

METECH DOORS

BLAST, BULLET, ACOUSTIC, MARINE, FIRE, & SHUTTER
[SIRIM . BS . UL . NATA . PSB . IMO . DNV]

An ISO 9001: 2008 Certified Company

THE METAL DOOR

Specialist *since 1989*



- ▶ BLAST RESISTANT WINDOW / DOOR [SWING/SLIDING]
- ▶ BULLET PROOF WINDOW / DOOR [SWING/SLIDING]
- ▶ MARINE DOOR [IMO A60 TYPE]
- ▶ ACOUSTIC / CLEAN ROOM & WATER TIGHT DOOR
- ▶ FIRE DOOR [UP TO 4 HOUR RATING]
- ▶ FIRE SHUTTER [UP TO 4 HOUR RATING]
- ▶ EXPLOSION PROOF SHUTTER
- ▶ HIGH SPEED SHUTTER

SAPERATE CATALOGUE AVAILABLE

ABOUT OUR COMPANY & DOORS

METECH KENZAI SDN. BHD. (180881-U) Established in 1989 from a Joint Venture with SANWA Shutter Corp, Japan, (the world's largest manufacturer of steel doors) and **SIN KEAN BOON Group Berhad**. Today the company has now become a wholly owned subsidiary of SKB CAPITAL GROUP.

With a team of skillfully trained engineers and technicians coupled with our sophisticated 6500 m² manufacturing plant located in Penang, Malaysia. Our factory is fully equipped with the state of the art manufacturing equipment to cater for high capacity production.

Our highly focused R&D facilities enable us to manufacture door products with some of the most stringent specifications to meet the security and protection needs for the most demanding industries.

METECH KENZAI also produces a full range of Doors and Shutter systems for the rapid growing demand of a vast range of industries both locally in Malaysia and also abroad. We believe that with a strong customer and sales network, we can continue to thrive to become a major manufacturer of specialized door systems in Malaysia.



BLAST RESISTANT STEEL DOOR

Basic Specification

1 PRESSURE

- A. Using Panic Latch Set (maximum) ~21KN/m² Positive
~7KN/m² Negative
- B. Gremon Bolt Set (maximum) ~50KN/m² Positive
~15KN/m² Negative

2 DOOR LEAF

- External: Steel up to 6.0mm thickness
Internal: Steel up to 2.3mm thickness
Door leaf in fill with Rockwool.

3 FRAME & REINFORCING MEMBERS FOR LEAF

- H-Section or 1st Grade High Carbon C-Channel with solid bar,
depending on the specified design blast pressure.

4 DEPTH OF DOOR LEAF & FRAME

- Door Leaf: Up to 87mm
Frame: Up to 150mm

5 HARDWARE

- * SUS Butt Hinges
- * SUS Lock set: Gremon Lock or Panic Latch set.
- * Pull Handle: SUS Steel.
- * Air-Tight Rubber : Chloroprene Rubber.
- * Door Closer; Door Stop/holder (optional).

6 ANTI-RUST PRIMER COAT

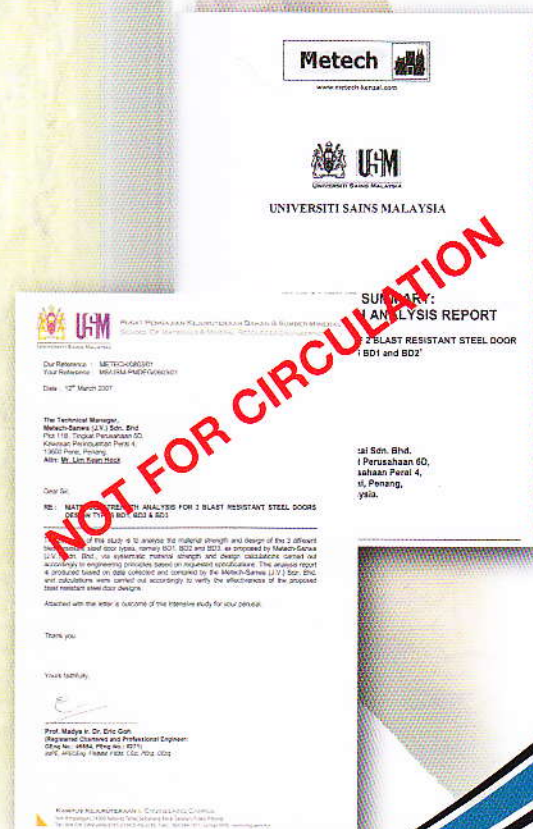
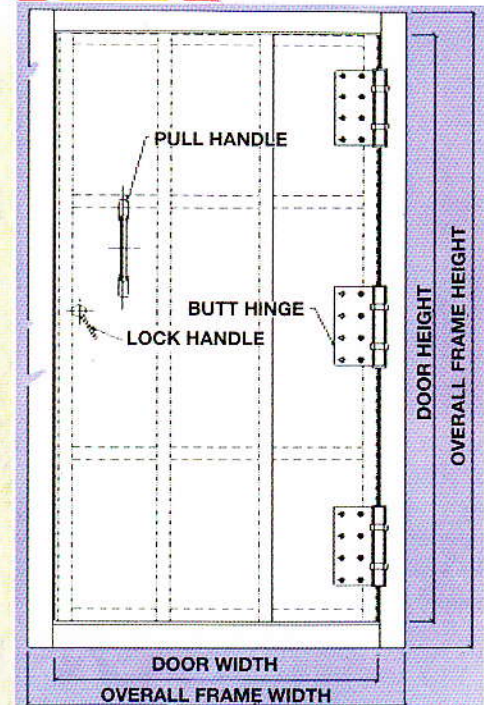
- * Air dry synthetic resin based primer coat,

