

Durasteel

Introducing Durasteel® Doors

Product Selector By Market Sector

	COMMERCIAL						LIGHT INDUSTRIAL						HEAVY INDUSTRIAL						SPECIAL APPLICATIONS							
PRODUCT TYPE	Cinema/Theatres	Retail units/shops	Shopping centres	Offices/Office blocks	Sport complexes	Sports stadiums/grounds	Hotels	Schools	Colleges/Universities	Airports	Underground stations	Tunnels	Police stations	Railways	Food processing	Storage units	Pharmaceutical	Telecom	Water authorities	Power stations	Power transmission	Petrochemical production	Petrochemical exploration	MOD	Tunnels	Prisons
Durafire DD 120			•	•			•			•			•	•		•			•						•	•
Durafire DD 240																				•	•	•	•	•	•	•
Durafire DD 240 Slider												•							•	•		•	•	•	•	•
Durafire DD 240 Trap			•			•	•	•		•	•	•		•				•	•	•	•				•	•
Durafire DD 120 Shutter										•	•				•	•	•	•	•			•	•	•		
Durafire DD 240 Shutter										•					•	•	•	•	•			•	•	•	•	•
Durasecure DD 3	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Durasecure DD 4										•			•					•	•	•	•	•	•	•	•	•
Durasecure DD 5																		•	•	•	•	•	•	•	•	•
Durasecure DD Trap	•	•	•		•		•		•	•	•	•	•				•	•	•	•	•	•	•	•	•	•
Durablast DBD																	•	•	•	•	•	•	•	•	•	•

See an example on opposite page.

Introducing Durasteel® Doors

Product Selector By Application

PRODUCT TYPE	FIRE RESISTANCE (Minutes)								SECURITY DOORS			BLAST RESISTANT Between 0.1 to 1.52 bar
	Single & Twin Integrity only				Single & Twin Integrity & Insulation				LPS 1175			
	60	90	120	240	60	90	120	240	3	4	5	
Durafire DD 120			●									
Durafire DD 240				●	●							
Durafire DD 240 Slider				●								
Durafire DD 240 Trap				●								
Durafire DD 120 Shutter			●									
Durafire DD 240 Shutter				●								
Durasure DD 3			●						●			
Durasure DD 4			●							●		
Durasure DD 5			●								●	
Durasure DD Trap			●						Enhanced			
Durablast DBD												●

An Example of Market Sector (Airport)

AREA	APPLICATION	PERFORMANCE REQUIREMENTS	PRODUCT
Baggage handling conveyors	Conveyors penetrating fire rated compartment walls and floors.	- Fire - Impact - Fail safe operation	Durafire DD Shutter
Check in desks	Doors to offices and other adjoining rooms off the main hall will require a fire performance equal to the compartment wall.	- Fire - Impact - Aesthetics	Durafire SD range
Baggage handling and storage areas	Doors from inside storage area to outside the building.	- Fire - Durability - Impact - Security	- Durafire DD - Durasure DD
Departure/Arrival halls	Doors to public facilities and transfer areas.	- Fire - Acoustic - Aesthetics	- Durafire SD - Durasound SD

Please note that this brochure does not cover all of the above door types. For further information, please consult Intumex Asia Pacific.

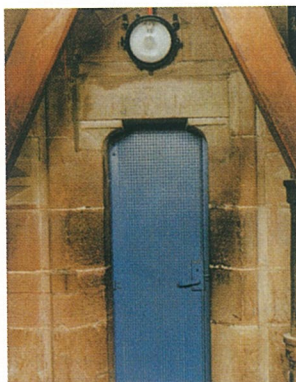
Durasteel

Durasteel® Doors Range

Bespoke Doorsets

Within the DD range of door systems there is no such thing as a standard size door. All doorsets are tailor made to suit each individual application based around one of our standard door specifications.

Intumex Durasteel® can provide specialist door solutions to meet the quality and performance requirements of almost any application. Whether a blast door for a chemical plant, a fire door for a cathedral or an acoustic door for a theatre, Durasteel® doors can provide a solution.



Durafire DD 120/240

Intumex Asia Pacific has conducted a wide range of fire resistance tests on a variety of sizes and configurations of hinged steel doorsets. The independent certification of these products ensures that the doorset will prevent the spread of fire from one compartment to another, reducing loss of property and ensuring safe emergency escape for personnel. The Durafire DD range of hinged products are certified to BS 476: Part 22: 1987 for up to 240 minutes integrity and to SOLAS and IMO standards.

The range covers single and double leaf constructions for internal and external uses. The unique design of the Durafire DD products enables great flexibility in manufacture, allowing almost any shape or size to be produced.

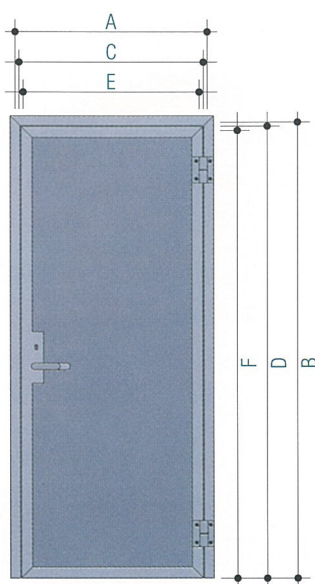
STANDARD SPECIFICATION

LEAF	Overall thickness:	28mm
	Material:	9.5mm thick Durasteel® sheet
	Joining construction:	Mitred and welded
FRAME	Overall frame width:	60mm (FR7 and FR11)
	Material:	60mm x 60mm x 6mm thick angle section
	Joining:	Mitred and welded joints or cleated constructions
	Type and configuration:	Single rebate or 3-sided frame
FINISH	Threshold plate:	70mm x 10mm thick MS plate (FR15)
	Frame and leaf:	Standard shop-applied zinc based primer, ready for site painting (P3).
IRONMONGERY	Leaf fitted with 3-way shootbolt mechanism, handle set and rose plates. 2 no. hook and ride hinges and central hinge keep per leaf.	
	Passive leaf on double leaf doorset is fitted with either face fixed tower bolts top and bottom or 2-way shootbolts.	
CERTIFICATION	BS 476: Part 22: 1987	

