LANG+FULTON









Steel Fencing Systems

Italia & Delta Louvred Fences & Screening

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Our History & Services

Lang+Fulton is one of the oldest companies in Scotland; its history as iron merchants in Greenock dates back to 1781. From those early days it developed into an important supplier of steel to the UK shipbuilding industry, often carrying steel from the mills in its own ships.

The business has progressively evolved from this background in steel stockholding, fabrication and shipping, and today operates as a supplier of fencing, gratings and louvres, employing a young team from design, engineering and surveying backgrounds.

Our main sales and technical office is based in Edinburgh, with a presence and stock-holding facility in the West Midlands to best serve our primary market in the South.



The Custom House Quay, Greenock 1820
Robert Salmon (1775-1845)

Fencing

Lang+Fulton's louvred fencing systems combine practicality with a sharp contemporary appearance. They offer a low cost alternative to a solid wall with the advantages of quick and easy installation. Standard width panels are supplied with custom-sized closing panels to suit site measurements and RHS posts in appropriate lengths for either ground or wall fixing; non-standard heights and widths are available to order. Any height of fence can be achieved using a combination of panels, neatly fitted together.



Security & Durability

The rigid steel panels offer the benefits of low maintenance and a long-lasting finish while providing a high degree of perimeter protection, with direct fixing between panel and post for the strongest possible connection. The angled louvres provide effective anti-climb properties for security applications.



Bin Stores

Lang+Fulton will design and supply bespoke installations but can also propose a modular system specifically designed for wheelie bins, which incorporates the most economical use of standard panel sizes. Bin stores can be made with or without a roof.

Compounds & Bike Stores

Secure enclosures or partitioned areas for bicycle or general storage are individually designed. The choice of material will determine the through-visibility of the structure and the corresponding amount of natural daylight; a semi-transparent structure is often considered to provide a safer environment.



Roof Screens & Plant Housing

Ground-level or roof-top housings and screens for the safe protection of mechanical plant and service systems are made from bespoke panels. Different louvres will provide alternative percentages of free area for ventilation and wind resistance.

Balconies & Balustrades

The visual screening properties of the louvred panels make them an appropriate material for projects such as balconies, balustrading and external stairs.



Technical Assistance and Design

Our Technical Team can draw upon a wealth of experience to propose the exact product that will deliver the desired aesthetic and the most cost-effective, code-compliant solution for a particular project. A full design service is available for panels, posts and gates with consultant engineering services for non-standard loadings and detailed CAD drawings for layout and installation.

Supply

Products are supplied fully finished for site installation throughout the UK, Channel Islands, Ireland and worldwide destinations.

While all reasonable care is taken to ensure that published and website information is accurate and regularly updated, Lang+Fulton cannot guarantee its accuracy and information may change at any time without notice.

Our Products

Lang+Fulton offers the widest choice of louvred fencing products to the UK and worldwide markets.

The mild steel construction is more economical than aluminium and has a much greater intrinsic strength.

This is particularly important as the linear nature of any louvred material will highlight any defect or irregularity. There are many street-front sites or compounds which may be subjected to hard knocks and potential damage. Where aluminium will dent and distort, steel will maintain the uniformity of its line.

Italia louvres have a continuous lateral appearance. There are two alternative products within the range.

- ***Italia-100*** with overlapping louvres
- ***Italia-80*** with a 9mm louvre gap

The panels which are framed on both sides are made from profiled steel louvres which are fused to round transverse bars. During the fusion process high voltage electricity combines with pressure to totally amalgamate the component parts at each intersection.

Delta louvres have a crisp aesthetic; three different styles offer a choice of linear, geometric or gently profiled form.

The panels are made from inclined steel flat bars which are pressure locked to vertical transverse bars. This process creates perfectly formed intersections.

The inclined louvre can be spaced at any increment of 11mm to provide either total screening or any degree of partial screening with a corresponding free area.

Delta products are particularly robust with a 40x2mm louvre and 20x2 or 30x2mm vertical bars.

- ***DeltaWing***
  The vertical bar is recessed to achieve a more linear appearance.
- ***DeltaBox***
  The vertical bar is in line to achieve a more geometric appearance.
- ***DeltaFoil***
  The angled bar is profiled to achieve a more organic appearance.