7 FINISHING PAINT & WORK

- * Provided by third party suppliers

8 INSTALLATION

- * The door frame to be welded to heavy duty structure beams or infill mortar to solid concrete wall.



BLAST RESISTANT STEEL DOOR

Made suitable for :

- ✓ Military Bunker
- ✓ Ammunition Store & Areas
- ✓ Chemical Plants
- ✓ Control Buildings
- ✓ High Risk Explosion Plants
- ✓ Oil and Gas Industries

Design Specification:

- ✓ To meet specifications of different blast pressures of up to a maximum of 100kn/m^2
- ✓ Material strength of the blast resistant doors is being analyzed by University Science Malaysia.

Advantages of Blast Resistant Steel Door

- ✓ Provides solid and durable door set ~ with an extremely heavy-duty frame and door panel construction together with the strong butt hinges
- ✓ Provides extra safe working environment.
- ✓ Provides an additional advantage to normal standard door as it can also be an effective fire barrier.

We also manufacture explosive proof shutter doors



RECENTLY COMPLETED PROJECTS

Dung Quat Polyporpylene, Vietnam - Blast Proof Door 30kn/m²

Exxonmobile, Singapore - Blast Proof Door 52 Pa

Brunei Shell Petroleum, Brunei - Fire Proof Door/Marine Door

BLNG Power Plant, Brunei - Blast Proof Door 11 Pa to 13 Pa

Chevron SMP, Singapore - Blast Proof Door 10kn/m²

Singapore Olefine, Singapore - Blast Proof Door 15kn/m²

Polyplastics Plant, Kuantan - Blast Proof Door 10kn/m²

Isotron Sterilization Malaysia S/B - Blast Proof Door 6kn/m²

P.L.G.P.T. Tentera Darat Fasa 2, Gemas - Blast Proof Door 50kn/m²

Perumahan Pasukan Gerakan Am Project, Sarawak - Blast Proof Door 30kn/m²

Kuantan Police HQ, Kuantan - Blast Proof Door 10kn/m²

IPD dan Kuarters PDRM, Sarawak - Blast Proof Door 30kn/m²

Titan Petchem Pasir Gudang, Johor - Blast Proof Door 52 kN/m²

Melaka Petronas Sungai Udang Refinery - Fire Rated Door/Special Door

LEGO Land Bullet Proof Doors - Level 4

Istana Terrenganu - Fire Rated Door/Special Door

Petronas Carigali S/B, 23 SKO and SBO Offshore Platforms - Fire Rated Door/Marine Door

Brunei Shell Petroleum Project - Fired Rated Door/Marine Door

Exxon Mobil Parallel Train Project, Singapore - Blast Proof Door

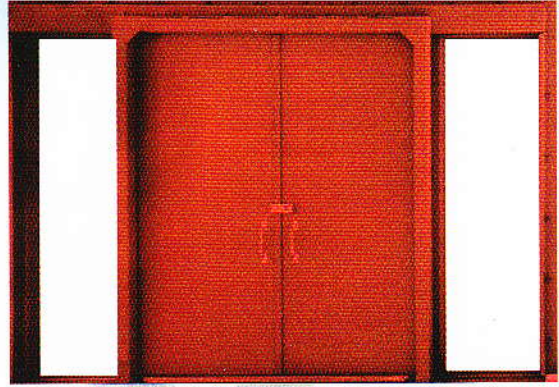
Infineon Project (Package C18) - Blast Proof Door/Fire Door

And many other projects...

