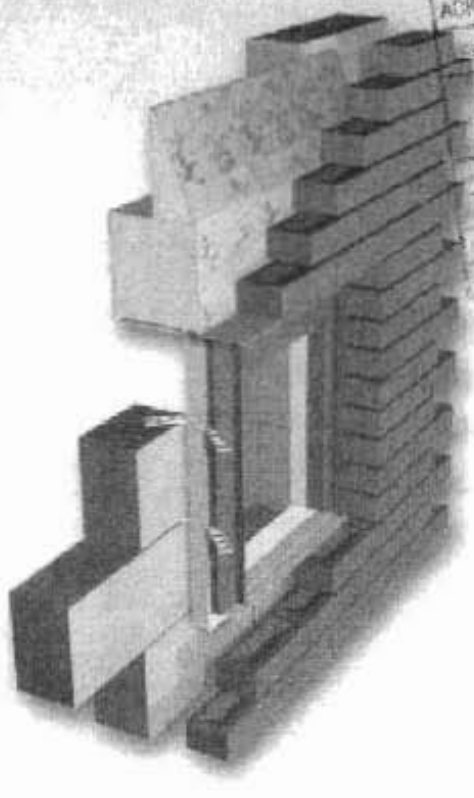
Issue 3 (2007)

Shellcast

Security shutters



PLANNING
ACK'D
SUPPLIED
14 NOV 2008
ACT REC'D
DATE
PROJECTION

LPCB

Security Rating 3

Available in rating 1, 2 & 3
Certified in LPS 1175 Issue 5.1
Certificate number 7078
Not all products illustrated in this brochure have been approved to LPS 1175 please contact shellcast

Established in 1969, Shellcast have supplied a range of quality products to the Construction Industry for over 35 Years. Shellcast's lintels are designed to contain the shutter and carry the structural load across any window or door opening. Our standard range of cavity closers/guides conforming with damp-proof and insulation regulations and are designed to conceal the shutters guides behind brickwork. Shellcast's shutters are designed primarily for security that delivers insulation, privacy, shade and noise reduction.

Product category

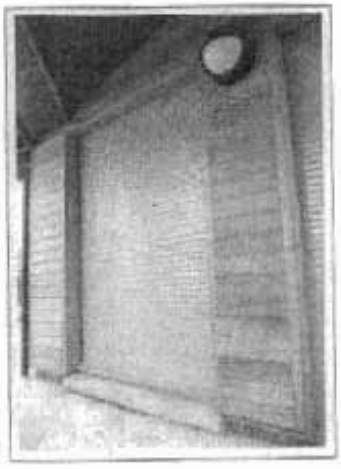
- Shutter Lintel Systems
- External Fix Shutter Systems
- Internal Bar/Servery Shutters
- Garage Door Shutters
- Industrial Galvanized Shutters
- Fire Rated Shutters
- Collapsable Gates/Grills
- Removable Steel Bars
- Steel Lintels











Shellcast's range of products have been developed to comply with the latest european / british product directives and standards including BSEN 13241-1 applicable from the 1st May 2005

CE

Fully compliant product and installation to New CE regulations

Shellcast has tested all shutter lath and products to the New CE regulations / directive, including wind tunnel tests, control systems and durability. We also include safety anti drop devices to all applicable. Our engineers conduct a final inspection after electrical connection has been made, a full report is carried out on the shutters and CE reference marks are applied to the individual shutter. A CE conformance certificate is also issued to the main contractor. If you accept a shutter without any of these measures you are liable for any incidents that may occur.

CE
BS EN 13241-1

Fully compliant product and installation to New CE regulations

CPD accreditation promotes awareness of compulsory industry legislation. Shellcast is delighted to offer a CPD (Continuing Professional Development) certified seminar.
Seminars for the Industry PD Technology's products already comply with both UK and European directives. The seminar covers the all important areas of: New Approach Directives, Product standards for industrial and commercial roller shutters, garage doors and gates CE Marking requirements, UK legislation, Typical roller shutter control applications.

CPD CERTIFIED

Specifing couldn't be easier

Either through NBS or the Shellcast website, generic specifications are available. Alternatively contact our Technical Team and we will customise our specification clauses to your needs.

NBS Plus

Let shellcast do the work

Why not take advantage of Shellcast's free CAD service by submitting drawings by email to our team. We can review your drawings and detail the correct system to your requirements.

Autodesk

ISO 9001 continuous improvement

Shellcast has dedicated itself to continuous improvement in both service and products, achieving ISO9001 (2000) certification.

LPCB

Always local

With Shellcast's extensive network of engineers we can provide fast local response times.

Reliability

Shellcast shutters come with Somfy tubular motors, the largest tubular manufacture in the world producing 5 million units a year. A 5 years parts warranty on the tubular motor comes as standard.

5 Warranty year

WHAT IS THE LPCB, SECURED BY DESIGN & CE MARKING?

LPCB tested shutters

We have run rigorous tests with the LPCB (Loss Prevention Certification Board) to give our clients the peace of mind that our shutters pass the highest grade of security in their class. LPCB (which is part of BRE Certification) work with insurers, government, police, designers, manufacturers, contractors and end users to develop methods by which product performance and reliability can be assessed. Please visit **http://www.redbooklive.com/** for further information



Application	Minimum Performance Required	Notes
HIGH RISK Rolling Shutters for door and window openings.	LPS1175 SR 3	Products certified to these security standards have resisted a series of professional attacks, each lasting up to 30 minutes (SR 4) or 20 minutes (SR 5), using a wide variety of battery operated power tools.
MEDIUM RISK Rolling Shutters for door and window openings.	LPS1175 SR 2	Products certified to these security standards have resisted a series of professional attacks, each lasting up to 15 minutes using a variety of hand tools such as hammers, crowbars, chisels and hacksaws.
LOW RISK Doorsets, Rolling Shutters, Security Grilles or Windows for door and window openings.	LPS1175 SR 1	Products certified to these security standards have resisted a series of professional attacks, each lasting up to 10 minutes (SR 1) using a variety of hand tools such as hammers, crowbars, chisels and hacksaws.



Guide to Security Standards for Doors & Windows

This chart is an aid to help you determine whether a product delivers the appropriate level of security for its application and risk factor. To ensure that a product conforms to these standards, it is important that products be certified by a UKAS accredited test house.

CE Marking

You are breaking the law if you accept a shutter that has not been CE marked.
Durability test: based on three cycles per day, 10 years equates to 10,950 cycles
Wind loading: Class 2 is a minimum requirement (Storm force).
Crushing force: a maximum force of 400N and 150N for 0.75 seconds

HEALTH & SAFETY NOTICE:
It is a legal requirement that all electrically operated shutters are fully CE marked. Shellcast will supply comprehensive CE documentation with each relevant shutter. It is essential to use a 'fail safe safety system' (i.e. photocell) where a remote control unit or switching is out of sight of the shutter.

ATTESTATION RESULTS:

WINDLOAD	**Min Class 2**
SAFE OPENING	**PASS**
OPERATING FORCES	**PASS**

NOTIFIED BODY:
WARRINGTON APT LABORATORIES
UKAS ACCREDITED 0621
EC NOTIFIED BODY NUMBER 1104

warrington apt



Shellcast Lintel System is able to work with any type of construction.

Our system has been designed to adapt to any construction situation required.

Traditional

Shellcast's extensive range of structural steel lintels are capable of supporting loads upto 231Kn on a 1:19 load ratio. We can also offer a range on non shutter lintels allowing engineers, architects and contractors to source all lintels from a single contact.

STEEL FRAME

Shellcast's Technical Team are here to offer support in positioning lintels and also integrating shellcast lintels into the structural steelwork for greater stability. Shellcast also offer structural steel posts for corners and multiple consecutive shutters.

TIMBER FRAME

Shellcast's cavity guides have been designed so that the guides may be fixed without the use of brick ties.

TIMBER CLAD

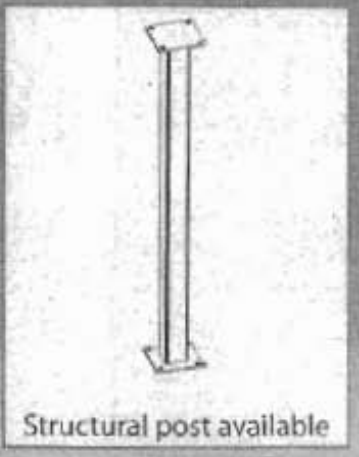
Shellcast's cavity guides outer flange provides ample tolerance to clad to.

STEEL CLAD

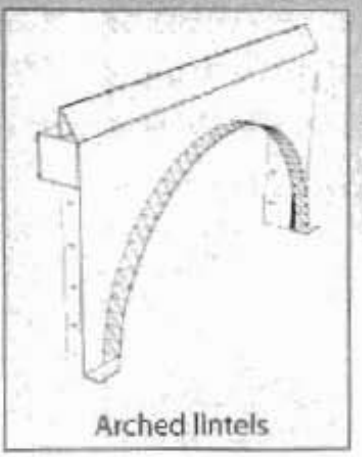
Shellcast's cavity guides have a 25mm outer flange allowing the cladding to be flashed to with ease.

METSEC

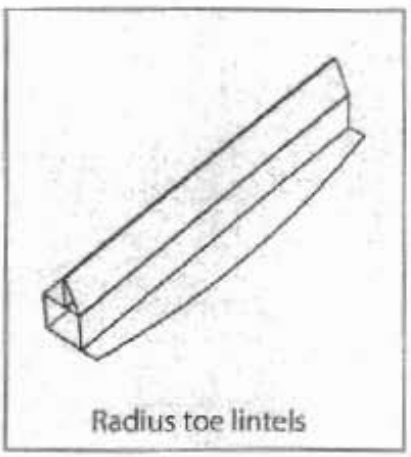
Shellcast's cavity guides have been designed to allow fixing through the back of the channel to Metsec rails for ease of installation and maximum security.