DeltaWing-90

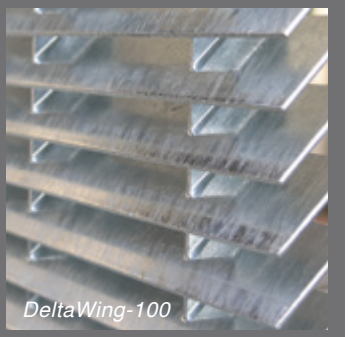

Italia-80

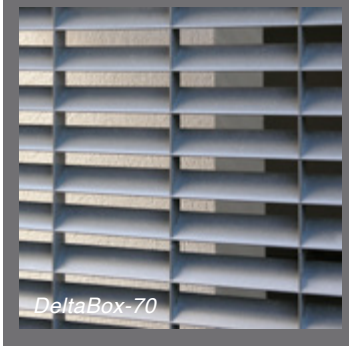

Italia-80 Vertical

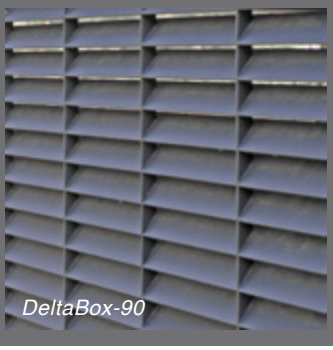

Italia-100


DeltaWing-90


DeltaWing-45


DeltaWing-100


DeltaBox-70


DeltaBox-90


DeltaFoil-70

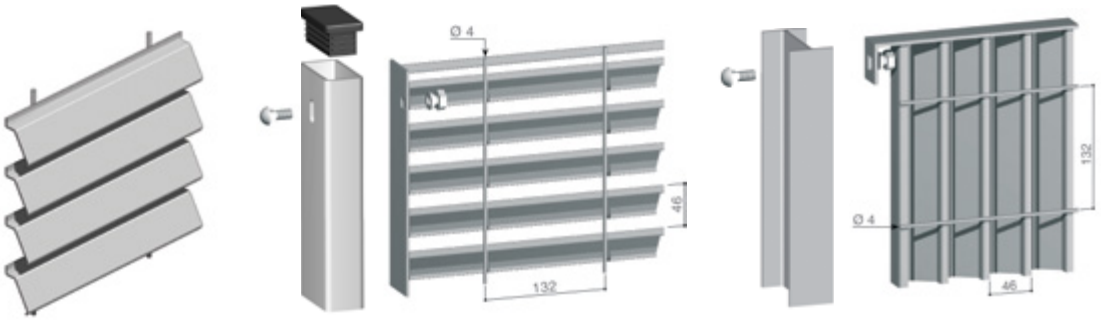








Italia-80

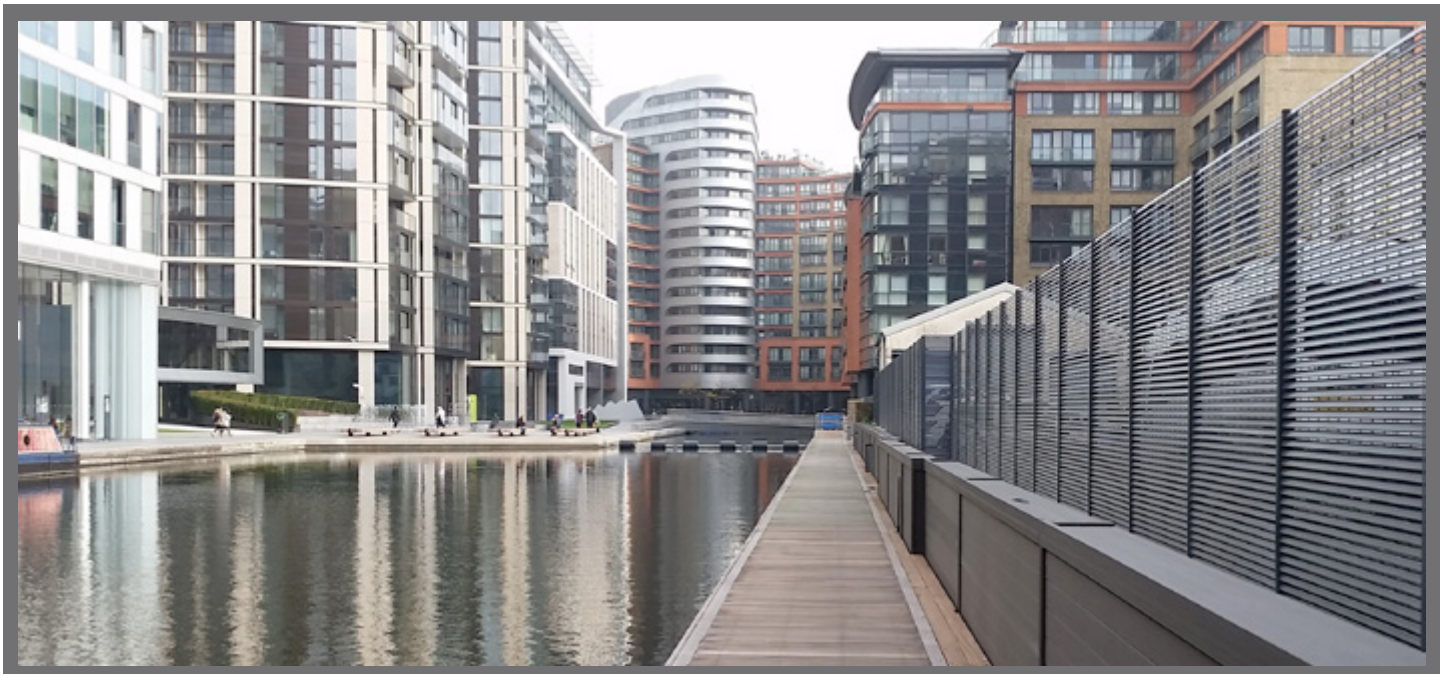


PANEL			RHS POST	POST CENTRES	GROUND FIXING	WALL FIXING	BOLTS
HEIGHT mm	WIDTH† mm	WEIGHT kg	SECTION mm	mm	LENGTH/ANCHORAGE mm	LENGTH/ANCHORAGE mm	NO per post
954	1962	31	80x40	2002	1500/450	1300/200	2
1184	1962	39	80x40	2002	1800/550	1500/200	2
1596	1962	50	80x40	2002	2300/600	1900/200	2
1733	1962	54	80x40	2002	2500/700	2100/300	2
1963	1962	62	80x40	2002	2800/700	2400/300	2
2423*	1962	62+14	80x40	2002	3200/700	2800/300	4
2607*	1962	62+20	80x40	2002	3400/700	3000/300	4
2929*	1962	62+30	100x50	2012	3700/700	3300/300	4
ITALIA-80 Vertical: panels are made with vertical louvres available in heights up to maximum 2500x1992mm and supplied with 100x55mm I-posts centred at 2000mm							

* heights provided by 2 panels

†custom widths made to order

	VISUAL SCREENING %	FREE AREA %	CLEAR SPACE mm	LOUVRE CENTRES mm	LOUVRE PROFILE SECTION mm
Italia-80	80	36	9	46	50x1.5
Italia-80 Vertical	variable	36	9	46	50x1.5









Case Study
Italia-80

As part of the development of Merchant Square, a new walkway was constructed at Paddington Basin. Italia-80 was supplied in 10 different heights ranging from 2100mm to 2650mm to accommodate the uneven ground and fixed with base plates or brackets where there was close proximity to neighbouring buildings.









Case Studies
Roof-top Screening

A complete package of panels and posts, engineered to accommodate the calculated wind loadings, is designed either for direct roof-fixing or with a ballasted support system suitable for installation on a continuous waterproof membrane.