BULLET PROOF DOOR

We provide

- ▶ Swing Type
- ▶ Sliding Type
- ▶ Door & Window



Double Sliding Door

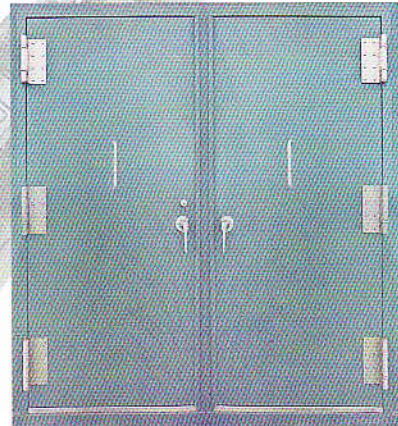
Bullet Resistant Door

Definition barrier and extra security to:

- ✓ Power Stations & Plants
- ✓ Industrial Complexes
- ✓ Military Bases
- ✓ Security & High Risk Areas

Design Specification:

- ✓ To meet specifications of different bullets
Refer from level 13, 4 and 8
- ✓ Metech offer full consultation facilities and all doors can be either hinged or sliding, single or double leaf, in sizes to suit individual requirement.
- ✓ Manufactured in mild steel or stainless steel to suit the criteria specified by the client.
- ✓ Material strength of the bullet resistance being analyzed by University Science Malaysia.



Double Swing Door

Advantages of Steel Door

- ✓ Provides solid and durable door set ~ with an extremely heavy-duty frame and door panel construction together with the strong butt hinges.
- ✓ Provides extra safe working environment.
- ✓ Provides an additional advantage to normal standard door as it can also be an effective fire barrier.



Single Swing Door

Nothing Protects Life Like A Steel Door

U L Standard 752

The laboratory is accredited by the National Association of Testing Authorities, Australia.

Ballistic and Mechanical Testing Passed Level from NATA



Level	Type of Weapon	Diameter	Bullet	Weight (gm)	Distance	Shooting Time
3	.44 Magnum	44	LSW GC	240	4.6m	3
4	30,06 Rifle	30.06	LSP	180	4.6m	1
8	7.62 M14	7.62mm X 51	LC/FMJ Mil	150	4.6m	

CERTIFICATIONS



Ballistic and Mechanical Testing

LABORATORY TEST REPORT
BULLET-RESISTANT PANELS AND ELEMENTS
AS/NZS 2343:1997

Date rec'd: 1/07/2005
Client: Rob Turner
Comp File: SQA/2343/000000

Job No: 88925
Test Date: 1/07/2005
Client: SQA/2343/000000
Report No: 88925
Page No: 1 of 1

SAMPLE
Sample No./ID: See below
Manufacturer: B&W/Gaucha
Caliber: Not supplied
Batch No.: Not supplied
Serial No.: Not supplied
Size: 457/23mm
Protection Level: 457/23mm
Material Type: Galvalume
Description: Galvalume
Date of Manufacture: Not supplied

BALLISTIC THREAT
Caliber: .44 Magnum
Projectile Weight: 240 grains L&M/250
Powder Type: Federal PMC
Barrel Serial No.: R0810-1-Z
Barrel Length: 8 inch
Obliquity: Zero degrees
Specification: UK 752 Level 3 Part 1

RANGE
Muzzle to Target: No of Shots: 4
Screen Spacing: 4
Muzzle to Gun: 10 metres

TEST CONDITIONS
Temperature: 13.0 C
Relative Humidity: 85%
Weathering: N/A

WITNESS MATERIAL SPECIFICATIONS
Witness Material Used: 150 gsm
Distance from Witness to Target: 450mm
Visual Examination Light Source: 80 Watt Light Bulb

TEST PERSONNEL
Date Recorder: Cameron
Gunner: Cameron
Witness: Cameron
Motion Monitor: Rob Turner

Sample Number	Sample Thickness	Impact Angle	Shot No.	Velocity m/s	Chromo 1	Chromo 2	Average Velocity m/s	Holes	Panel Penet.	Witness Card Pen.	Spalling	Pass/Fail
882-1	5.07mm	Zero	1	457.7	457.7	457.7	457.7	No	No	No	No	Pass
			2	454.5	454.5	454.5	No	No	No	No	Pass	
			3	454.6	454.6	454.6	No	No	No	No	Pass	
882-2	5.07mm	Zero	1	457.7	457.7	457.7	457.7	No	No	No	No	Pass
			2	454.5	454.5	454.5	No	No	No	No	Pass	
			3	454.2	454.2	454.2	No	No	No	No	Pass	
882-3	5.07mm	Zero	1	457.7	457.7	457.7	457.7	No	No	No	No	Pass
			2	454.5	454.5	454.5	No	No	No	No	Pass	
			3	454.2	454.2	454.2	No	No	No	No	Pass	