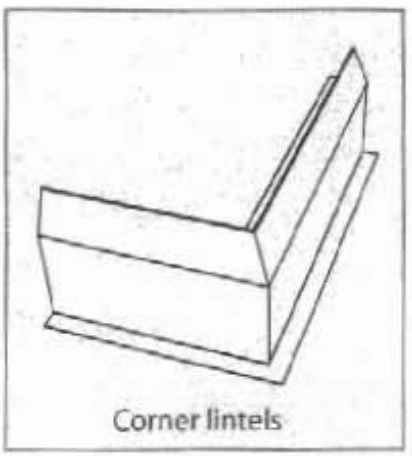
Structural post available



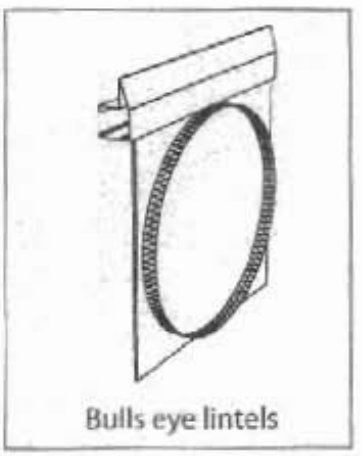
Arched lintels



Radius toe lintels



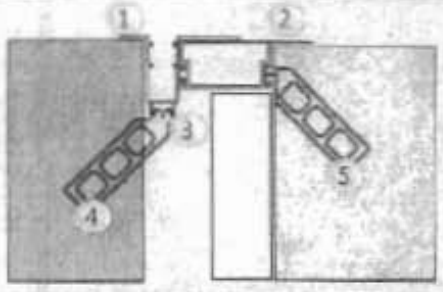
Corner lintels



Bulls eye lintels

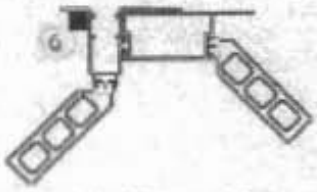
Why is Linframe the best system?

- Shellcast's Linframe system acts as a window cill cavity tray closing off the shutter guide from water ingress.
- The system also acts as a subframe former to ensure accurate and parallel openings.
- No additional closer required for the cill jamb.
- 25mm outer flange to cover outer leaf or flash cladding on to.
- Extrusions come in different sizes to suit cavity widths.



1. 25mm return on outer leaf allowing ample building tolerance
2. Plaster key
3. Fixing detail for timber frame or metal frame
4. Brick tie
5. Block tie

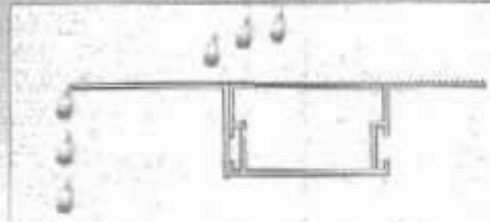
Shellseal (vertical sealant)



Allows up to 10mm tolerance for a weather seal on brickwork

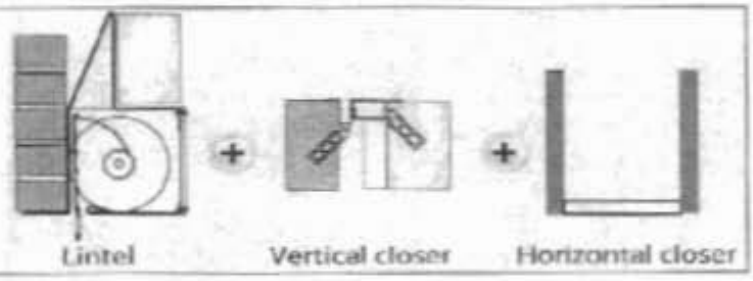


6 Vertical weather seal



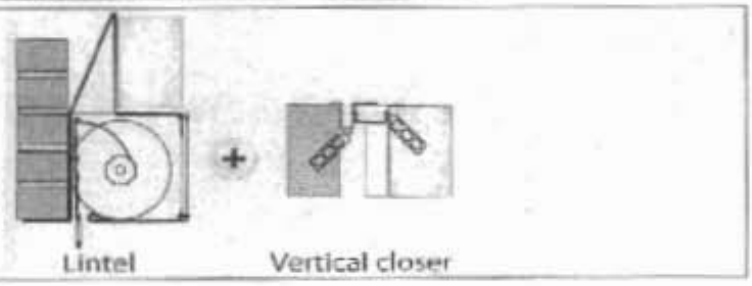
Linframe acts as a cavity tray

Linframe system



Lintel + Vertical closer + Horizontal closer

SL system



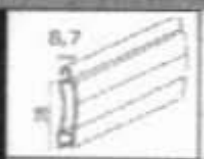
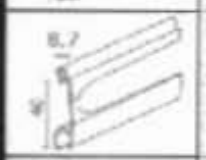
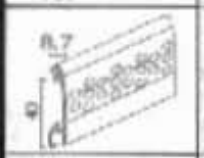
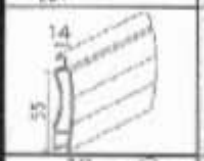
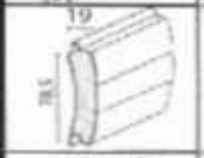
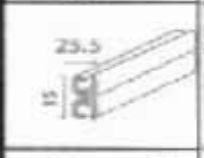
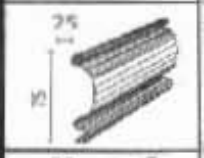
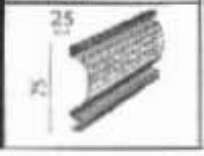
Lintel + Vertical closer

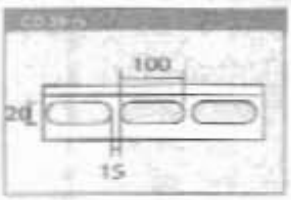
Rigidcor/F was tested at the warrington Research and was in accordance with BS 476 part 20. 30 minutes integrity @ 842°C.

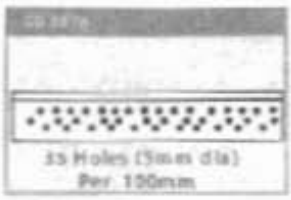
NEW PART L BUILDING REGULATIONS		
All calculations are based on being installed with Tarmac topblock to meet New part L Building regulations revised 2002		
75mm cavity closers	'U' value	Block type
25mm cavity insulation	0.35	Topcrete dense
Full fill cavity insulation	0.33	Topcrete dense
Full fill cavity insulation	0.26	Hemelite lightweight
100mm cavity closers	'U' value	Block type
25mm cavity insulation	0.33	Topcrete dense
Full fill cavity insulation	0.30	Topcrete dense
Full fill cavity insulation	0.26	Hemelite lightweight
125mm cavity closers	'U' value	Block type
25mm cavity insulation	0.33	Topcrete dense
Full fill cavity insulation	0.23	Topcrete dense
Full fill cavity insulation	0.21	Hemelite lightweight

SLAT TYPES

Shellcasts range of shutter slats and guides are produced using high grade aluminium 6060 & 6063 and powder coated to a minimum of 100 microns

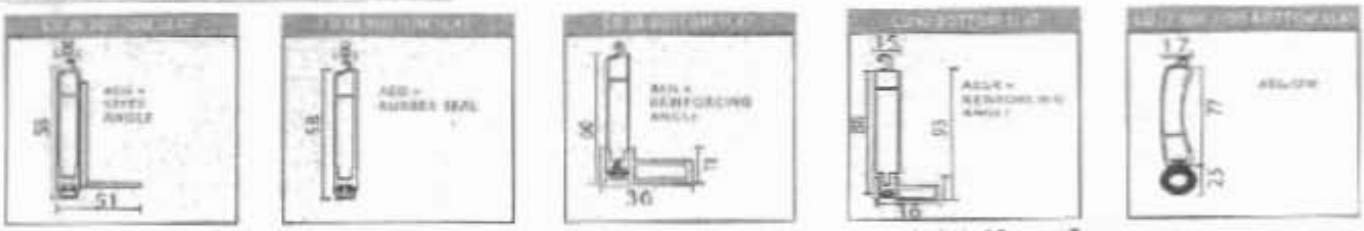
CD 38		This extruded aluminium section has been designed to roll tighter allowing greater drops without increasing lintel box sizes. Security rated levels 1, 2 & 3
CD 38/s		A slotted option for the CD38 slat in two variations, now with polycarbonate inserts to stop objects passing through, the other without inserts for ventilation (44% vision). Security rated level 1
CD 38/p		Perforated CD38 for vision without security compromise. (18% vision) Security rated level 1
CD 60		This extruded aluminium section has been designed for greater lateral support for spans for up to 6000mm in width. Security rated levels 1 & 2
CD 77		Foam filled aluminium slat designed for the roller garage door market.
CD 800		See through glazed shutters requested by many local authorities for High Street and modern Shopping Centre applications. With 58.5% vision combined with polycarbonate inserts to retain security.
CD 900		Aluminium grills perfectly suited for Bars / Kiosks.
CD 75		Rolled steel 3" slat for large Industrious style shutters.
CD 75/p		Rolled steel 3" slat with perforations for vision / ventilation.