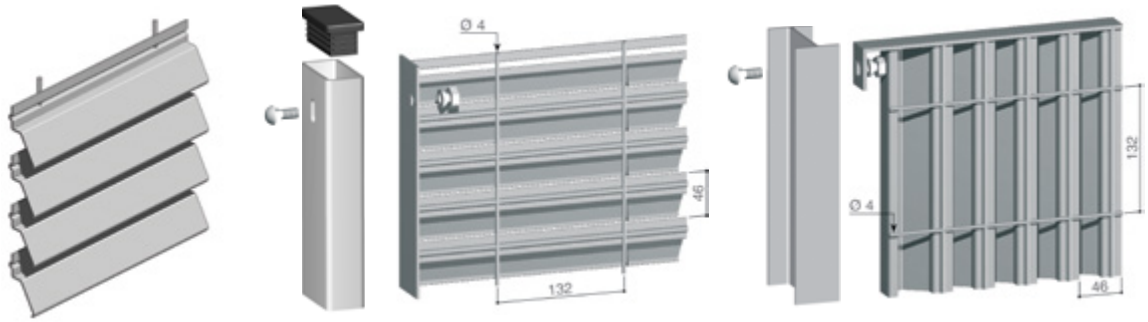








Italia-100



PANEL			RHS POST	POST CENTRES	GROUND FIXING	WALL FIXING	BOLTS
HEIGHT mm	WIDTH† mm	WEIGHT kg	SECTION mm	mm	LENGTH/ANCHORAGE mm	LENGTH/ANCHORAGE mm	NO per post
967	1962	40	80x40	2002	1500/450	1300/200	2
1196	1962	49	80x40	2002	1800/550	1500/200	2
1608	1962	63	80x40	2002	2300/600	1900/200	2
1745	1962	69	80x40	2002	2500/700	2100/300	2
1975	1962	78	80x40	2002	2800/700	2400/300	2
2479*	1962	78+19	80x40	2002	3200/700	2800/300	4
2616*	1962	78+25	80x40	2002	3400/700	3000/300	4
2937*	1962	78+37	100x50	2012	3700/700	3300/300	4
ITALIA-100 Vertical: panels are made with vertical louvres available in heights up to maximum 2500x1992mm and supplied with 100x55mm I-posts centred at 2000mm							

* heights provided by 2 panels

† custom widths made to order

	VISUAL SCREENING %	FREE AREA %	CLEAR SPACE mm	LOUVRE CENTRES mm	LOUVRE PROFILE SECTION mm
Italia-100	100	29	0	46	69x1.5
Italia-100 Vertical	variable	29	0	46	69x1.5









Case Study
Italia-100

2.5m high fencing at Portavadie Marina Resort was supplied to screen service areas and to provide shelter for the café and outdoor pool. Panels and posts were engineered to cope with potential storm force conditions and polyester powder coated to a marine grade of finish.









Case Study
Italia-100

The Sports Centre at Chemsford is a major venue for athletics and Chelmsford City FC. A 1600mm high Italia-100 fence fulfilled the architect's brief for a durable, cost-effective, screening solution so that fans would be unable to watch matches without purchasing tickets. The fencing was mounted on a 850mm brick wall.


DeltaWing-70

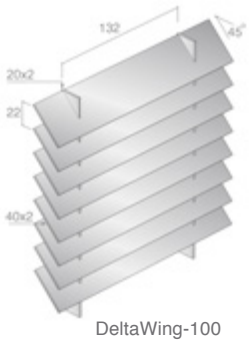

DeltaWing-90


DeltaWing-90

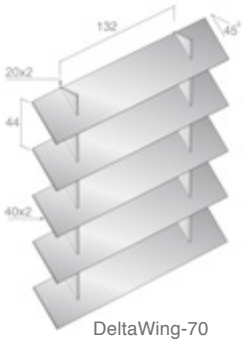

eltaWing-100

DeltaWing

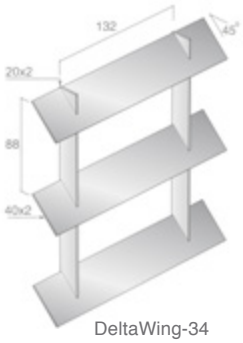
Additional DeltaWing products are available with louvres centred at any increment of 11mm