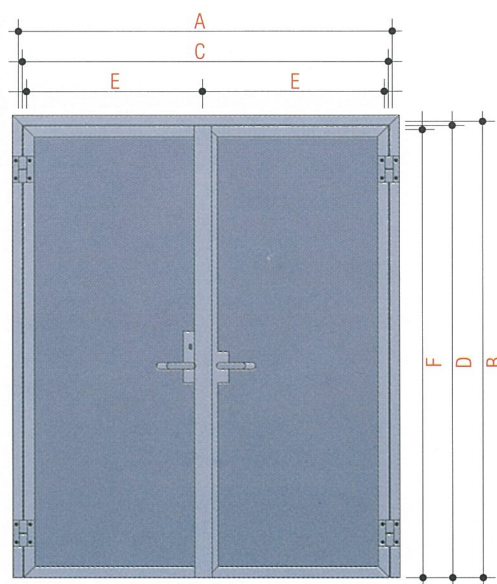


Durasteel® Doors Range

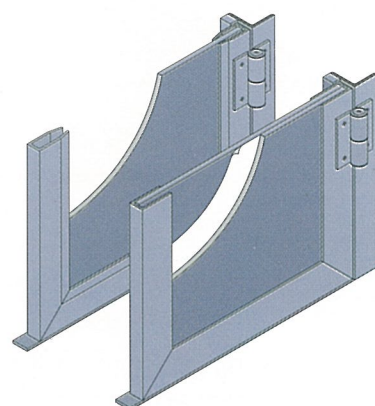
Durafire DD 120/240



SINGLE LEAF



DOUBLE LEAF



Back: DD 120
Front: DD 240

MEASUREMENTS

DIMENSIONAL DETAILS	REF.	SINGLE LEAF DOORSET	EXAMPLE CALCULATION	DOUBLE LEAF DOORSET	EXAMPLE CALCULATION
Structural opening width	A	A	900mm	A	1800mm
Structural opening height	B	B	2100mm	B	2100mm
Overall frame width	C	$(A - 8\text{mm}) = C$	892mm	$(A - 8\text{mm}) = C$	1792mm
Overall frame height	D	$(B - 6\text{mm}) = D$	2094mm	$(B - 6\text{mm}) = C$	2094mm
Door leaf width	E	$(A - 25\text{mm}) = E$	875mm	$(A - 30\text{mm})/2 = E$	885mm
Door leaf height	F	$(B - 35\text{mm}) = F$	2065mm	$(B - 35\text{mm}) = F$	2065mm

NOTE: For maximum leaf sizes and configurations, please refer to page 85: **Handling Terminology**. Calculations based on standard specification.

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Durasteel® Doors Range

Durafire DD 240 Slider



The Durafire DD 240 Slider has its principal application as movable sections of a Durasteel® fire protection system. The Durafire DD 240 Sliders are certified to BS 476: Part 22: 1987 for up to 240 minutes integrity and are ideally suited to medium and heavy duty industrial situations in power generation and industrial buildings.

One of the main benefits of these sliding doors is that they can be produced to much larger dimensions than conventional hinged doorsets, offering access to large plant and machinery etc, whilst retaining the specified fire performance of the compartment wall. These doorsets can be designed to incorporate a wicket door for personnel access. The unique design of the Durafire DD 240 Slider enables manufacture of a variety of configurations for both horizontal and vertical sliding in single and double leaf constructions.

STANDARD SPECIFICATION

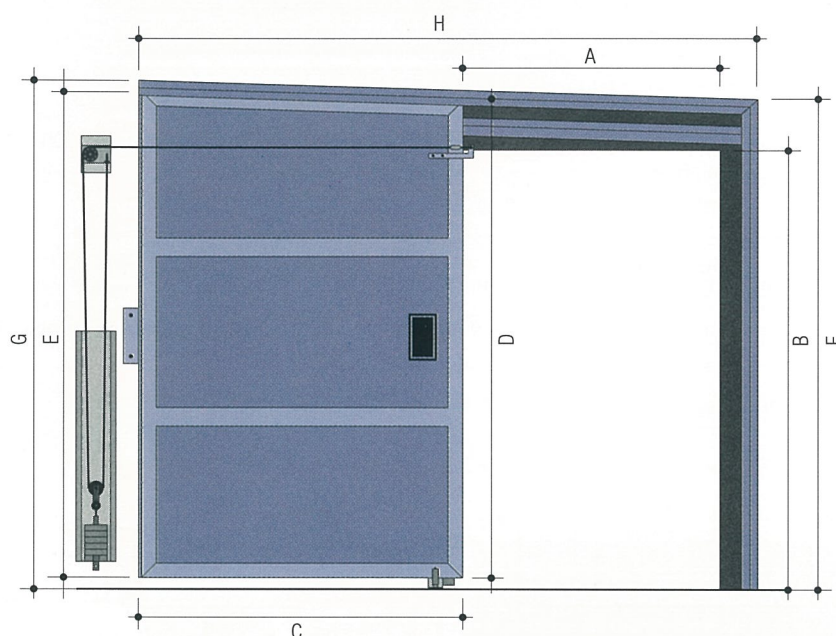
LEAF	Overall thickness:	28mm
	Material:	9.5mm thick Durasteel® sheet
	Joining construction:	Mitred and welded
FRAME	Overall frame width:	80mm
	Material:	80mm x 40mm x 80mm x 6mm thick zed section
	Joining:	Mitred and welded joints
	Threshold plate:	Not as standard
FINISH	Frame and leaf:	Standard shop-applied zinc based primer, ready for site painting (P3).
IRONMONGERY		Heavy duty mild steel track and rollers recessed handle and bottom guide roller. Standard weight counterbalance system and thermo-fusible link.
CERTIFICATION		BS 476: Part 22: 1987



The Durafire DD 240 Slider door range is supplied with a counterbalance system to ensure a controlled closure. If required, fusible links and electro-magnetic devices can be incorporated in the design to provide fail-safe operation. Automated operation can also be designed into the system to provide remote setting and re-setting. For details on specific operating requirements, refer to Intumex's Technical and Design Support Services Department.

Durasteel® Doors Range

Durafire DD 240 Slider



MEASUREMENTS

DIMENSIONAL DETAILS	REF.	SINGLE LEAF DOORSET	EXAMPLE CALCULATION
Structural opening width	A	A	920mm
Structural opening height	B	B	2100mm
Door leaf width	C	$(A + 340\text{mm}) = C$	1260mm
Door leaf leading edge height	D	$(B + 212\text{mm}) = D$	2312mm
Door leaf trailing edge height	E	$(C/30\text{mm}) + D = E$	2354mm
Frame leading edge height	F	$(B + 272\text{mm}) = F$	2372mm
Frame trailing edge height	G	$(H/30\text{mm}) + F = G$	2451mm
Frame length	H	$(2 \times A) + 536\text{mm} = H$	2376mm

NOTE: For maximum leaf sizes and configurations, please refer to [page 85: Handling Terminology](#). Calculations based on standard specification.