Tested on behalf of: Cameron (Approved signatory)

Ballistic and Mechanical Testing

LABORATORY TEST REPORT
BULLET-RESISTANT PANELS AND ELEMENTS
AS/NZS 2343:1997

Date rec'd: 7/05/2005
Client: ANS/2343
Comp File: ANS/2343/000000

Job No: 88226
Test Date: 7/05/2005
Client: ANS/2343/000000
Report No: 88226
Page No: 1 of 1

SAMPLE
Sample No./ID: See table
Manufacturer: B&W/Gaucha
Caliber: 7.62 x 51
Model No.: BPWL6
Batch No.: Not supplied
Serial No.: Not supplied
Size: 590/30mm
Protection Level: 590/30mm
Material Type: Steel
Description: Window Frames Model Number BPWL6

BALLISTIC THREAT
Projectile Weight: 144 gm NATO
Powder Type: AR 2208
Barrel Serial No.: R0813-11
Barrel Length: 28 inch
Obliquity: Zero degrees
Specification: UK 752 Level 3 Part 1

RANGE
Muzzle to Target: 10 metres
Screen Spacing: 4 metres
Muzzle to Gun: 2.0 metres

TEST CONDITIONS
Temperature: 19 C
Relative Humidity: 45%
Weathering: N/A

WITNESS MATERIAL SPECIFICATIONS
Witness Material Used: 0.125 BRK cardboard
Distance from Witness to Target: 450mm
Visual Examination Light Source: 80 Watt Light Bulb

TEST PERSONNEL
Date Recorder: Cameron
Gunner: Cameron
Witness: Cameron
Motion Monitor: Motion Monitor

Sample Number	Sample Thickness	Impact Angle	Shot No.	Velocity m/s	Chromo 1	Chromo 2	Average Velocity m/s	Holes	Panel Penet.	Witness Card Pen.	Spalling	Pass/Fail
882-8	15mm	Zero	1	854.4	855.0	854.7	854.7	No	No	No	No	Pass
			2	862.5	862.2	862.3	No	No	No	No	Pass	
			3	857.4	856.0	857.7	No	No	No	No	Pass	
			4	860.8	861.7	861.2	No	No	No	No	Pass	
			5	849.2	850.4	849.8	No	No	No	No	Pass	
882-11	15mm	Zero	1	862.0	862.8	862.4	862.4	No	No	No	No	Pass
			2	861.1	862.0	861.5	861.5	No	No	No	No	Pass
			3	867.9	863.5	865.7	862.7	No	No	No	No	Pass
			4	863.8	864.7	864.3	864.3	No	No	No	No	Pass
			5	863.8	864.4	864.1	864.1	No	No	No	No	Pass
882-17	15mm	Zero	1	862.0	863.8	862.4	862.4	No	No	No	No	Pass
			2	857.1	857.4	857.3	857.3	No	No	No	No	Pass
			3	861.7	862.3	862.0	862.0	No	No	No	No	Pass
			4	854.7	855.3	855.0	855.0	No	No	No	No	Pass
			5	855.9	856.0	855.9	855.9	No	No	No	No	Pass

Tested on behalf of: Cameron (Approved signatory)

Ballistic and Mechanical Testing

LABORATORY TEST REPORT
BULLET-RESISTANT PANELS AND ELEMENTS
AS/NZS 2343:1997

Date rec'd: 7/05/2005
Client: ANS/2343
Comp File: ANS/2343/000000

Job No: 88926
Test Date: 7/05/2005
Client: ANS/2343/000000
Report No: 88926
Page No: 1 of 1

SAMPLE
Sample No./ID: See table
Manufacturer: B&W/Gaucha
Caliber: 7.62 x 51
Model No.: BPWL6
Batch No.: Not supplied
Serial No.: Not supplied
Size: 590/30mm
Protection Level: 590/30mm
Material Type: Steel
Description: Window Frames Model Number BPWL6

BALLISTIC THREAT
Projectile Weight: 144 gm NATO
Powder Type: AR 2208
Barrel Serial No.: R0813-11
Barrel Length: 28 inch
Obliquity: Zero degrees
Specification: UK 752 Level 3 - 7.62 x NATO

RANGE
Muzzle to Target: 10 metres
Screen Spacing: 4 metres
Muzzle to Gun: 2.0 metres