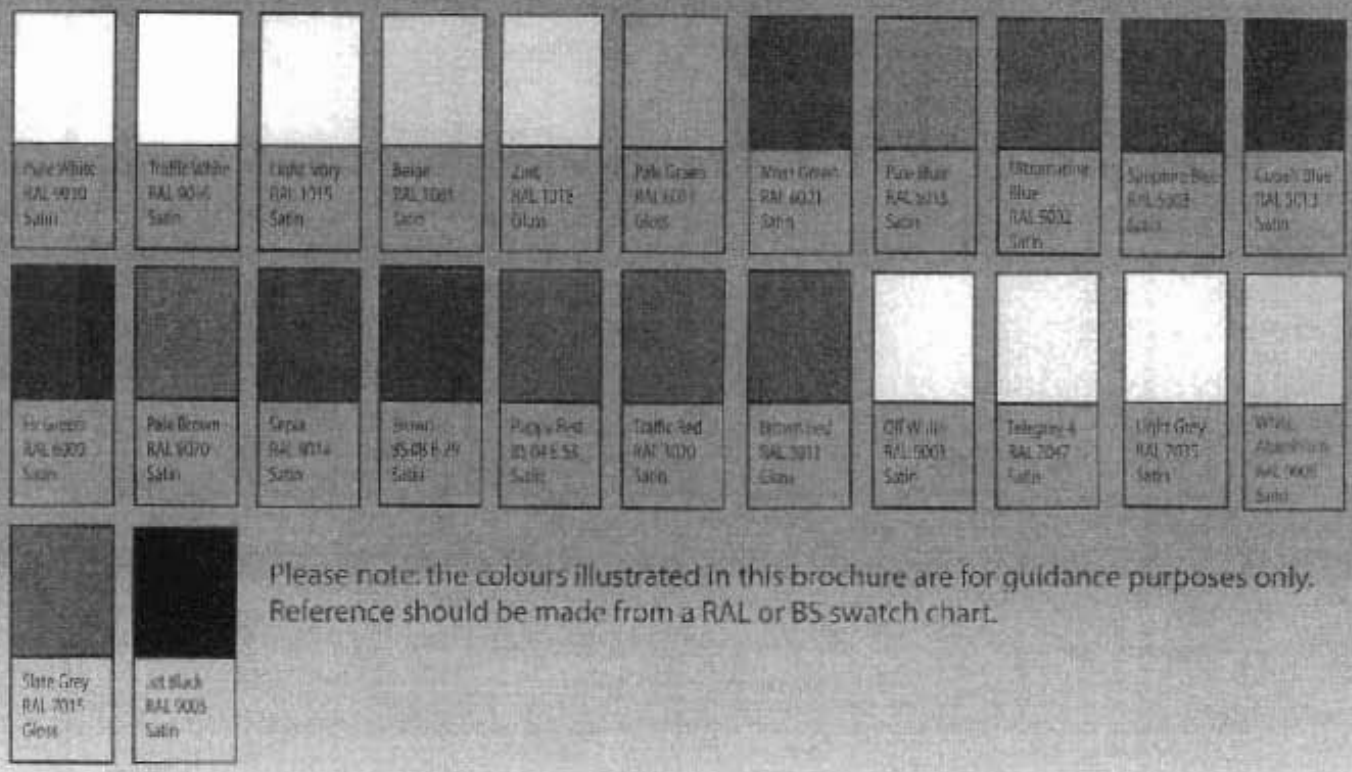


Bottom Slats



For information on security ratings regarding all Shellcast's products please contact our Technical Support Team.

Stock colours



Please note: the colours illustrated in this brochure are for guidance purposes only. Reference should be made from a RAL or BS swatch chart.

Plastisol colours

Colour availble for our commercial shutter range coated over pre galvanized - DX51D+Z275NAC EN10142+A1:1995



Anti Graffiti coating

Anti graffiti coating is a high quality powder designed to have excellent anti-graffiti and stain resistance properties. This coating has been tested in accordance with London Underground Ltd.
Engineering standard E1042: A2 October 1996 and meets all requirements.



Finish protection and reference

All Shellcast built in guides come with a removable protective covering to help prevent any minor scratches during installation. All guides and lintels will be marked with appropriate references provided.



Shellcast have developed new products to complete the shutter system.
Insulation, fire, pressure testing and aesthetics have all been considered with our new designs.

Backing Specific requirements



GPR Fire protection board.
Available in B.S & RAL colours

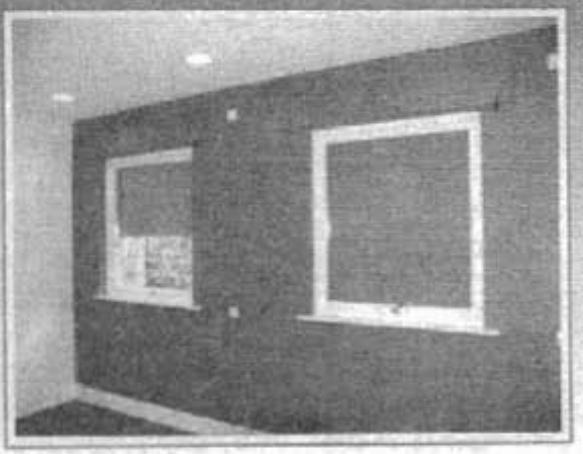
Dependent upon building type, building regulations stipulate between 30~240 mins. Shellcast can provide an all in one panel without the requirement of additional cladding. Insulation starts at 10mm giving a u-value of 1.82, lower values can be achieved with thicker insulation if required.

Table 1. General Technical Data
Designation Calcium silicate
Material class Limited combustibility
Surface spread of flame Class 1
Building Regulations classification Class 0
Nominal dry density (average) Kg/m3 1000
Thermal conductivity (approximately) at 20°C W/mK 0.22
Coefficient of expansion (20-100°C) m/mK 9 x 10-6
Nominal moisture content, ambient % 6
Moisture movement (ambient to saturated) % ? 0.15
Surface condition Front face: Smooth, unsanded

Panel finish: paintable finish

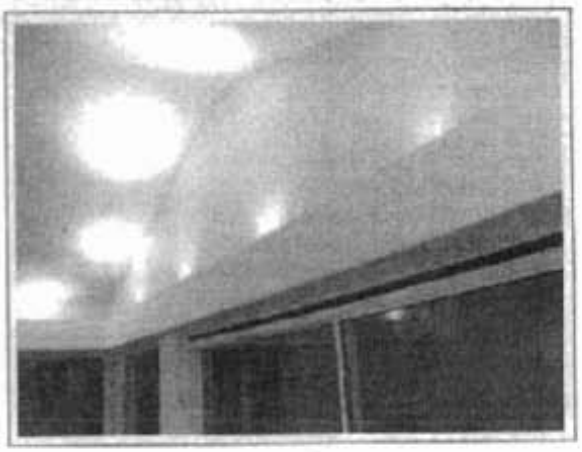
BBA BRITISH BOARD OF AGRÉMENT
CERTIFICATE No. 90/2500

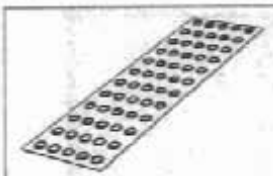






Fire rated smoke and weather seal
Acrylic, impregnated foam sealant strip, which, when used under compression by 80% provides a fire seal for up to 4hrs in accordance with BS 476 part 20. Also provides a high performance weather seal (>600 Pa).
In service life expectancy >25 years.





Plaster key available for shellcast lintels to achieve a secure bond to the underside of the lintel.

Backing boards denoted with this symbol are non-porous as requested for medical specification for wipe clean surfaces.

Backing boards denoted with this symbol are non-combustible.



All Shellcast shutters use tubular motors concealed within the shutter housing out of site and boast a five year parts warranty.

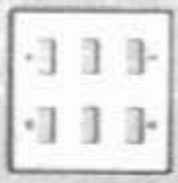
Switch types

Shutter operation via single switch location.



Switches can be provided in many finishes, please ask for a full listing

Control two shutters individually from a single location.



Control multiple shutters from a single location.



Key switch (Flush or surface mounted)
Can be used externally or internally for a secured operation.
Recommended in areas that include the public, children or fire exits.

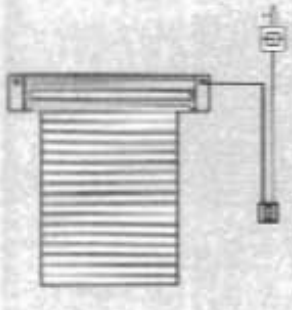


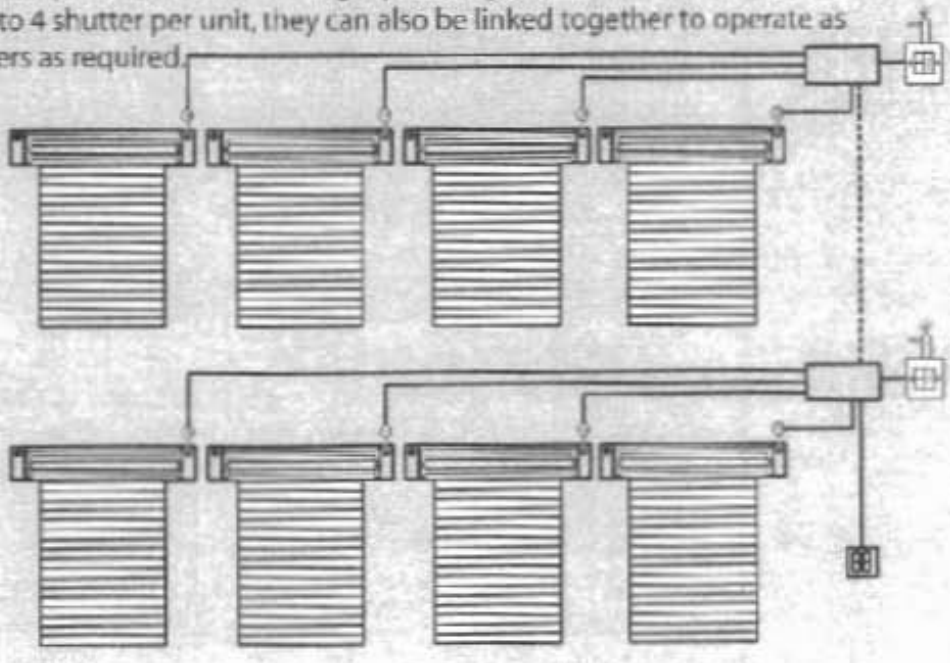
Internal manual override
Used as a way of manually operating motorized shutters in the event of a power failure
Strongly recommended for use in conjunction with a shutter over a fire exit.



Group control
Operating multiple shutters from a single point, a group command unit can operate up to 4 shutter per unit, they can also be linked together to operate as many shutters as required.







Single operation

Group operation

There are many ways to control your shutter system from single switch to full remote control.

Battery operation for when power has failed.

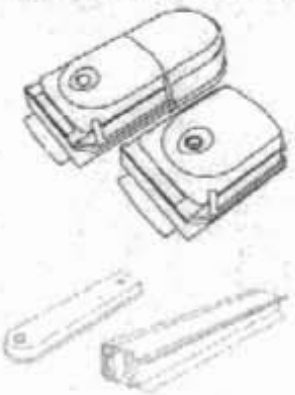


Shellcast can offer battery units to operate vital shutters when power has failed. This battery has been developed specifically for the roller shutter market so it achieves a 100 day stand by and can operate a shutter up to eight cycles.