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Durasteel® Doors Range

Durafire DD 240 Trap

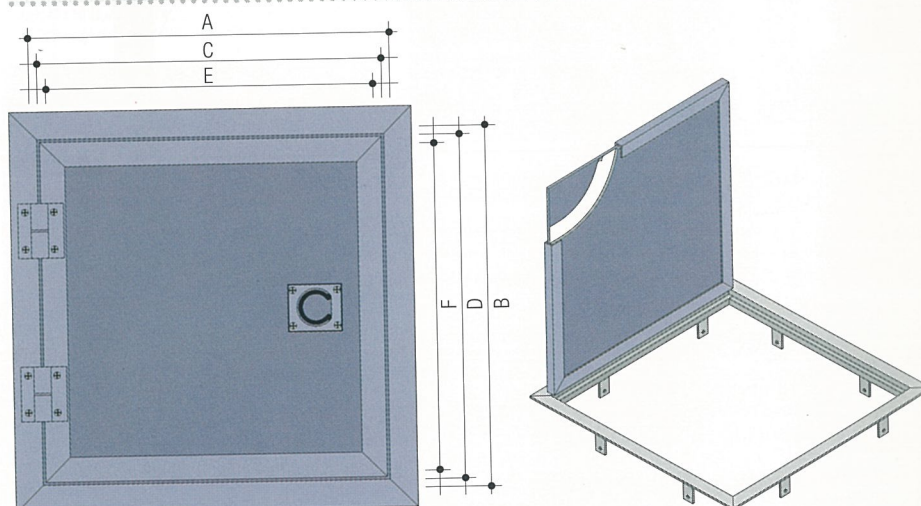


The unique design of the Durafire DD 240 Trap enables flexibility in manufacture allowing almost any shape or size to be produced. A range of configurations with single and multiple leaf constructions are available. The Durafire DD 240 Trap is certified to BS 476: Part 22: 1987 for up to 240 minutes integrity.

The Durafire DD 240 Trap can be supplied with standard ironmongery but the flexibility in design and manufacture allows for a range of options. Gas struts can be provided where controlled closure is required. Doors can also be designed to withstand light traffic loads and with a flush face and pivot hinge to avoid trip hazards.

STANDARD SPECIFICATION

LEAF	Overall thickness:	28mm
	Material:	9.5mm thick Durasteel® sheet
	Joining construction:	Mitred and welded
FRAME	Overall frame width:	60mm (FR7)
	Material:	60mm x 60mm x 6mm thick angle section
	Joining:	Mitred and welded joints
	Type and configuration:	Single rebate or 4-sided frame
FINISH	Frame and leaf:	Standard shop-applied zinc based primer, ready for site painting (P3).
IRONMONGERY	2 no. hook and ride hinges per leaf and recessed pull handle.	
CERTIFICATION	BS 476: Part 22: 1987	



MEASUREMENTS

DIMENSIONAL DETAILS	REF.	SINGLE LEAF DOORSET	EXAMPLE CALCULATION
Structural opening width	A	A	900mm
Structural opening length	B	B	1000mm
Overall frame width	C	$(A - 8\text{mm}) = C$	892mm
Overall frame length	D	$(B - 8\text{mm}) = D$	992mm
Door leaf width	E	$(A - 25\text{mm}) = E$	875mm
Door leaf length	F	$(B - 26\text{mm}) = F$	974mm

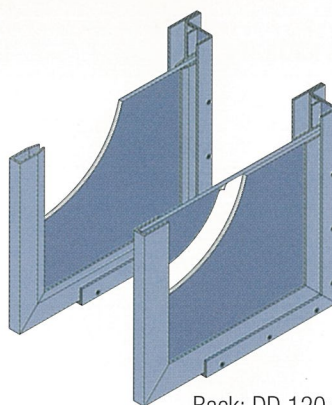
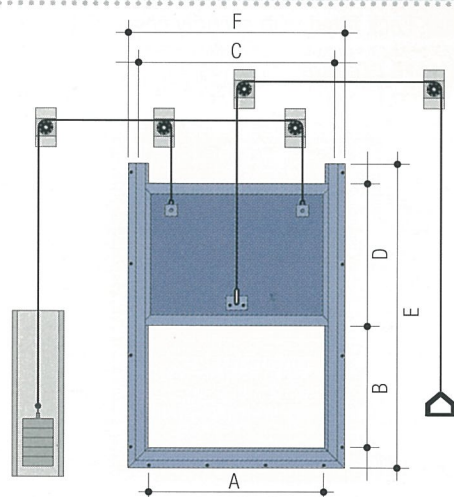
NOTE: For maximum leaf sizes, configurations and options please refer to Intumex Asia Pacific. Calculations based on standard specification.

Durasteel® Doors Range

Durafire DD 120 & 240 Shutter

STANDARD SPECIFICATION

LEAF	Overall thickness:	12mm (DD 120) and 28mm (DD 240)
	Material:	9.5mm thick Durasteel® sheet
	Joining construction:	Mitred and welded
FRAME	Overall frame width:	80mm
	Material:	45mm x 80mm x 45mm x 6mm thick zed section or 25mm x 15mm x 3mm thick angle section
	Joining:	Mitred and welded joints
FINISH	Type and configuration:	3-sided frame with trailing edge flame trap
	Frame and leaf:	Standard shop-applied zinc based primer, ready for site painting (P3).
IRONMONGERY		Standard weight counterbalance system, heavy duty mild steel track.
CERTIFICATION		BS 476: Part 22: 1987



Back: DD 120 Shutter
Front: DD 240 Shutter

MEASUREMENTS

DIMENSIONAL DETAILS	REF.	SINGLE LEAF DOORSET	EXAMPLE CALCULATION
Structural opening width	A	A	920mm
Structural opening height	B	B	900mm
Door leaf width	C	$(A + 92\text{mm}) = C$	1012mm
Door leaf height	D	$(B + 96\text{mm}) = D$	996mm
Frame height	E	$(B + D + 92\text{mm}) = E$	1988mm
Frame width	F	$(A + 178\text{mm}) = F$	1098mm

NOTE: For maximum leaf sizes, configurations and options please refer to Intumex Asia Pacific. Calculations based on standard specification.

The Durafire DD 120 and 240 Shutters are ideal for incorporation into industrial fire protection systems, particularly where conveyor belts penetrate compartment walls. The design of the Durafire DD 240 shutter allows the manufacture of a variety of con-figurations, both dropping and rising to close, dependent on the application.

All shutters are supplied with a counterbalance system to ensure a controlled closure. If required, fusible links and electro-magnetic devices can be incorporated in the design to provide fail-safe operation. Automated operation can also be designed into the system to provide remote setting and re-setting.