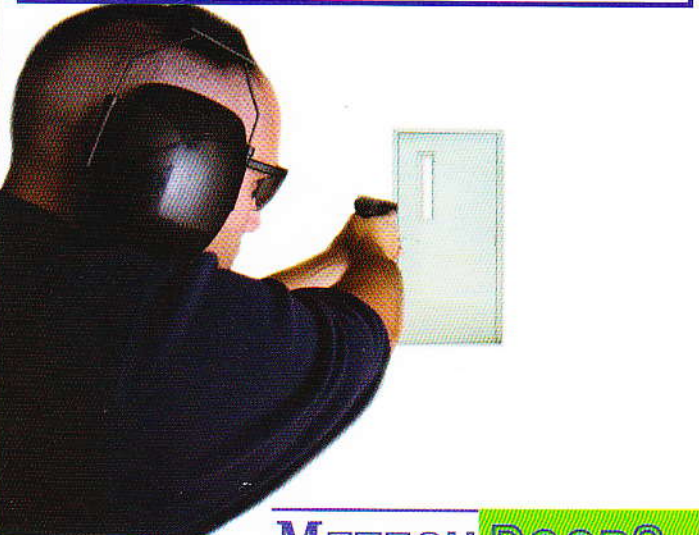
TEST CONDITIONS
Temperature: 19 C
Relative Humidity: 45%
Weathering: N/A

WITNESS MATERIAL SPECIFICATIONS
Witness Material Used: 0.125 BRK cardboard
Distance from Witness to Target: 450mm
Visual Examination Light Source: 80 Watt Light Bulb

TEST PERSONNEL
Date Recorder: Cameron
Gunner: Cameron
Witness: Cameron
Motion Monitor: Motion Monitor

Sample Number	Sample Thickness	Impact Angle	Shot No.	Velocity m/s	Chromo 1	Chromo 2	Average Velocity m/s	Holes	Panel Penet.	Witness Card Pen.	Spalling	Pass/Fail
882-8	15mm	Zero	1	854.4	855.0	854.7	854.7	No	No	No	No	Pass
			2	862.5	862.2	862.3	No	No	No	No	Pass	
			3	857.4	856.0	857.7	No	No	No	No	Pass	
			4	860.8	861.7	861.2	No	No	No	No	Pass	
			5	849.2	850.4	849.8	No	No	No	No	Pass	
882-11	15mm	Zero	1	862.0	862.8	862.4	862.4	No	No	No	No	Pass
			2	861.1	862.0	861.5	861.5	No	No	No	No	Pass
			3	867.9	863.5	865.7	862.7	No	No	No	No	Pass
			4	863.8	864.7	864.3	864.3	No	No	No	No	Pass
			5	863.8	864.4	864.1	864.1	No	No	No	No	Pass
882-17	15mm	Zero	1	862.0	863.8	862.4	862.4	No	No	No	No	Pass
			2	857.1	857.4	857.3	857.3	No	No	No	No	Pass
			3	861.7	862.3	862.0	862.0	No	No	No	No	Pass
			4	854.7	855.3	855.0	855.0	No	No	No	No	Pass
			5	855.9	856.0	855.9	855.9	No	No	No	No	Pass

Tested on behalf of: Cameron (Approved signatory)

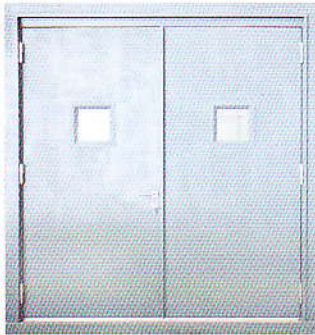
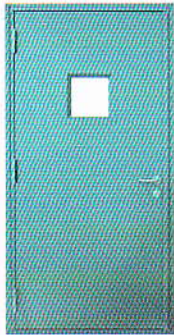
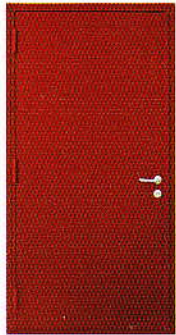


MARINE DOOR



A60 TYPE MARINE DOOR

International Maritime Organization (IMO) approved with endorsement by DET NORSKE VERITAS(DNV)



Single Leaf Doors

Double Leaf Doors

METECH DOORS

BLAST, BULLET, ACQUSTIC, MARINE FIRE & SHOOTER
ESTD IN: SINGAPORE, MALAYSIA, USA, UK, IMO, DNV

Manufacture Plant & Sales / Marketing office

Metech Kenzai Sdn. Bhd. (180881-U)

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