DeltaWing-100



DeltaWing-70



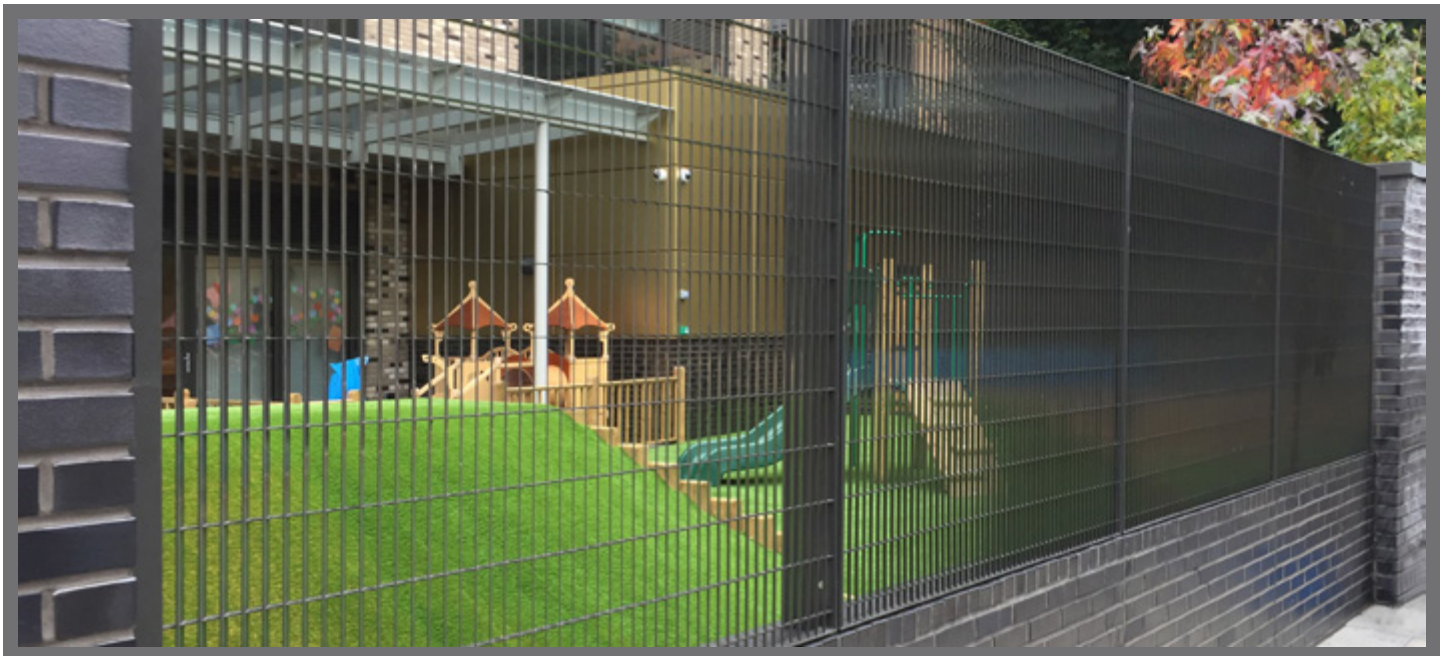
DeltaWing-34

PANEL		RHS POST	POST CENTRES	GROUND FIXING	WALL FIXING	BOLTS
HEIGHT mm	WIDTH † mm	SECTION mm	mm	LENGTH/ANCHORAGE mm	LENGTH/ANCHORAGE mm	NO per post
1006	1720	60x40	1760	1500/450	1300/200	2
1270	1720	60x40	1760	1900/600	1500/200	2
1534	1720	60x40	1760	2200/600	1800/200	2
1720	1720	60x40	1760	2500/700	2100/300	2
2028*	1720	80x40	1760	2800/700	2400/300	2
2160*	1720	80x40	1760	2900/700	2500/300	4
2424*	1720	80x40	1760	3200/700	2800/300	4
2688*	1720	100x50	1770	3400/700	3000/300	4
2952*	1720	100x50	1770	3700/700	3300/300	4

* heights provided by 2 panels

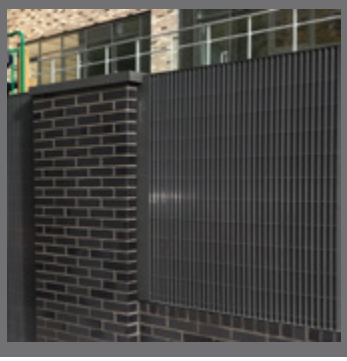
†custom widths made to order

	VISUAL SCREENING (%)	FREE AREA (%)	LOUVRE CENTRES (mm)	CLEAR SPACE (mm)	LOUVRE SECTION (mm)
DeltaWing-100	100	60	22	0	40x2
DeltaWing-90	90	63	33	3	40x2
DeltaWing-70	70	65	44	14	40x2
DeltaWing-45	45	67	66	36	40x2









Case Study
DeltaWing-90V

DeltaWing-90V was used at a new Primary School in Hackney. The fencing was used in combination with a brick wall. The vertical louvres provided security and a semi-transparent screen which increased the sense of space within the small playground area.