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Durasteel® Doors Range

Durasecure DD 3/4/5

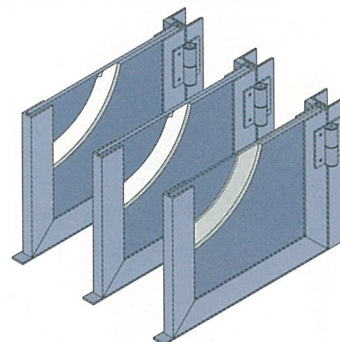
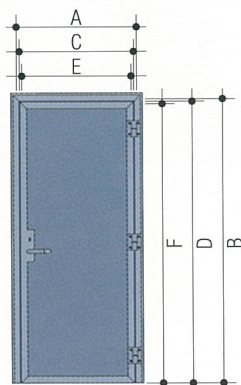


The Durasecure DD range from Intumex provides the highest performance of steel security doors currently available in the market today. As well as providing outstanding resistance to intruder attack, these doorsets also provide a fire performance of 120 minutes integrity.

Depending on client requirements, Intumex can offer solutions tested and certified to Loss prevention Council Standard LPC 1175 Grade 3 (Durasecure DD 3), Grade 4 (Durasecure DD4) and Grade 5 (Durasecure DD 5).

STANDARD SPECIFICATION

LEAF	Overall thickness:	28mm
	Material:	9.5mm thick Durasteel® sheet
	Core material:	Security steel
	Joining construction:	Mitred and welded
FRAME	Overall frame width:	75mm (FR9 and FR13)
	Material:	75mm x 50mm x 6mm thick channel section
	Joining:	Mitred and welded joints
	Type and configuration:	Single rebate or 3-sided frame
FINISH	Threshold plate:	70mm x 10mm thick MS plate (FR15)
	Frame and leaf:	Standard shop-applied zinc based primer, ready for site painting (P3).
IRONMONGERY		Leaf fitted with 3-way shootbolt mechanism with security deadbolt A1, handle set and rose plate. 3 no. hook and ride hinges and 1 no. hinge keep per leaf. Lock fitted with security cover plates.
CERTIFICATION		LPCB 1175 GD3/4/5



Back: DD 3 Middle: DD 4 Front: DD 5

MEASUREMENTS

DIMENSIONAL DETAILS	REF.	SINGLE LEAF DOORSET	EXAMPLE CALCULATION
Structural opening width	A	A	900mm
Structural opening height	B	B	2100mm
Overall frame width	C	$(A - 8\text{mm}) = C$	892mm
Overall frame height	D	$(B - 6\text{mm}) = D$	2094mm
Door leaf width	E	$(A - 113\text{mm}) = E$	787mm
Door leaf height	F	$(B - 79\text{mm}) = F$	2021mm

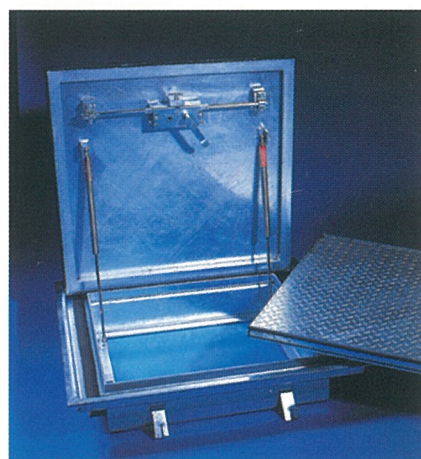
NOTE: For maximum leaf sizes, configurations and options please refer to Intumex Asia Pacific. Calculations based on standard specification.

Durasteel® Doors Range

Durasecure DD Trap

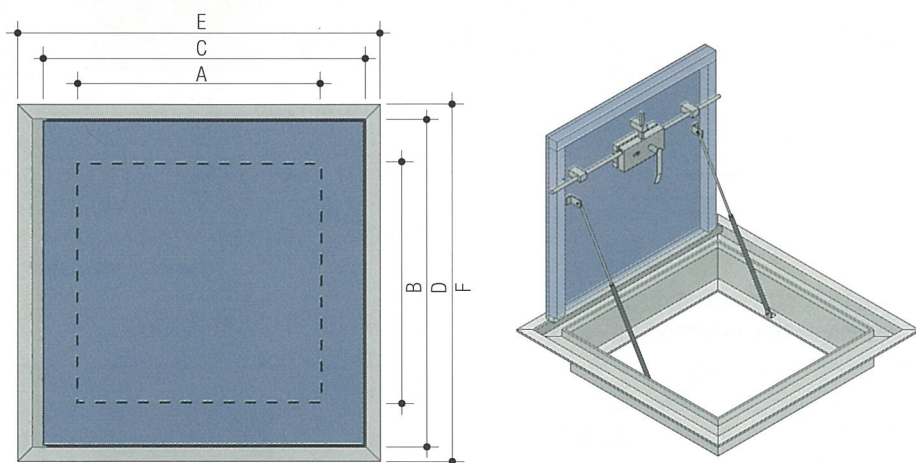
STANDARD SPECIFICATION

LEAF	Overall thickness:	45mm
	Material:	10mm thick security plate
	Joining construction:	Mitred and welded
FRAME	Overall frame width:	185mm
	Material:	50mm x 130mm x 50mm x 6mm thick zed section or 35mm x 90mm x 39mm x 6mm thick channel section
	Joining:	Mitred and welded joints
	Type and configuration:	Single rebate or 4-sided frame
FINISH	Frame and leaf:	Hot dip galvanised.
IRONMONGERY	Leaf fitted with 3-way shootbolt mechanism, removable handle. Special pin hinge, 2 no. gas struts.	
CERTIFICATION	British Telecom Standard Performance Enhanced Level	



The Durasecure DD Trap door is the product of Intumex's relationship and commitment to specific client development to meet a unique performance specification for security and fire rated trap doors.

Incorporating a heavy duty leaf with a 3-way shoot bolt mechanism and pin hinge, the doorset offers an enhanced level of security to British Telecom test standards. The trap doors are designed to withstand medium traffic loads and can be set up to provide assisted opening for panic escape situations.



MEASUREMENTS

DIMENSIONAL DETAILS	REF.	SINGLE LEAF DOORSET	EXAMPLE CALCULATION
Structural opening width	A	A	610mm
Structural opening length	B	B	610mm
Overall leaf width	C	$(A + 220\text{mm}) = C$	830mm
Overall leaf length	D	$(B + 248\text{mm}) = D$	858mm
Overall frame width	E	$(A + 326\text{mm}) = E$	936mm
Overall frame length	F	$(B + 326\text{mm}) = F$	936mm

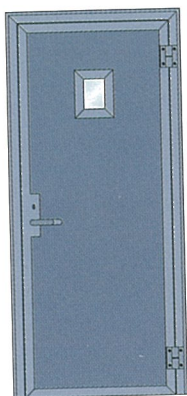
NOTE: For maximum leaf sizes, configurations and options please refer to Intumex Asia Pacific. Calculations based on standard specification.