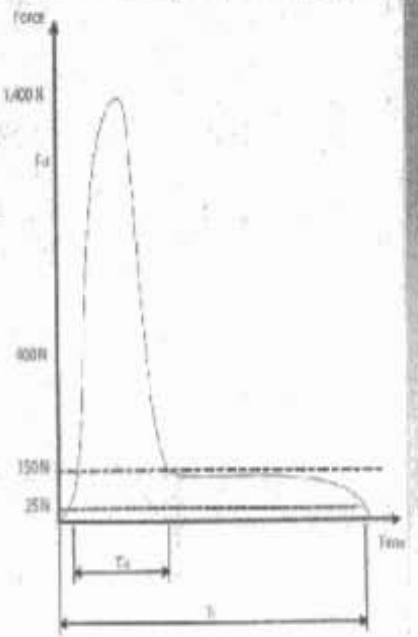
Safety edge system (radio control system for doors).

In line with the new CE directive, Shellcast can supply a radio controlled system to doorway shutters, that will not enforce a load higher than 150 Newtons. This system will give you the peace of mind that no harm can come of an accidental operation of the shutter.
The safety edge also reduces the chance of damage to the shutter by operating onto an open window.





Safety edge & transmitter



Imposed pressure graph

Status panel

To be used in conjunction with the safety edge device, this Indicates the operation cycle of the shutter to ensure security of the building from one location.



Radio controled motors

Tubular motors can be controlled via a radio receiver within the motor housing.

Solas

Standard radio controlled motor
Range 200m free air 20m through 2 concrete walls
Frequency 433.42 MHz
Rolling code 16 million combinations



Oximo

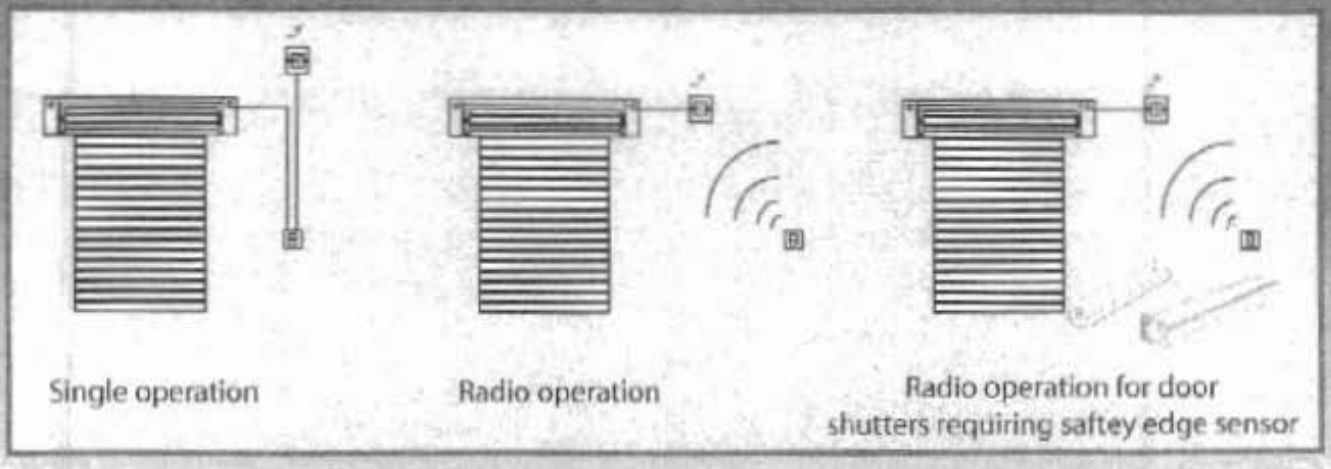
Standard radio controlled motor
Range 200m free air 20m through 2 concrete walls
Frequency 433.42 MHz
Rolling code 16 million combinations
Object detection software
Motor feedback information

OPERATION

Rod Crank Shutters are raised and lowered from inside by a geared rod crank.

Electric Motors are required on larger shutters and are optional on smaller shutters. Tubular motors fit inside the axle and require a 3 amp fuse.

Radio control can help reduce operation time of multiple shutters and provide convenient customizable and zone operation of shutters even after final installation. (All radio controlled devices are supplied with instructions to comply with new CE regulations.



Single operation

Radio operation

Radio operation for door shutters requiring saftey edge sensor

You have the power to customise.

With the Somfy Zone Radio Control System, shutter zones can be set, then changed with great ease at a later date if your operation requirements change.

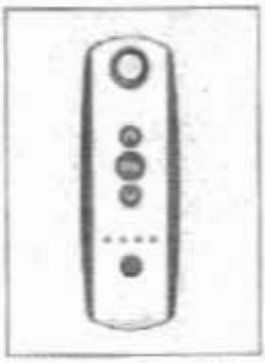
Radio transmitters



Single zone wall mounted radio transmitter



Single zone wall mounted radio transmitter with solar positioning sensor



Multi zone hand held radio transmitter



Multi zone hand held radio transmitter with shutter status

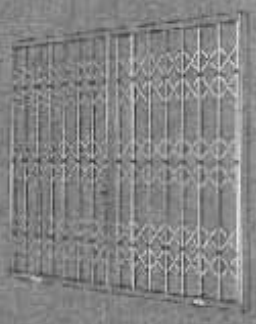
Combating global warming with Part L2 Building Regs

By using Shellcast shutters either by manual selection or automated sun sensor (windows only), the overall temperature of the building can be controlled passively reducing the need and cost of air-conditioning during summer months. This is an established method of temperature control amongst countries with warmer climates.



GATES

Premises: In vulnerable locations or premises containing valuable equipment are often targeted by criminals. Either on an insurance company's recommendation, or to pre-empt future attack, the insurance approved Shellcast gate system is the perfect choice. Offering enhanced strength and security with minimal obstruction to visibility and natural light, even when the gates are in the closed position, premises and staff are protected with no detraction to the appearance of the room environment.



Strong - Made from galvanised steel with a patented fixing system.

Versatile - Custom built for almost any opening, gates fit internally in either the window reveal, or around the opening in either single or double-sash configuration.

Ease of use - Smooth top running operation with an option of a folding bottom track to leave doorways unobstructed.

Secure - Multi-point locking (4 point in most cases, with three point on smaller gates) operating from a single key which is out of view of potential attackers whilst remaining easy to operate from either side.

High quality maintenance free finish - Supplied in high quality white powder coated finish as standard. Optional colours are available from stock.

A floating sash version is available.

A fixed frame version is available when retraction of the gate is not required.

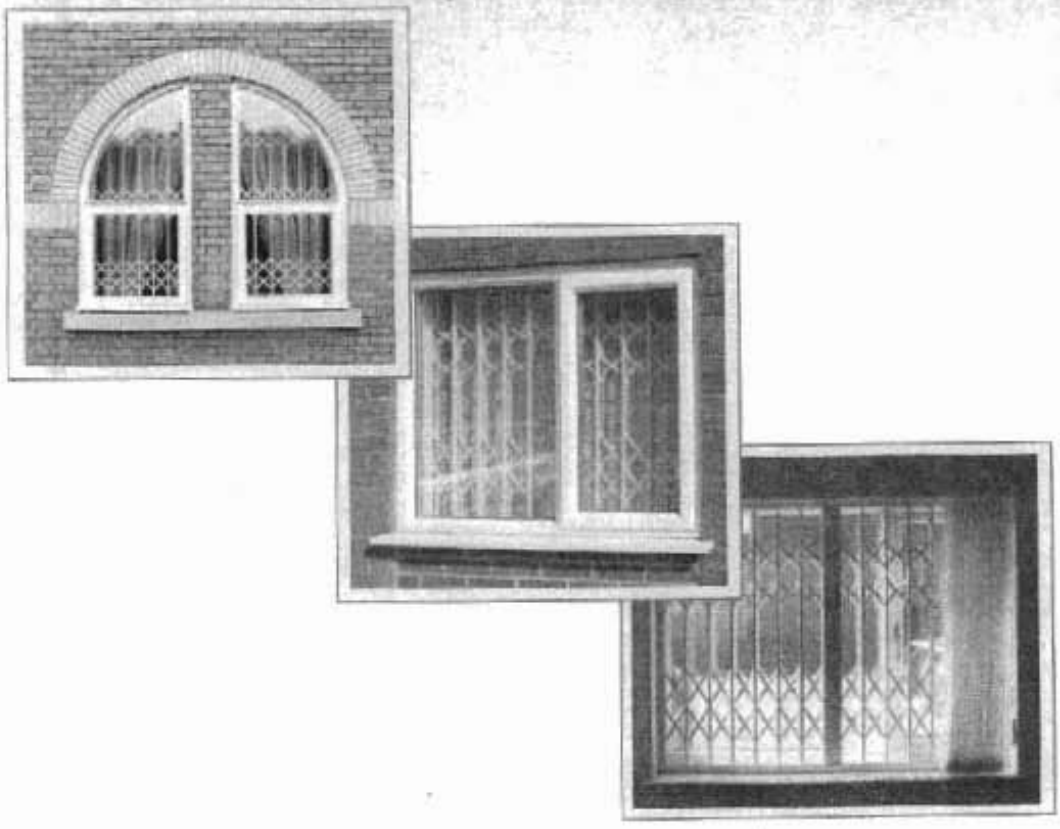


'X' Lattice



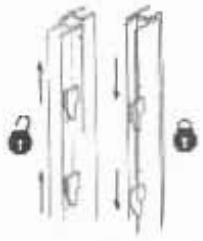
'S' Lattice

SIZES		
Sizing	Single Sash	Double Sash
Min Width	500	1000
Min Height	1000	1000
Max Width	3000	6000
Max Height	3000	3000