Case Study
DeltaWing-90

DeltaWing-90 provided the appropriate amount of security and visual screening for the prestigious out-of-town business premises of a leading technology company. The project included feature panels mixed with polished sandstone as part of an imposing entrance.


DeltaBox-90 stainless steel

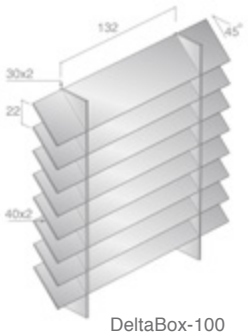

DeltaBox-70


DeltaBox-70

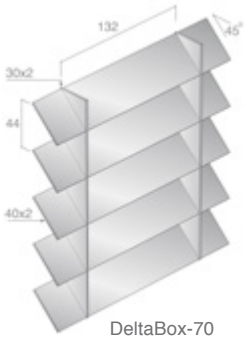

DeltaBox-90

DeltaBox

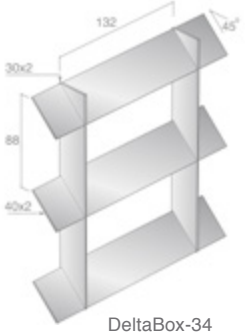
Additional DeltaBox products are available with louvres centred at any increment of 11mm



DeltaBox-100



DeltaBox-70



DeltaBox-34

PANEL		RHS POST	POST CENTRES	GROUND FIXING	WALL FIXING	BOLTS
HEIGHT mm	WIDTH† mm	SECTION mm	mm	LENGTH/ANCHORAGE mm	LENGTH/ANCHORAGE mm	NO per post
1006	1720	60x40	1760	1500/450	1300/200	2
1270	1720	60x40	1760	1900/600	1500/200	2
1534	1720	60x40	1760	2200/600	1800/200	2
1720	1720	60x40	1760	2500/700	2100/300	2
2028*	1720	80x40	1760	2800/700	2400/300	2
2160*	1720	80x40	1760	2900/700	2500/300	4
2424*	1720	80x40	1760	3200/700	2800/300	4
2688*	1720	100x50	1770	3400/700	3000/300	4
2952*	1720	100x50	1770	3700/700	3300/300	4

* heights provided by 2 panels

†custom widths made to order

	VISUAL SCREENING (%)	FREE AREA (%)	LOUVRE CENTRES (mm)	CLEAR SPACE (mm)	LOUVRE SECTION (mm)
DeltaBox-100	100	60	22	0	40x2
DeltaBox-90	90	63	33	3	40x2
DeltaBox-70	70	65	44	14	40x2
DeltaBox-45	45	67	66	36	40x2



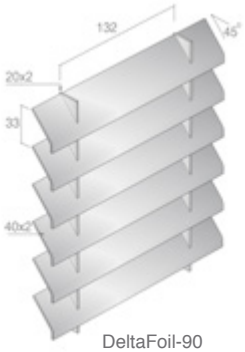






DeltaFoil

Additional DeltaFoil products are available with louvres centred at any increment of 11mm



DeltaFoil-90

PANEL		RHS POST	POST CENTRES	GROUND FIXING	WALL FIXING	BOLTS
HEIGHT mm	WIDTH † mm	SECTION mm	mm	LENGTH/ANCHORAGE mm	LENGTH/ANCHORAGE mm	NO per post
1001	1720	60x40	1760	1500/450	1300/200	2
1270	1720	60x40	1760	1900/600	1500/200	2
1534	1720	60x40	1760	2200/600	1800/200	2
1720	1720	60x40	1760	2500/700	2100/300	2
2028*	1720	80x40	1760	2800/700	2400/300	2
2160*	1720	80x40	1760	2900/700	2500/300	4
2424*	1720	80x40	1760	3200/700	2800/300	4
2688*	1720	100x50	1770	3400/700	3000/300	4
2952*	1720	100x50	1770	3700/700	3300/300	4