Durasteel

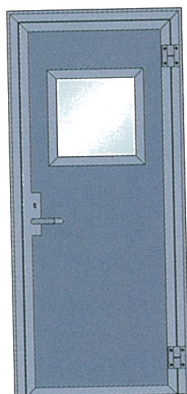
Durasteel® Doors Options

Vision Panels

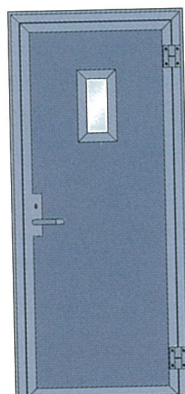
The vision panel details are applicable to the Durafire DD range. The vision panel details shown below are Intumex Asia Pacific's standard range. For vision panel shapes and sizes outside this range please refer to Intumex Asia Pacific.



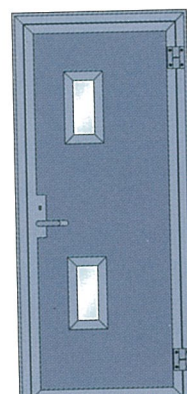
100mm x 150mm



400mm x 400mm



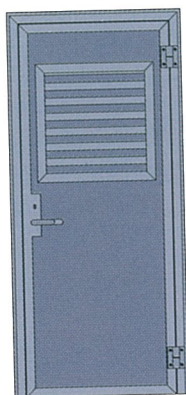
100mm x 300mm



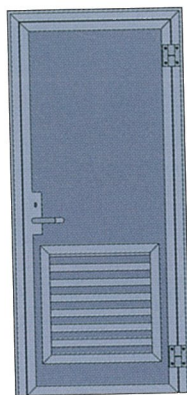
2 no. 100mm x 300mm

Louvre Panels

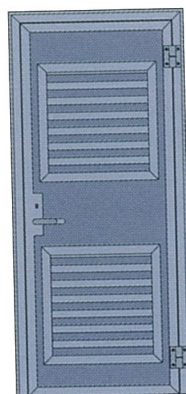
The louvre panel details shown below are Intumex Asia Pacific's standard range. For louvre panel shapes and sizes outside this range please refer to Intumex Asia Pacific.



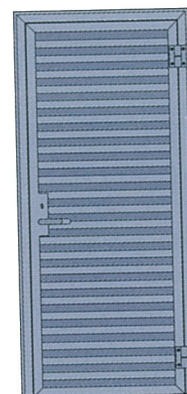
500mm x 500mm



500mm x 500mm



2 no. 500mm x 500mm



Fully louvred

Durasteel® Doors Options

Handing Terminology

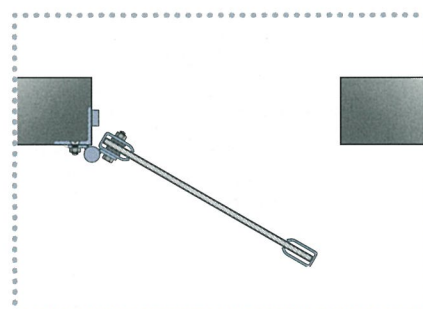
HANDINGS & CONFIGURATIONS: Single Leaf Durafire DD 120/240 Doorsets

DESCRIPTION	REF.	DOOR LEAF HANDING		MAX. LEAF SIZE	
		Left hand hung	Right hand hung	Width	Height
DD 120 latched, single acting, single leaf doorset	LSASD			1100	3000
DD 240 latched, single acting, single leaf doorset	LSASD			1500	4000

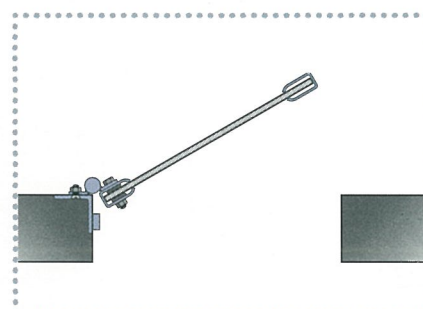
The importance of understanding doorset handings can never be understated.

The direction of the swing and the position of the hinges identify the handing of a doorset.

For example, when the door leaf opens toward the operator and the hinges are visible on the left-hand side, the doorset is deemed to be left hand hung.



Left hand hung



Right hand hung

HANDINGS & CONFIGURATIONS: Double Leaf Durafire DD 120/240 Doorsets

DESCRIPTION	REF.	DOOR LEAF HANDING		MAX. LEAF SIZE	
		Left hand hung	Right hand hung	Width	Height
DD 120 latched, single acting, double leaf doorset	LSADD			1100	3000
DD 240 latched, single acting, double leaf doorset	LSADD			1500	4000

HANDINGS & CONFIGURATIONS: Single Leaf Durafire DD 240 Slider

DESCRIPTION	REF.	DOOR LEAF HANDING		MAX. LEAF SIZE	
		Left hand hung	Right hand hung	Width	Height
DD 240 slider unlatched, single sliding doorset	ULSD			5000	5000

Durasteel® Doors Frame & Fixing Details

The frame options shown on this page are based on industry standards. Specification profiles can be developed on request. These are:

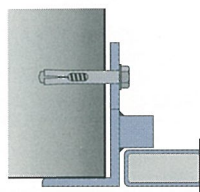
**JAMB
DETAILS**

**HEAD
DETAILS**

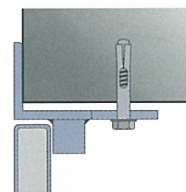
**CILL
DETAILS**

The fixing details shown on this page are on typical backgrounds such as concrete block. For fixing details into alternative apertures, constructions and materials, please refer to Intumex Asia Pacific.

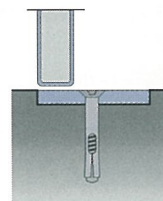
As standard, the frame is fabricated as a 3-sided construction, with a head, hinge jamb and lock jamb. Threshold plates are not standard but can be easily be incorporated within the construction upon request. The threshold can be formed from a flat or rebated steel or aluminium plate or with a fourth side of the frame.



