Coating	Typical Weight (kg)
22.2	29.8	5.2	7.8	Multicurve (SAPI/ESAPI)	Fabric / PU	1.60
25.4	30.5	6.6	6.9	Multicurve (SAPI/ESAPI)	Fabric / PU	1.90
27.9	35.6	6.7	9.2	Multicurve (SAPI/ESAPI)	Fabric / PU	2.40
15.2	20.3	1.3	1.3	Single Curve	Fabric / PU	0.77
25.4	30.5	1.3	1.3	Single Curve	Fabric / PU	2.00

All dimensions are ± 0.9 cm, all weights are ± 0.22 kg

New Generation Of Ceramic Materials

Typical Physical and Mechanical Features of Alumina Armor Plates

Model Name	Unit	Value
Purity	-	>%99
Color	-	Ivory
Intensity	g/cm ³	>3,85
Tensile Force	MPa	280
Cell Size	µm	4
Bending Strength	MPa	380
Elastic Modulus	GPa	370
Poisson Rate	-	0,22
Hardness	HV2	1700

Typical Physical and Mechanical Features of Boron Carbide Armor Plates

Model Name	Unit	Value
Purity	-	>99
Color	-	Black
Intensity	g/cm ³	2,5
Young Module	GPa	380
Cell Size	µm	5
Bending Strength	MPa	280
Tensile Strength	Mpa.m ^{1/2}	2,5 - 3,5
Elastic Modulus	GPa	460
Hardness	HV2	3200

Typical Physical and Mechanical Features of Silicon Carbide Armor Plates

Model Name	Unit	Value
Purity	-	>99
Color	-	Grey
Intensity	g/cm ³	3,2
Cell Size	µm	3
Bending Strength	MPa	
Tensile Strength	Mpa.m ^{1/2}	3,5 - 4,1
Elastic Modulus	GPa	400
Hardness	HV2	2400

Typical Physical and Mechanical Features of RB Boron Carbide Armor Plates

Model Name	Unit	Value
Color	-	Grey
Intensity	g/cm ³	2,50-2,60
Bending Strength	MPa	280
Strength Tensile	(Mpa.m ^{1/2})	5
Hardness	HV2	2800
Average Cell Size	µm	40-45
Compressive Strength	Mpa	2900



Ballistic Performance of Various Composite-Ceramic Solutions vs. Ballistic Armor Steel