* heights provided by 2 panels

† custom widths made to order

	VISUAL SCREENING (%)	FREE AREA (%)	LOUVRE CENTRES (mm)	CLEAR SPACE (mm)	LOUVRE SECTION (mm)
DeltaFoil-100	100	31	22	0	40x2
DeltaFoil-90	90	41	33	3	40x2
DeltaFoil-70	70	44	44	14	40x2
DeltaFoil-45	45	50	66	36	40x2

Wheelie Bin Stores

The quantity of UK domestic waste is increasing at a rate of about 3% per year and Local Authorities are issuing guidelines for storage and collection.
External bin enclosures should be:

- of durable construction
- well ventilated
- secure

Lang+Fulton's bin stores are supplied in a tough hot-dip galvanized finish complete with all accessories and drawings for installation.

The Europa range of standard designs has been developed making the most efficient use of modular components. It is available with or without roofing in 3 different sizes to accommodate 2, 4, or 6 number wheeled 1100 litre Eurobins, all with double door access. The solid steel construction is extremely robust and can incorporate an optional bump rail.

Alternatively, bin stores are individually designed to suit a particular site or requirement and can be made DDA compliant.

A choice of flat bar or RHS posts together with SHS corner posts are supplied in appropriate lengths for ground foundation or fitted with base plates for bolting to a concrete slab.









Case Study
Italia-80 Bin Stores

J-Coss Secondary School, Barnet, North London

Three separate fully enclosed wheelie-bin stores were specified for the disposal and recycling of both general and kitchen waste; one double, one triple and one quadruple. These were supplied complete with box profile roof sheeting and support steelwork with base plates for ground bolting.

Finish: hot-dip galvanized

Architect: RHWL Architects
Main Contractor: Mace Group











Compounds & Security Screening

Louvred compounds provide the security and visual screening which may be needed for industrial gas storage tanks, for mechanical or electrical plant, or for vehicle, bike or equipment stores.

For the highest security requirements, such as electricity sub-stations, a security or bird mesh can also be fitted to the back of the louvres.

Each compound is custom designed with support steelwork and posts. Posts are supplied either for ground foundation or with base plates for fixing to a concrete slab.

Compounds can be supplied with a roof for additional security or for keeping out birds. The roofing is made from a choice of materials:

- single skin profiled steel with Plastisol coloured finish with or without rain-water gutters
- a matching louvre
- an open mesh grating.

Single or double leaf doors can be fitted with self-closing devices, mechanical code locks, magnetic locks, mortice locks or a simple sliding latch for padlock.

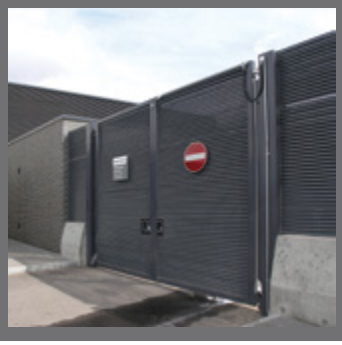














Case Study
Italia-100 Compounds

North Kent Police HQ, Northfleet

The aesthetics of this award winning building were complemented by Italia-100. The robust panels which were mounted on a dwarf crash-barrier wall offered the high level of security and visual screening appropriate for a custody facility.
A 3 metre high enclosure separately housed the emergency generator plant, supplied as a complete package with ancillary steelwork and posts with base plates for slab foundation fixing.

Finish: galvanized and ppc RAL7024

Architect: Glenn Howells Architects

Doors & Gates

All gates are manufactured to custom sizes. Louvred infill panels are generally welded but can be bolted to RHS frames and supplied with SHS posts appropriate to the overall size and weight of the gate.
Gates are designed for manual operation but can also be automated for installation by specialist engineers.

Swing Gates: single-leaf, double-leaf or bi-folding gates are designed to conform to BS1722 Parts 9 or 12.