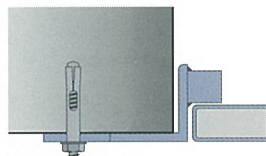
FR7 reveal fixing
60mm x 60mm x 6mm
MS angle



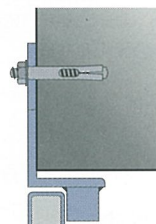
FR11 reveal fixing
60mm x 60mm x 6mm
MS angle



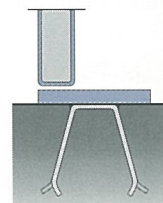
FR15 surface fixed
70mm x 10mm
flat plate



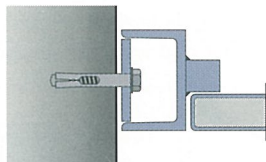
FR8 face fixing
60mm x 60mm x 6mm
MS angle



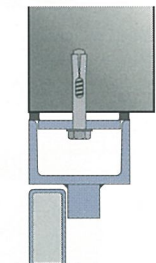
FR12 face fixing
60mm x 60mm x 6mm
MS angle



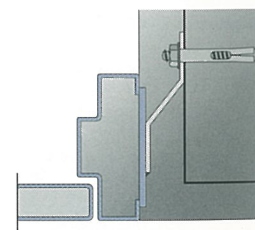
FR16 recessed
70mm x 10mm
flat plate



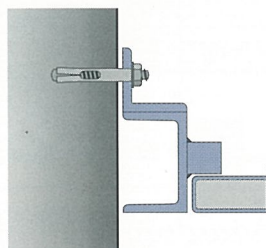
FR9 hidden fixing
75mm x 50mm x 6mm
MS channel



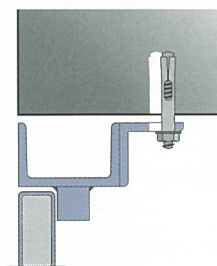
FR13 hidden fixing
75mm x 50mm x 6mm
MS channel



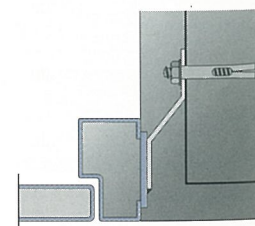
Pressed steel double
rebate frame with
concealed fixing points



FR10 reveal fixing
75mm x 50mm x 6mm
MS channel



FR14 reveal fixing
75mm x 50mm x 6mm
MS channel



Pressed steel single
rebate frame with
concealed fixing points

Durasteel® Doors Finish Options

FINISH OPTIONS TABLE

REF.	FINISH DESCRIPTION
P2	Grey zinc based primer.
P3	Blue zinc based primer.
P4	Two pack polyurethane: RAL/BS colours.
P5	Brushed stainless steel.
P7	Hot dip galvanised: Frame only.
P8	Shot blast and zinc spray.

Each of the product types within the DD range have a standard finish detailed in the product specification.

This **FINISH OPTIONS TABLE** gives a list of alternative standard finishes available for the range.

IRONMONGERY OPTIONS

SET TYPE	SIDE	DESCRIPTION	Mortice 3-way shootbolt	Panic bar	Lever handle	Leo lockable handle set	Circular cylinder	Chubb mortice deadbolt	Union mortice deadbolt	Half cylinder key operated	Double cylinder key operated	Double cylinder with thumbturn	Rose plate	Escutcheon plate
DD - A1	Face side Far side	Key retracts deadbolt, lever retracts shootbolt No operation	•		•			•					•	•
DD - A2	Face side Far side	Key retracts deadbolt, lever retracts shootbolt No operation	•		•				•	•			•	•
DD - B1	Face side Far side	Key retracts deadbolt, lever retracts shootbolt Key retracts deadbolt, lever retracts shootbolt	•		•			•					•	•
DD - B2	Face side Far side	Key retracts deadbolt, lever retracts shootbolt Key retracts deadbolt, lever retracts shootbolt	•		•				•		•		•	•
DD - E	Face side Far side	Key retracts deadbolt, lever retracts shootbolt Thumbturn retracts deadbolt, handle retracts shootbolt	•		•				•			•	•	•
DD - G	Face side Far side	Key releases handle, handle retracts shootbolt Panic bar retracts shootbolt	•	•		•	•						•	
DD - L	Face side Far side	Lever retracts shootbolt Lever retracts shootbolt	•		•								•	
DD - T	Face side Far side	No operation Panic bar retracts shootbolt	•	•										
DD - U	Face side Far side	Lever retracts shootbolt Panic bar retracts shootbolt	•	•	•								•	

The table on this page gives details of Intumex Asia Pacific standard ironmongery options which are based on the most commonly used functions. However, the flexibility in Intumex Asia Pacific's manufacturing plant allows for almost any ironmongery set to be fitted.

Intumex Asia Pacific work closely with specialist ironmongery distributors and manufacturers to ensure the correct specification, whether the ironmongery is supplied by Intumex Asia Pacific or by the client.

For further details on ironmongery including closers, locks, handle sets, panic functions, hold open devices, door stops, kick plates, smoke and weather seals, hinges, suited and master keyed cylinders, please contact Intumex Asia Pacific.

Durasteel

Introducing Durasteel® Blast Door

Durablast DBD



Durablast DBD range of blast doorsets have been developed by Intumex to protect against situations such as fire, explosion, hazardous emissions and terrorist activity. These products have been designed to withstand blast pressures up to 1.52 Bar with a fire performance of 240 minutes. These products have been developed with quality and performance in mind. Intumex's design, combining specialist energy absorbing, durable materials and years of experience, ensures that the Durablast DBD systems can withstand explosions, yet still remain unaffected by prolonged periods of fire. Additionally, as the system maintains its integrity, it continues to offer protection against impact and moisture.

The Durablast DBD range has been independently tested at the Building Research Establishment at Cardington specifically for the offshore market. However, these products can also be used in a diverse range of industrial and commercial applications, including power generation, chemical and paint plants, control room, protection defence establishments and anti-terrorist installations.

STANDARD SPECIFICATION

LEAF	Overall thickness:	28mm or 50mm
	Material:	9.5mm thick Durasteel® sheet
	Joining construction:	Mitred and welded
FRAME	Overall frame width:	70mm (FR9 and FR13)
	Material:	75mm x 50mm x 6mm thick channel section
	Joining:	Mitred and welded joints
	Type and configuration:	Single rebate or 3-sided frame
	Threshold plate:	70mm x 10mm thick MS plate (FR15)
FINISH	Frame and leaf:	Standard shop-applied zinc based primer, ready for site painting (P3).
IRONMONGERY		Leaf fitted with 3-way shootbolt mechanism, handle set and rose plates. 2 no. hook and ride hinges and central hinge keep per leaf. Passive leaf on a double leaf doorset is fitted with either face fixed tower bolts top and bottom or 2-way shootbolts.
CERTIFICATION		Independent blast test at BRE Cardington TCR 112/95.