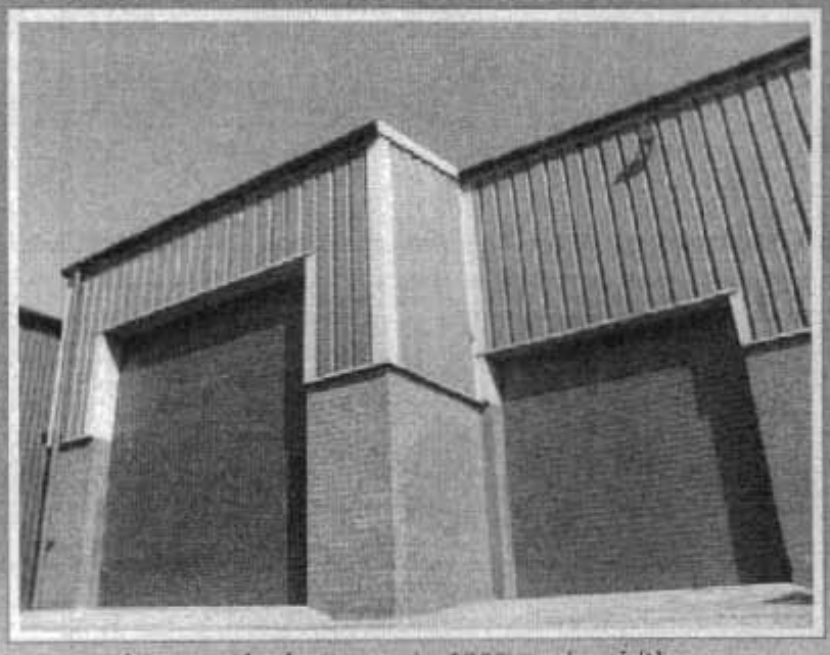
Folding bottom track



Multi-point locking

EXTERNAL FIX SHUTTERS

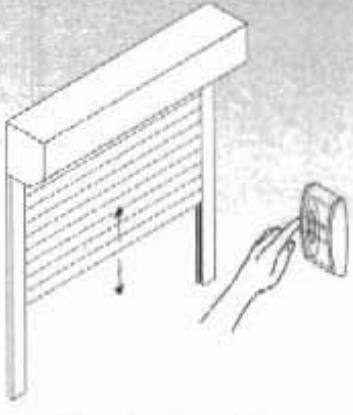
When a building design dictates shellcast's extensive range of products can overcome.
Shellcasts range of surface fix shutters can be used externally, internally for bars and serveries.



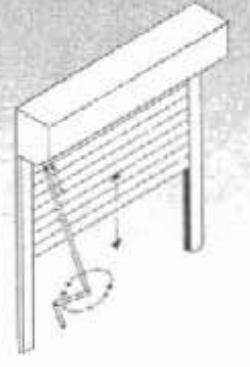
Large scale shutter up to 6000mm in width



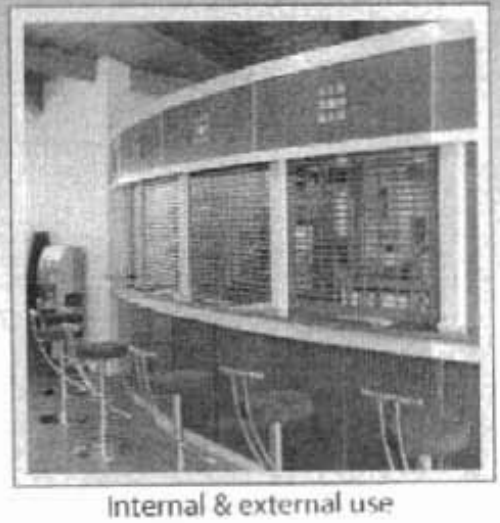
Adaptable for your requirements



Electric operation

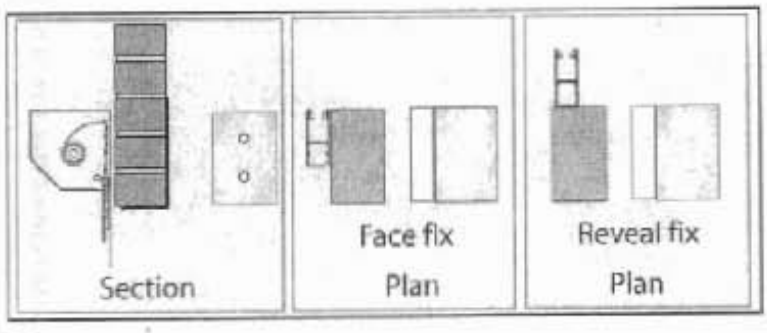


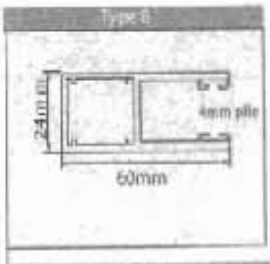
Manual operation

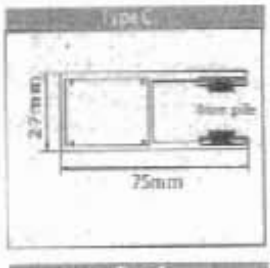


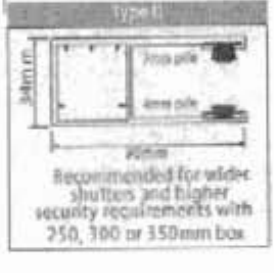
Internal & external use

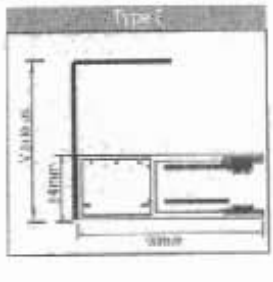
System 2





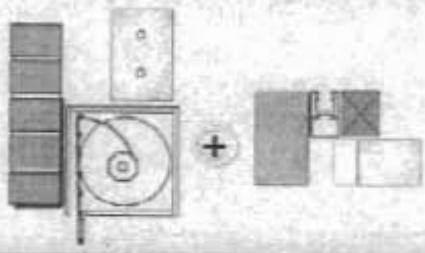


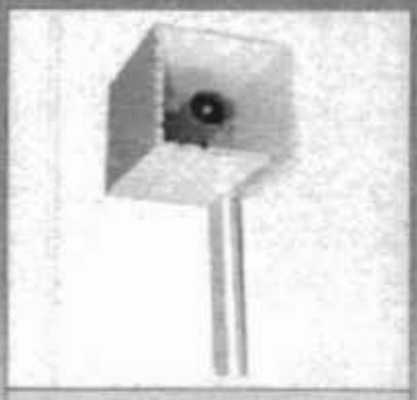




System 1

UPVC shutter housing
Aluminium shutter guide
High security aluminium shutter curtain
Structural lintels by others
Maximum width 2800mm





Shellcast system 1



We fit to window in factory or site environment

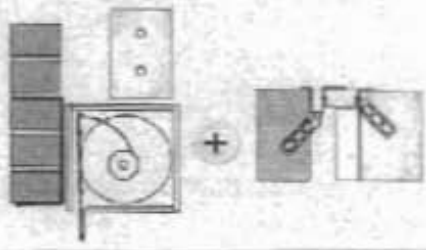


We install roller shutters when the box/window assembly has been secured

System 1 style with built in guides

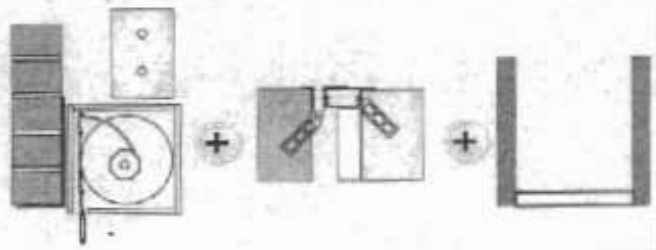
Integral Light

UPVC or Aluminium shutter housing
Vertical cavity closer / shutter guide
High security aluminium shutter curtain
Structural lintels by others
Maximum width 2800mm
Benefits: Standard jamb detail 25mm return on outer leaf to allow for cut brick returns



Integral Light Plus

UPVC or Aluminium shutter housing
Vertical cavity closer / shutter guide
High security aluminium shutter curtain
Horizontal cavity closer with elbows to fit to vertical closers
Structural lintels by others
Maximum width 2800mm
Benefits: Closer system makes opening width accurate and quick to install
Standard jamb detail 25mm return on outer leaf to allow for cut brick returns



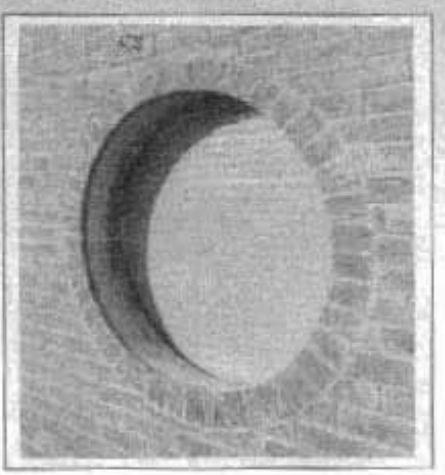
SURE START NURSERY











Location : Worcester

Ground floor shutters using lintel system.

Wall construction tradtional and rendered (Special bulls eye lintels).

External key switched for main entrance with a battery backup in the event of power failure.

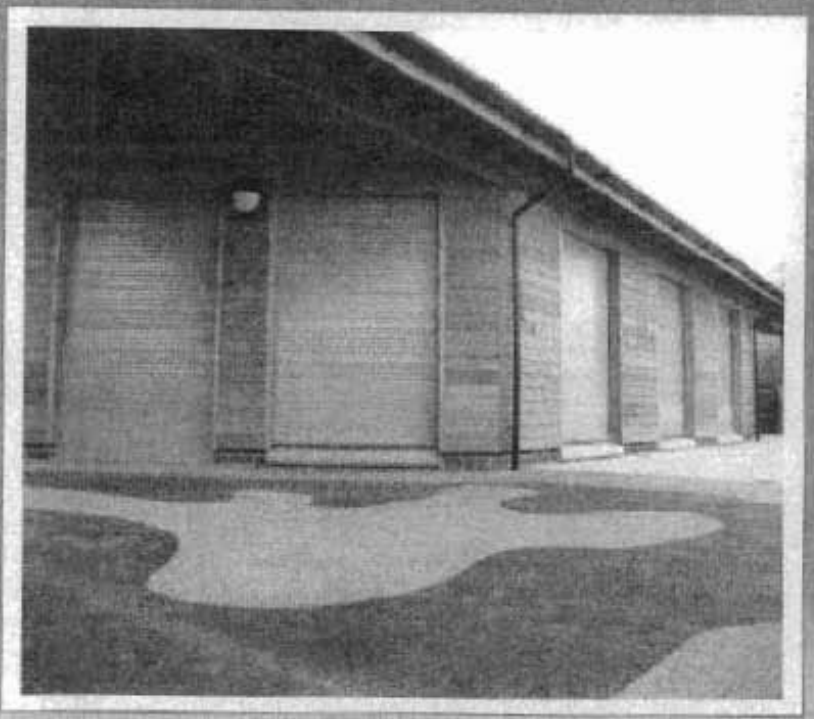
Main entrance shutter lintel with a stepped outer toe to allow adequate space for automatic door gearing.