- Full height blanking/slam plates at hinges
- Eurocylinder Locinox mortice locks, sliding latch for padlocks or Maglocks
- Optional Locinox electric strikes for remote opening with provision for intercom units in gate post or adjacent panel
- Adjustable hinges for ease of installation or self-closing hinges.

Sliding Gates: ground fixed rail, overhead rail or cantilevered gates can be supplied.

Pivot Gates: made up to 2.4m high and 2.0m wide and mounted on a single RHS post and positioned to provide equal or unequal openings.

Automated gates must carry the CE mark certifying manufacture and testing in compliance with EU health, safety and environmental requirements EN13241-1, EN12604, EN12605 and EN12424.









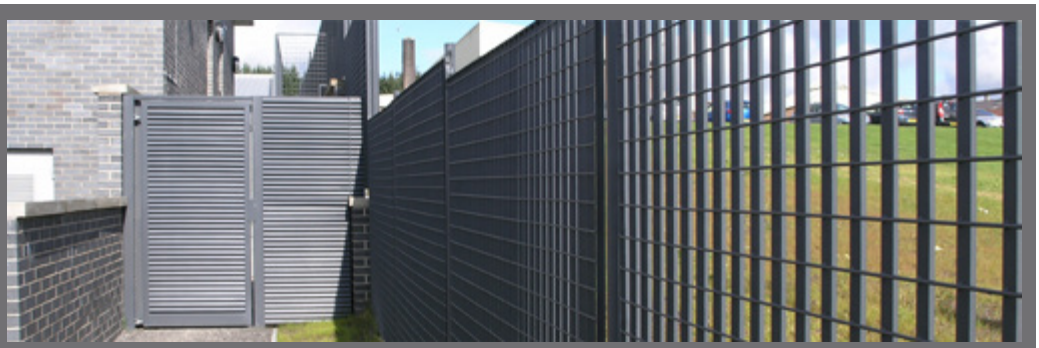
Case Study
Italia-100 Gates

Fauldhouse Partnership Centre Bathgate, West Lothian

Three different styles of louvred gates formed part of a perimeter fencing contract for a £7.2 million Health and Community Leisure Campus. A rear courtyard and side entrance were screened with double gates with emergency exit bars. The main entrance had a matching double-leaf gate with a Locinox mortice lock and drop bolt. The Palermo Grating Fence was also supplied by Lang+Fulton

Finish: galvanized and ppc RAL7024

Architect: Cooper Cromar











Finishing

Galvanizing

All products are supplied hot-dip galvanized to BS EN ISO 1461 for long term durability and a low-cost life cycle.
Galvanized products may randomly exhibit a rough surface texture as well as dissimilar colour characteristics and will oxidise when exposed to the elements.

Polyester Powder Coating

Subsequent to galvanizing, a multi-stage process applies thermo-setting resins producing a significantly superior finish to painting. Polyester powder coating is available in any RAL or BS colour in full accordance with BS EN 13438.
In order to meet this standard and receive certification, the complete process has to be continuous and applied at the same location.

Polyester powder coating provides a smoother finish which attracts less dust and dirt. It is generally recommended for schools or residential projects.







Material

Mild Steel S235JR BSEN10025.

Orientation

Italia panels can be designed with the louvres running either horizontally or vertically. When used vertically, the degree of visual screening will vary, depending on the angle of view. Panels with vertical louvres can be rolled to a radius.

Installation

Fastenings: M10 stainless steel bolts with domed heads and snap-off security nuts, all stainless steel grade AISI 303
Groundworks: posts holes not less than 300mm square in plan, depth not less than 500mm, completely filled to minimum 50mm below ground level, concrete mix C20.
Height from ground: panels to sit maximum 100mm off ground
Changes in level: fence panels stepped to a maximum of 150mm on standard length post. Post centres to be reduced for steeper gradients (between 1:20 and 1:7)
Changes in direction: 80mm or 100mm RSA or SHS for 90° corner post. Composite flat bar posts for other angles.

Ventilation

Free area information is stated as core area based on 1m² of louvre and excludes posts or ancillary steelwork.

Wind Loads

Louvres reduce wind load with a consequential reduction to the groundwork element of any project.

Rainscreen

Italia-100 provides an effective rainscreen with a vertical upstand which limits the formation of a capillary action.











LANG+FULTON

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