MEASUREMENTS

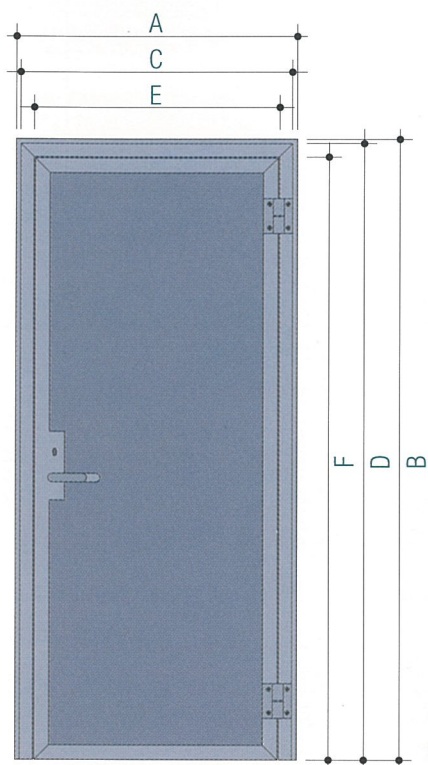
DIMENSIONAL DETAILS	REF.	SINGLE LEAF DOORSET	EXAMPLE CALCULATION	DOUBLE LEAF DOORSET	EXAMPLE CALCULATION
Structural opening width	A	A	900mm	A	1800mm
Structural opening height	B	B	2100mm	B	2100mm
Overall frame width	C	$(A - 8\text{mm}) = C$	892mm	$(A - 8\text{mm}) = C$	1792mm
Overall frame height	D	$(B - 6\text{mm}) = D$	2094mm	$(B - 6\text{mm}) = C$	2094mm
Door leaf width	E	$(A - 113\text{mm}) = E$	787mm	$(A - 120\text{mm})/2 = E$	840mm
Door leaf height	F	$(B - 79\text{mm}) = F$	2021mm	$(B - 79\text{mm}) = F$	2021mm

NOTE: For maximum leaf sizes and blast ratings, please refer to tables on page 90 & 91. Calculations based on standard specification. See drawings on opposite page.

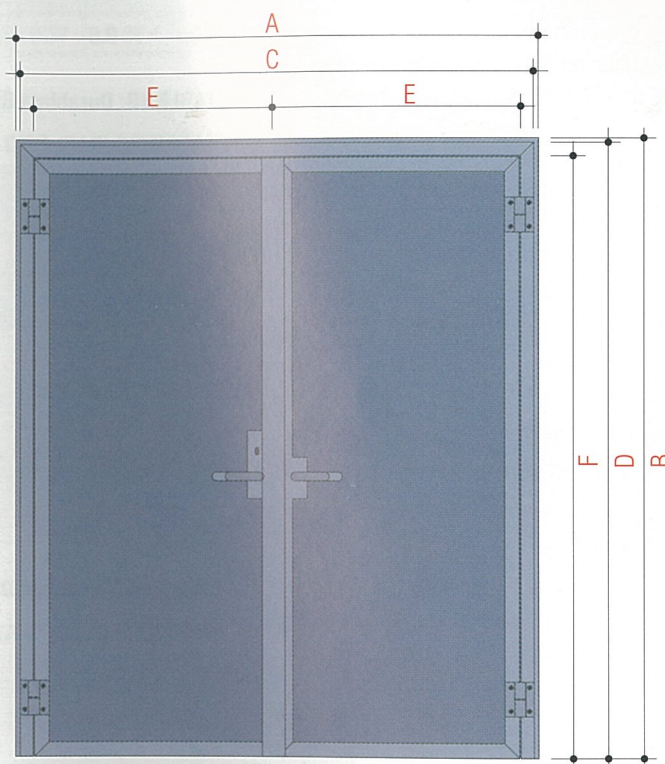
Durasteel

Durasteel® Blast Door Range

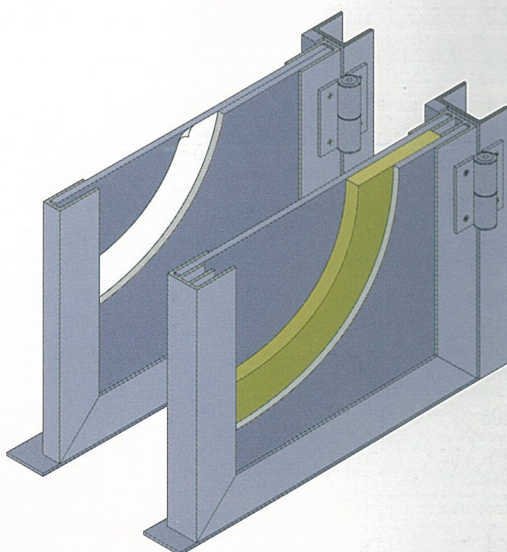
Durablast DBD



SINGLE LEAF



DOUBLE LEAF



Back: DBD B1/B2
Front: DBD B3/B4

Durasteel® Blast Door Properties

The tables on this and opposite pages show the allowable blast pressures that the single and double leaf doors can safely withstand. The pressure is related to the leaf size, leaf construction and the direction of the blast i.e. "away from frame" and "into frame".

TABLE 1A/1B

120-minute fire resistant single leaf blast door with a blast capability up to 0.38 Bar "away from frame" and up to 0.73 Bar "into frame" according to leaf size.

TABLE 2A/2B

240-minute fire resistant single leaf blast door with a blast capability up to 0.38 Bar "away from frame" and up to 0.72 Bar "into frame" according to leaf size.

Requirements for leaf sizes and capacity outside the perimeters given here should be referred back to Intumex Asia Pacific.

TABLE 1A: Durablast DBD B1 Single Leaf Doorset

PRESSURE (BAR) AWAY FROM FRAME

LEAF HEIGHT (m)	0.6	0.65	0.7	0.75	0.8	0.85	0.9	0.95	1
2.05	0.38	0.35	0.33	0.31	0.30	0.28	0.27	0.26	0.25
2.1	0.34	0.32	0.30	0.28	0.27	0.26	0.24	0.23	0.23
2.2	0.29	0.27	0.25	0.23	0.22	0.21	0.20	0.19	0.19
2.3	0.24	0.22	0.21	0.20	0.19	0.18	0.17	0.16	0.15
2.4	0.21	0.19	0.18	0.17	0.16	0.15	0.14	0.14	0.13
2.5	0.18	0.17	0.15	0.15	0.14	0.13	0.12	0.12	0.11
2.6	0.15	0.14	0.13	0.12	0.12	0.11	0.10	0.10	0.10

TABLE 1B: Durablast DBD B1 Single Leaf Doorset

PRESSURE (BAR) INTO FRAME

LEAF HEIGHT (m)	0.6	0.65	0.7	0.75	0.8	0.85	0.9	0.95	1
2.05	0.73	0.67	0.62	0.58	0.55	0.51	0.49	0.46	0.44
2.1	0.73	0.67	0.62	0.58	0.55	0.51	0.49	0.46	0.44
2.2	0.73	0.67	0.62	0.58	0.55	0.51	0.49	0.46	0.44
2.3	0.73	0.67	0.62	0.58	0.55	0.51	0.49	0.46	0.44
2.4	0.73	0.67	0.62	0.58	0.55	0.51	0.49	0.46	0.44
2.5	0.73	0.67	0.62	0.58	0.55	0.51	0.49	0.46	0.44
2.6	0.73	0.67	0.62	0.58	0.55	0.51	0.49	0.46	0.44