34 external shutters with one additional internal fire rated shutter.

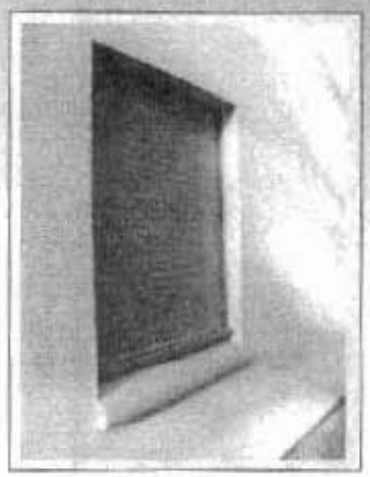
Shutters control in groups.

Manual overrides fitted to all shutters to allow temporary operation in the event of power failure.

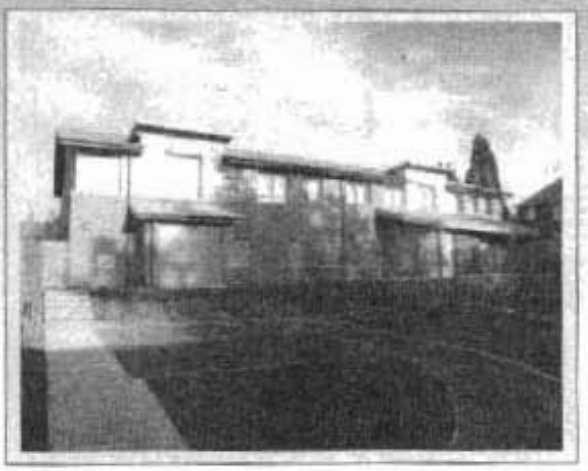
SURE START NURSERY











Location : Birmingham

Ground floor shutters using lintel system and external fixed aluminium box.

Wall construction traditional, rendered and timber clad.

External key switched for main entrance with a battery backup in the event of power failure.

Main entrance shutter lintel with a stepped outer toe to allow adequate space for automatic door gearing.

34 external shutters with one additional internal fire rated shutter

Shutters control in groups.

Manual overrides fitted to all shutters to allow temporary operation in the event of power failure.

ONE STOP COMMUNITY CENTRE









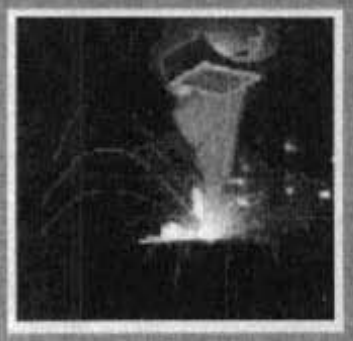
Location : Birmingham

Ground floor shutters using lintel system
Wall construction traditional.
External key switched main entrance shutter with a battery backup in the event of power failure.
Main entrance shutter 4000x6500mm high
161 external shutters.
Shutters control in groups.
Manual overrides fitted to all shutters to allow temporary operation in the event of power failure.
Structural corner lintel and posts supplied.



WHY NOT USE SHELLCAST FOR ALL YOUR PROJECT LINTELS

Shellcast can supply all your lintel requirements from special shutter to a standard cavity or internal single leaf lintel.







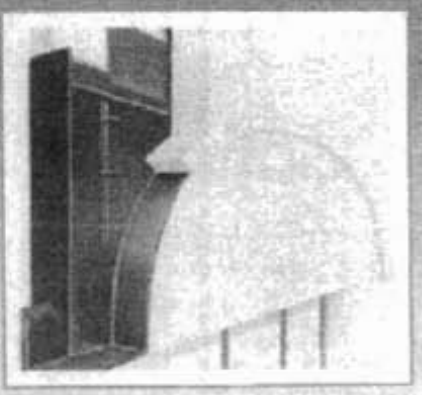
THE ULTIMATE LINTE. If you are now convinced that stainless steel is the material to use, you already have 90% of the best cavity tray money can buy, for a small extra cost specify the Lintray*.

The Lintray* is a stainless steel lintel with welded stop ends and end plates. It can be installed as easily
as any other lintel. It costs about the same as an equivalent collection of galvanized lintel, plastic
cavity tray and stop ends with a far superior long term performance.

It's also very forgiving when it comes to installation, compared with the problems of fixing plastic stop ends in cold, damp weather when the site operatives are working in difficult conditions.

Lintray* works very simply by anticipating all the weak points for damp and the ingress of water in a standard lintel installation and providing a permanent, watertight solution in each case.

The Lintray* is available on all lintels where Lintray* is shown under optional features.



The Lintray* has been designed specifically to provide a perfect cavity tray combined with an integral stainless steel lintel, suitable for use anywhere in the U.K., regardless of severe exposure to driving rain.

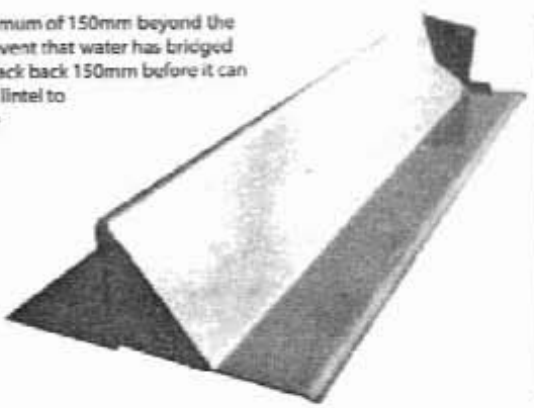
The Lintray* consists of three specific barriers to protect against the elements:

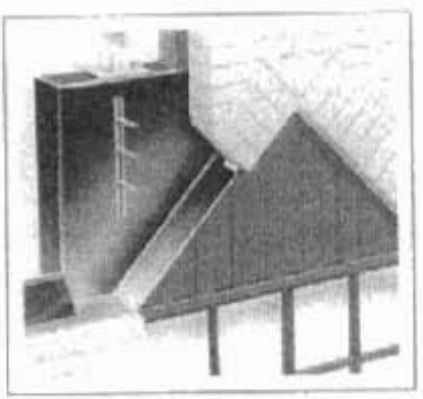
Barrier 1
The first barrier to exposure are fully welded stop-ends which reach out into the horizontal mortar joint halfway through the outer leaf.



Barrier 2
The second barrier comprises fully welded tapered end plates which direct water (in the unlikely event barrier 1 has been bridged) to the outer leaf, even if the Lintray* has been installed sloping towards the inner leaf.

Barrier 3
The stop-ends and tapered end plates are a minimum of 150mm beyond the end of the base-plate. In the extremely unlikely event that water has bridged barrier 1 & 2, it is necessary for the moisture to track back 150mm before it can cross to the inner leaf. The Lintray* is as easy as a lintel to install and entirely eliminates the risk of damage to, or incorrect installation of, flexible DPC's, or plastic cavity trays by site operatives.
The concern surrounding the secure and permanent watertight adhesion of plastic stop-ends in cold wet weather is also eliminated.



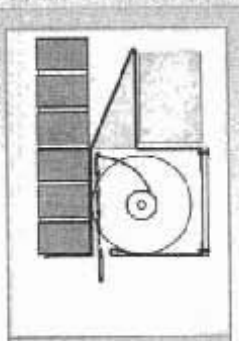


MATERIALS

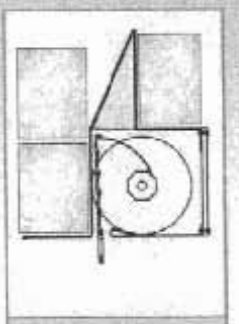
Lintels are manufactured to all specifications.
Lintrays are manufactured to specification A/1 and A.
A/ Stainless Steel - Supplied in correct grade to suit specific applications e.g. grade 316 for ultra highly corrosive environments. A/1 with additional protective coating*, A without.
B/ Mild Steel - Complying with BS4360. B/1 with additional protective coating. Also paint finishes to your requirement.
C/ Structural Steel - Complying with BS4360. Hot dipped, zinc galvanized, after manufacture to BS729 with a minimum coating weight of 920g/m 2 including both sides. C/1 with additional protective coating*, C without.
D/ Galvanized Steel - Complying with BSEN10142 1991. Lintels are manufactured from continuously hot dipped, zinc coated low carbon steel sheets, cold formed with a minimum coating weight of 600g/m 2 including both sides. D/1 with additional protective coating*, D without.

The safe working loads of all lintels are derived by calculations in conjunction with computer modelling technology and tests at the University of Glamorgan in accordance with the requirements of BS5977: Part 2: 1983.
Quality - Quality assured to BS EN ISO 9002:
1994. All products comply with BS 5977: Part 2:
1983 for corrosion, protection, workmanship and material.
Technical Advisory/Design Service - We provide an expert advisory and design service completely free of charge. Technical advice on specification, design or installation. Structural loading calculations. Design of special lintels in accordance with your exact requirements including computer produced detailed dimensioned drawings.
Insulation - All cavity wall lintels are fully insulated with close fitted, CFC free, high density polystyrene, manufactured in accordance with BS3837, Part1:1986. Formed to the exact profile of the lintel, throughout the entire length of the lintel.

LINTEL VARIATIONS



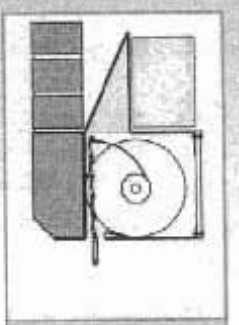
Standard Type



Wide Outer Toe

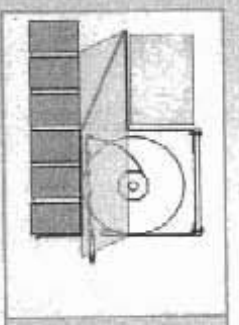
Applications:

Feature stone
Render



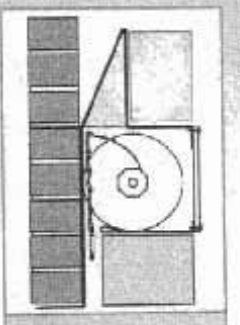
Cant Brick Toe

Special brick features
Soldier course



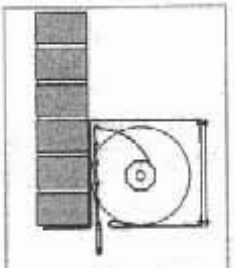
Lintray

All in one cavity tray and lintel made from stainless steel, the most reliable system available.