TABLE 2A: Durablast DBD B2 Single Leaf Doorset

PRESSURE (BAR) AWAY FROM FRAME

LEAF HEIGHT (m)	0.6	0.65	0.7	0.75	0.8	0.85	0.9	0.95	1
2.05	0.38	0.35	0.33	0.31	0.30	0.28	0.27	0.26	0.25
2.1	0.34	0.32	0.30	0.28	0.27	0.26	0.24	0.23	0.23
2.2	0.29	0.27	0.25	0.23	0.22	0.21	0.20	0.19	0.19
2.3	0.24	0.22	0.21	0.20	0.19	0.18	0.17	0.16	0.15
2.4	0.21	0.19	0.18	0.17	0.16	0.15	0.14	0.14	0.13
2.5	0.18	0.17	0.15	0.15	0.14	0.13	0.12	0.12	0.11
2.6	0.15	0.14	0.13	0.12	0.12	0.11	0.10	0.10	0.10

TABLE 2B: Durablast DBD B2 Single Leaf Doorset

PRESSURE (BAR) INTO FRAME

LEAF HEIGHT (m)	0.6	0.65	0.7	0.75	0.8	0.85	0.9	0.95	1
2.05	0.72	0.67	0.62	0.58	0.54	0.51	0.48	0.46	0.43
2.1	0.72	0.67	0.62	0.58	0.54	0.51	0.48	0.46	0.43
2.2	0.72	0.67	0.62	0.58	0.54	0.51	0.48	0.46	0.43
2.3	0.72	0.67	0.62	0.58	0.54	0.51	0.48	0.46	0.43
2.4	0.72	0.67	0.62	0.58	0.54	0.51	0.48	0.46	0.43
2.5	0.72	0.67	0.62	0.58	0.54	0.51	0.48	0.46	0.43
2.6	0.72	0.67	0.62	0.58	0.54	0.51	0.48	0.46	0.43

TABLE 3A: Durablast DBD B3 Single Leaf Doorset
PRESSURE (BAR) AWAY FROM FRAME

LEAF HEIGHT (m)	0.6	0.65	0.7	LEAF WIDTH (m)					
	0.75	0.8	0.85	0.9	0.95	1			
2.05	0.70	0.65	0.61	0.57	0.54	0.51	0.48	0.46	0.44
2.1	0.68	0.63	0.59	0.55	0.52	0.49	0.47	0.45	0.43
2.2	0.65	0.60	0.56	0.53	0.50	0.47	0.45	0.43	0.41
2.3	0.62	0.57	0.54	0.50	0.47	0.45	0.43	0.41	0.39
2.4	0.59	0.55	0.51	0.48	0.45	0.43	0.41	0.39	0.37
2.5	0.57	0.53	0.49	0.46	0.43	0.41	0.39	0.37	0.35
2.6	0.55	0.51	0.47	0.44	0.42	0.39	0.37	0.35	0.34

Durasteel® Blast Door Properties

TABLE 3A/3B

240-minute H60 rated single leaf blast doors with a blast capacity up to 0.7 bar "away from frame" and up to 1.52 Bar "into frame" according to leaf size.

TABLE 4A/4B

240-minute H60 rated double leaf blast doors with a blast capacity up to 0.53 Bar "away from frame" and up to 0.53 Bar "into frame" according to leaf size.

Requirements for leaf sizes and capacity outside the perimeters given here should be referred back to Intumex Asia Pacific.

TABLE 3B: Durablast DBD B3 Single Leaf Doorset
PRESSURE (BAR) INTO FRAME

LEAF HEIGHT (m)	0.6	0.65	0.7	LEAF WIDTH (m)					
	0.75	0.8	0.85	0.9	0.95	1			
2.05	1.52	1.40	1.30	1.22	1.14	1.07	1.01	0.96	0.90
2.1	1.52	1.40	1.30	1.22	1.13	1.06	1.00	0.94	0.88
2.2	1.48	1.36	1.25	1.16	1.09	1.02	0.95	0.90	0.85
2.3	1.14	1.30	1.20	1.12	1.04	0.98	0.92	0.86	0.82
2.4	1.36	1.25	1.16	1.07	1.00	0.94	0.88	0.83	0.79
2.5	1.31	1.20	1.11	1.03	0.96	0.90	0.85	0.80	0.76
2.6	1.26	1.16	1.07	1.00	0.93	0.87	0.82	0.77	0.73

TABLE 4A: Durablast DBD B4 Double Leaf Doorset
PRESSURE (BAR) AWAY FROM FRAME

LEAF HEIGHT (m)	0.6	0.65	0.7	LEAF WIDTH (m)					
	0.75	0.8	0.85	0.9	0.95	1			
2.05	0.53	0.49	0.46	0.43	0.40	0.38	0.36	0.35	0.33
2.1	0.50	0.47	0.43	0.41	0.38	0.36	0.35	0.33	0.32
2.2	0.46	0.42	0.39	0.37	0.35	0.33	0.31	0.30	0.29
2.3	0.42	0.39	0.36	0.34	0.32	0.30	0.29	0.27	0.26
2.4	0.38	0.35	0.33	0.31	0.29	0.28	0.26	0.25	0.24
2.5	0.35	0.33	0.30	0.28	0.27	0.25	0.24	0.23	0.22
2.6	0.32	0.30	0.28	0.26	0.25	0.23	0.22	0.21	0.20

TABLE 4B: Durablast DBD B4 Double Leaf Doorset
PRESSURE (BAR) INTO FRAME

LEAF HEIGHT (m)	0.6	0.65	0.7	LEAF WIDTH (m)					
	0.75	0.8	0.85	0.9	0.95	1			
2.05	0.53	0.49	0.46	0.43	0.40	0.38	0.36	0.35	0.33
2.1	0.50	0.47	0.43	0.41	0.38	0.36	0.35	0.33	0.32
2.2	0.46	0.42	0.39	0.37	0.35	0.33	0.31	0.30	0.29
2.3	0.42	0.39	0.36	0.34	0.32	0.30	0.29	0.27	0.26
2.4	0.38	0.35	0.33	0.31	0.29	0.28	0.26	0.25	0.24
2.5	0.35	0.33	0.30	0.28	0.27	0.25	0.24	0.23	0.22
2.6	0.32	0.30	0.28	0.26	0.25	0.23	0.22	0.21	0.20