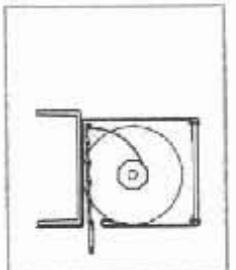
Stepped Toe

Developed for doorways with automatic gearing at the head.



Box lintel

Light external loads



PFC toe

When space is minimal we can support moderate loads.

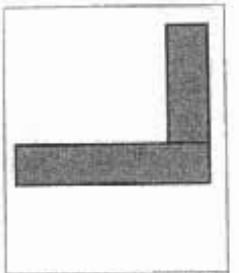


Bulls eye lintel

The same principal applies to any shape of arched lintel



Curved on plan lintel



Corner lintel

Can be supplied with supporting corner post.

Cavity size 47mm ~ 56mm



HSS/50/105



HSS/50/146



HSS/50/212



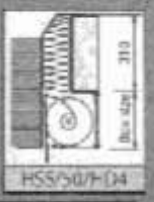
HSS/50/157



HSS/50/232



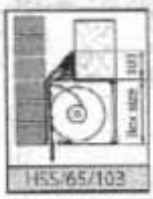
HSS/50/EAL



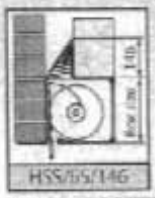
HSS/50/HD4

Standard duty						Medium duty				Heavy duty			
Opening Size	Safe UDL kN Load Ratio 1:5	Opening Size	Safe UDL kN Load Ratio 1:5	Opening Size	Safe UDL kN Load Ratio 1:5	Opening Size	Safe UDL kN Load Ratio 1:10	Opening Size	Safe UDL kN Load Ratio 1:10	Opening Size	Safe UDL kN Load Ratio 1:10	Opening Size	Safe UDL kN Load Ratio 1:10
600	50	600	40	600	50	600	40	600	60	600	188	600	175
750	50	750	40	750	50	750	40	750	60	900	188	900	175
900	50	900	40	900	50	900	40	900	60	1200	186	1200	175
1050	50	1050	40	1050	50	1050	40	1050	60	1500	184	1500	175
1200	44	1200	38	1200	50	1200	40	1200	60	1800	186	1800	175
1350	38	1350	35	1350	50	1350	40	1350	60	2100	188	2100	175
1500	33	1500	32	1500	50	1500	40	1500	60	2400	186	2400	175
1650		1650	30	1650	50	1650	40	1650	60	2700	188	2700	175
1800		1800	27	1800	50	1800	40	1800	60	3000	188	3000	175
1950		1950	25	1950	50	1950	40	1950	60	3300	172	3300	159
2100		2100	23	2100	47	2100	40	2100	60	3600	158	3600	147
2250		2250	22	2250	44	2250	38	2250	59	3900	146	3900	136
2400		2400	21	2400	42	2400	36	2400	57	4200	137	4200	128
2550		2550	19	2550	39	2550	34	2550	54	4500	116	4500	118
2700		2700	18	2700	37	2700	33	2700	51	4800	103	4800	111
2850		2850	18	2850	36	2850	30	2850	49	5100	91	5100	105
3000		3000		3000	34	3000	29	3000	46	5400	81	5400	99
3150		3150		3150	32	3150	28	3150	44	5700	73	5700	88
3300		3300		3300	31	3300	26	3300	42	6000	66	6000	78
3450		3450		3450	30	3450	25	3450	41	6300	60	6300	70
3600		3600		3600	28	3600	24	3600	39	6600	55	6600	64
3750		3750		3750	27	3750	22	3750	38	6900	50	6900	59
3900		3900		3900	26	3900	21	3900	36	7200	46	7200	54
4050		4050		4050	25	4050	19	4050	35	7500	43	7500	50
4200		4200		4200	24	4200	18	4200	34	7800	39	7800	46
4350		4350		4350	23	4350	17	4350	32	8100	37	8100	43
4500		4500		4500	23	4500	15	4500	31				
Standard duty						Medium duty				Heavy duty			

Cavity size 57mm ~ 71mm



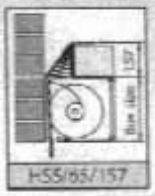
HSS/65/103



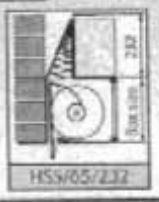
HSS/65/146



HSS/65/211



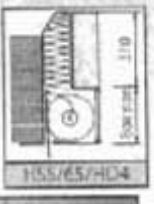
HSS/65/157



HSS/65/232



HSS/65/EAL



HSS/65/HD4

Standard duty						Medium duty				Heavy duty			
Opening Size	Safe UDL kN Load Ratio 1:5	Opening Size	Safe UDL kN Load Ratio 1:5	Opening Size	Safe UDL kN Load Ratio 1:5	Opening Size	Safe UDL kN Load Ratio 1:10	Opening Size	Safe UDL kN Load Ratio 1:10	Opening Size	Safe UDL kN Load Ratio 1:10	Opening Size	Safe UDL kN Load Ratio 1:10
600	50	600	48	600	50	600	40	600	60	600	188	600	175
750	50	750	48	750	50	750	40	750	60	900	188	900	175
900	50	900	48	900	50	900	40	900	60	1200	188	1200	175
1050	50	1050	48	1050	50	1050	40	1050	60	1500	188	1500	175
1200	50	1200	34	1200	50	1200	40	1200	60	1800	188	1800	175
1350	50	1350	30	1350	50	1350	40	1350	60	2100	188	2100	175
1500		1500	28	1500	50	1500	40	1500	60	2400	188	2400	175
1650		1650	26	1650	50	1650	40	1650	60	2700	188	2700	175
1800		1800	24	1800	48	1800	40	1800	60	3000	188	3000	175
1950		1950	22	1950	45	1950	40	1950	60	3300	172	3300	159
2100		2100	21	2100	42	2100	40	2100	60	3600	158	3600	147
2250		2250	19	2250	39	2250	40	2250	60	3900	146	3900	136
2400		2400	18	2400	37	2400	40	2400	60	4200	137	4200	128
2550		2550	17	2550	35	2550	38	2550	60	4500	116	4500	118
2700		2700		2700	33	2700	36	2700	60	4800	103	4800	111
2850		2850		2850	31	2850	34	2850	58	5100	91	5100	105
3000		3000		3000	30	3000	32	3000	56	5400	81	5400	99
3150		3150		3150	29	3150	30	3150	53	5700	73	5700	94
3300		3300		3300	27	3300	29	3300	51	6000	66	6000	78
3450		3450		3450	26	3450	28	3450	49	6300	60	6300	70
3600		3600		3600	25	3600	27	3600	47	6600	55	6600	64
3750		3750		3750	24	3750	25	3750	45	6900	50	6900	59
3900		3900		3900	23	3900	24	3900	41	7200	46	7200	54
4050		4050		4050	20	4050	18	4050	42	7500	43	7500	50
4200		4200		4200	20	4200	15	4200	38	7800	39	7800	46
4350		4350		4350	19	4350	15	4350	35	8100	36	8100	43
4500		4500		4500	20	4500	15	4500	33				
Standard duty						Medium duty				Heavy duty			

Cavity size 72mm – 84mm



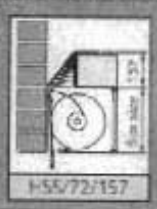
HSS/72/100



HSS/72/142



HSS/72/209



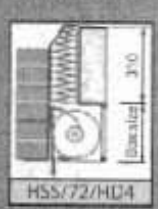
HSS/72/157



HSS/72/232



HSS/72/EAL



HSS/72/HD4

Standard duty

Opening Size	Safe UDL kN Load Ratio 1:8	Opening Size	Safe UDL kN Load Ratio 1:8	Opening Size	Safe UDL kN Load Ratio 1:8
600	20	800	20	850	50
750	20	850	30	950	50
900	20	900	30	1000	50
1050	20	1050	30	1050	50
1200	18	1200	30	1200	50
1350	16	1350	30	1350	50
1500	15	1500	28	1500	50
1650	14	1650	25	1650	50
1800		1800	23	1800	48
1950		1950	22	1950	44
2100		2100	20	2100	41
2250		2250	19	2250	39
2400		2400	18	2400	37
2550		2550	17	2550	35
2700		2700		2700	33
2850		2850		2850	31
3000		3000		3000	30
3150		3150		3150	28
3300		3300		3300	27
3450		3450		3450	25
3600		3600		3600	24
3750		3750		3750	24
3900		3900		3900	23
4050		4050		4050	22
4200		4200		4200	22
4350		4350		4350	20
4500		4500		4500	20

Standard duty

Medium duty

Opening Size	Safe UDL kN Load Ratio 1:10	Opening Size	Safe UDL kN Load Ratio 1:10
600	40	800	60
750	40	850	60
900	40	900	60
1050	40	1050	60
1200	40	1200	60
1350	40	1350	60
1500	40	1500	60
1650	40	1650	60
1800	40	1800	60
1950	40	1950	60
2100	40	2100	60
2250	40	2250	60
2400	40	2400	60
2550	40	2550	60
2700	38	2700	60
2850	36	2850	58
3000	34	3000	55
3150	32	3150	53
3300	30	3300	50
3450	28	3450	48
3600	26	3600	46
3750	25	3750	44
3900	23	3900	43
4050	22	4050	41
4200	18	4200	40
4350	17	4350	38
4500	16	4500	37

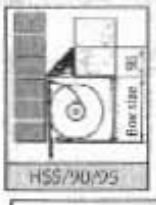
Medium duty

Heavy duty

Opening Size	Safe UDL kN Load Ratio 1:19	Opening Size	Safe UDL kN Load Ratio 1:19
600		600	189
900	189	900	189
1200	189	1200	189
1500	189	1500	189
1800	189	1800	189
2100	189	2100	189
2400	189	2400	189
2700	189	2700	189
3000	189	3000	189
3300	179	3300	189
3600	159	3600	189
3900	147	3900	155
4200	135	4200	144
4500	118	4500	134
4800	104	4800	122
5100	93	5100	113
5400	83	5400	103
5700	75	5700	95
6000	67	6000	87
6300	61	6300	79
6600	56	6600	72
6900	51	6900	66
7200	47	7200	61
7500	43	7500	56
7800	40	7800	52
8100	37	8100	48

Heavy duty

Cavity size 85mm – 96mm



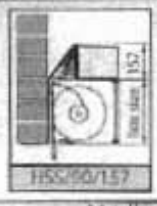
HSS/90/095



HSS/90/139



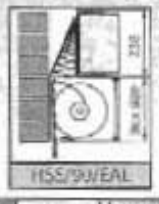
HSS/90/207



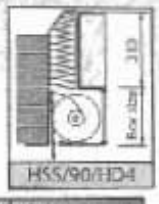
HSS/90/157



HSS/90/232



HSS/90/EAL



HSS/90/HD4

Standard duty

Opening Size	Safe UDL kN Load Ratio 1:8	Opening Size	Safe UDL kN Load Ratio 1:8	Opening Size	Safe UDL kN Load Ratio 1:8
600	20	800	30	850	50
750	20	850	30	950	50
900	20	900	30	1000	50
1050	20	1050	30	1050	50
1200	18	1200	30	1200	50
1350	16	1350	30	1350	50
1500	15	1500	28	1500	50
1650	13	1650	25	1650	50
1800		1800	23	1800	47
1950		1950	22	1950	44
2100		2100	20	2100	41
2250		2250	19	2250	39
2400		2400	18	2400	37
2550		2550	17	2550	35
2700		2700	16	2700	33
2850		2850		2850	31
3000		3000		3000	30
3150		3150		3150	28
3300		3300		3300	27
3450		3450		3450	25
3600		3600		3600	25
3750		3750		3750	24
3900		3900		3900	23
4050		4050		4050	22
4200		4200		4200	21
4350		4350		4350	21
4500		4500		4500	20

Standard duty

Medium duty

Opening Size	Safe UDL kN Load Ratio 1:10	Opening Size	Safe UDL kN Load Ratio 1:10
600	40	800	60
750	40	850	60
900	40	900	60
1050	40	1050	60
1200	40	1200	60
1350	40	1350	60
1500	40	1500	60
1650	40	1650	60
1800	40	1800	60
1950	40	1950	60
2100	40	2100	60
2250	40	2250	60
2400	40	2400	60
2550	40	2550	60
2700	38	2700	60
2850	36	2850	58
3000	34	3000	55
3150	32	3150	53
3300	30	3300	50
3450	28	3450	48
3600	26	3600	46
3750	25	3750	44
3900	23	3900	43
4050	22	4050	41
4200	18	4200	40
4350	17	4350	38
4500	16	4500	37

Medium duty

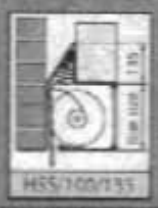
Heavy duty

Opening Size	Safe UDL kN Load Ratio 1:19	Opening Size	Safe UDL kN Load Ratio 1:19
600	189	600	189
900	189	900	189
1200	189	1200	189
1500	189	1500	189
1800	189	1800	189
2100	189	2100	189
2400	189	2400	189
2700	189	2700	189
3000	189	3000	189
3300	168	3300	189
3600	153	3600	167
3900	142	3900	155
4200	127	4200	144
4500	111	4500	135
4800	98	4800	127
5100	87	5100	119
5400	78	5400	107
5700	70	5700	95
6000	63	6000	87
6300	58	6300	79
6600	53	6600	72
6900	48	6900	66
7200	44	7200	61
7500	41	7500	56
7800	38	7800	52
8100	35	8100	48

Heavy duty

Cavity size 97mm – 119mm



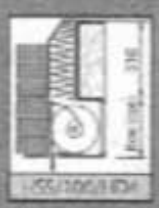










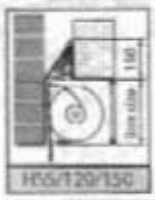


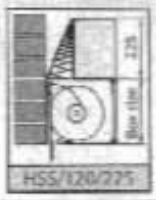
Standard duty					
Opening Size	Safe UDL kN Load	Opening Size	Safe UDL kN Load	Opening Size	Safe UDL kN Load
600	33	600	30	630	28
750	31	750	65	900	52
900	30	900	30	1050	50
1050	30	1050	28	1200	46
1200	28	1200	26	1350	44
1350	26	1350	25	1500	42
1500	25	1500	24	1650	40
1650	23	1650	23	1800	38
1800	22	1800	22	1950	36
1950	21	1950	21	2100	34
2100	20	2100	20	2250	32
2250	19	2250	19	2400	30
2400	18	2400	18	2550	28
2550	17	2550	17	2700	26
2700	16	2700	16	2850	24
2850	15	2850	15	3000	22
3000	14	3000	14	3150	21
3150	13	3150	13	3300	20
3300	12	3300	12	3450	19
3450	11	3450	11	3600	18
3600	10	3600	10	3750	17
3750	9	3750	9	3900	16
3900	8	3900	8	4050	15
4050	7	4050	7	4200	14
4200	6	4200	6	4350	13
4350	5	4350	5	4500	12
4500	4	4500	4		

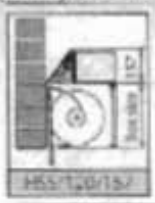
Medium duty			
Opening Size	Safe UDL kN Load	Opening Size	Safe UDL kN Load
600	40	600	80
750	40	750	80
900	40	900	80
1050	40	1050	80
1200	40	1200	80
1350	40	1350	80
1500	40	1500	80
1650	40	1650	80
1800	40	1800	80
1950	40	1950	80
2100	40	2100	80
2250	40	2250	80
2400	40	2400	80
2550	40	2550	80
2700	40	2700	80
2850	40	2850	80
3000	40	3000	80
3150	40	3150	80
3300	40	3300	80
3450	40	3450	80
3600	40	3600	80
3750	40	3750	80
3900	40	3900	80
4050	40	4050	80
4200	40	4200	80
4350	40	4350	80
4500	40	4500	80

Heavy duty			
Opening Size	Safe UDL kN Load	Opening Size	Safe UDL kN Load
600	160	600	320
750	160	750	320
900	160	900	320
1050	160	1050	320
1200	160	1200	320
1350	160	1350	320
1500	160	1500	320
1650	160	1650	320
1800	160	1800	320
1950	160	1950	320
2100	160	2100	320
2250	160	2250	320
2400	160	2400	320
2550	160	2550	320
2700	160	2700	320
2850	160	2850	320
3000	160	3000	320
3150	160	3150	320
3300	160	3300	320
3450	160	3450	320
3600	160	3600	320
3750	160	3750	320
3900	160	3900	320
4050	160	4050	320
4200	160	4200	320
4350	160	4350	320
4500	160	4500	320

Cavity size 120mm – 139mm

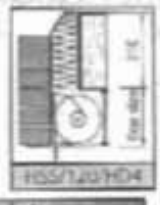












Standard duty					
Opening Size	Safe UDL kN Load	Opening Size	Safe UDL kN Load	Opening Size	Safe UDL kN Load
600	75	600	38	630	35
750	71	750	56	900	52
900	70	900	70	1050	50
1050	68	1050	68	1200	46
1200	66	1200	66	1350	44
1350	65	1350	65	1500	42
1500	63	1500	63	1650	40
1650	62	1650	62	1800	38
1800	61	1800	61	1950	36
1950	59	1950	59	2100	34
2100	58	2100	58	2250	32
2250	56	2250	56	2400	30
2400	54	2400	54	2550	28
2550	53	2550	53	2700	26
2700	51	2700	51	2850	24
2850	49	2850	49	3000	22
3000	48	3000	48	3150	21
3150	46	3150	46	3300	20
3300	44	3300	44	3450	19
3450	43	3450	43	3600	18
3600	41	3600	41	3750	17
3750	39	3750	39	3900	16
3900	38	3900	38	4050	15
4050	36	4050	36	4200	14
4200	34	4200	34	4350	13
4350	33	4350	33	4500	12
4500	31	4500	31		

Medium duty			
Opening Size	Safe UDL kN Load	Opening Size	Safe UDL kN Load
600	75	600	150
750	75	750	150
900	75	900	150
1050	75	1050	150
1200	75	1200	150
1350	75	1350	150
1500	75	1500	150
1650	75	1650	150
1800	75	1800	150
1950	75	1950	150
2100	75	2100	150
2250	75	2250	150
2400	75	2400	150
2550	75	2550	150
2700	75	2700	150
2850	75	2850	150
3000	75	3000	150
3150	75	3150	150
3300	75	3300	150
3450	75	3450	150
3600	75	3600	150
3750	75	3750	150
3900	75	3900	150
4050	75	4050	150
4200	75	4200	150
4350	75	4350	150
4500	75	4500	150

Heavy duty			
Opening Size	Safe UDL kN Load	Opening Size	Safe UDL kN Load
600	320	600	320
750	320	750	320
900	320	900	320
1050	320	1050	320
1200	320	1200	320
1350	320	1350	320
1500	320	1500	320
1650	320	1650	320
1800	320	1800	320
1950	320	1950	320
2100	320	2100	320
2250	320	2250	320
2400	320	2400	320
2550	320	2550	320
2700	320	2700	320
2850	320	2850	320
3000	320	3000	320
3150	320	3150	320
3300	320	3300	320
3450	320	3450	320
3600	320	3600	320
3750	320	3750	320
3900	320	3900	320
4050	320	4050	320
4200	320	4200	320
4350	320	4350	320
4500	320	4500	320

Shellcast

Security shutters

Shellcast's range of products have been developed to comply with the latest product directives and standards including BSEN 13241-1 applicable from the 1st May 2005.

Shellcast Security Shutters
Unit 2, Frederick Road
Kidderminster,
DY11 7RA
Tel: 01562 750700
Fax: 01562 750800

www.shellcast-shutters.co.uk