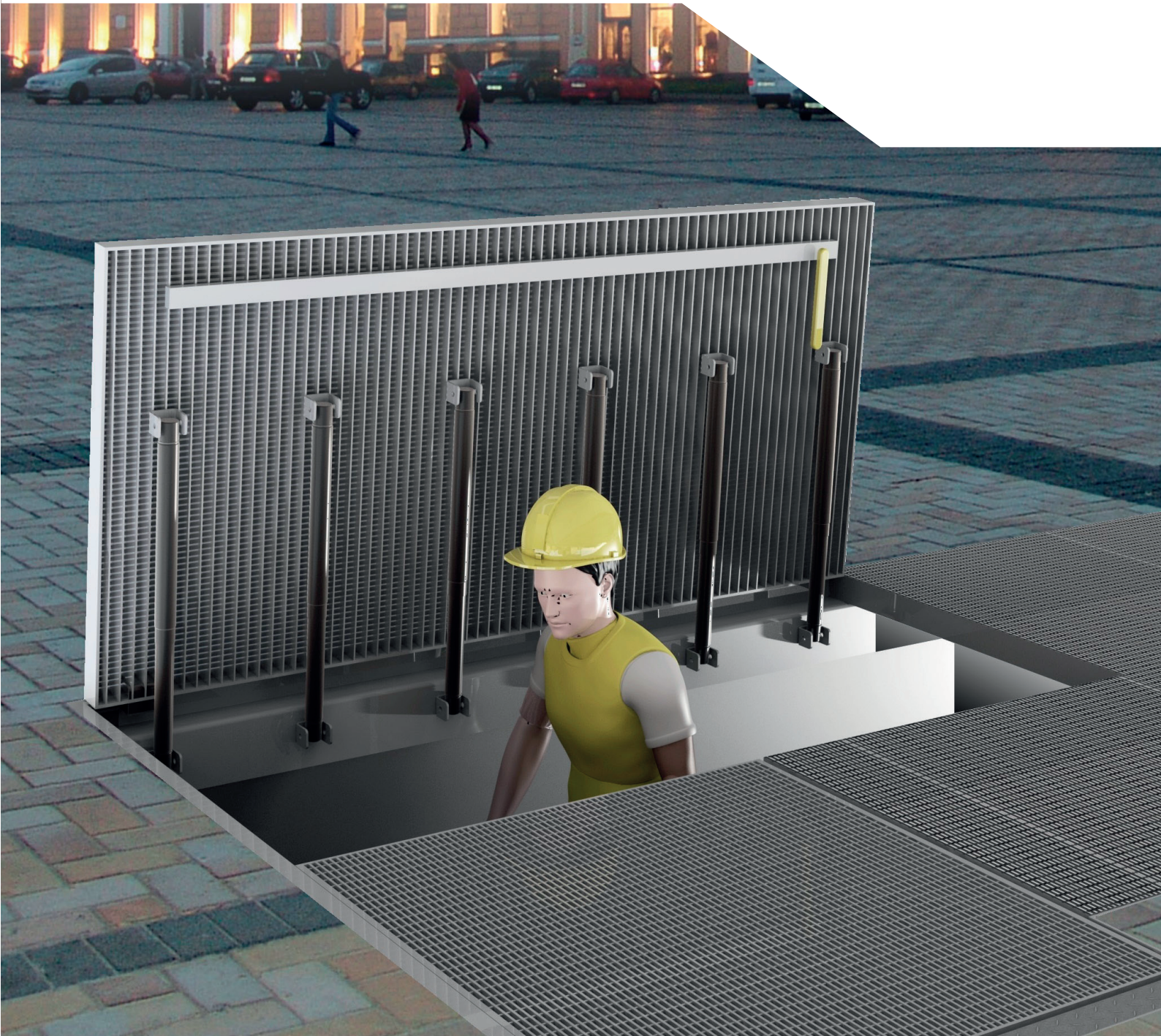


# MANHOLES







Kent Stainless Manufacturing Facility  
Wexford, Ireland



Managing Director, Ann O'Brien  
with Irish Prime Minister, Enda Kenny



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## Manhole Product Development History

In 1982 Kent Stainless set up as a general steel fabricator making components for other companies to their drawings requirements. By 1990, we had begun designing our range of stainless steel drainage. Ireland already had a very large Beef, Dairy and Beverage industry all of which required stainless steel drainage. The major growth sector soon afterwards was the Pharmaceutical Sector and Cork in Ireland became one of 3 worldwide centres of excellence for Pharmaceutical production. These drainage projects brought with them requirements for us to design and manufacture gratings and grilles to match the drains.



In the very same factories manholes were demanded as part of the drainage range, and we had begun designing our own range in 1990. These were our internal recessed manholes to take hard floor infill. Our test rig was developed to simulate 40 ton point loads on manhole trays and supporting beam networks. In 1991 Vinyl floor manholes were added to the range.



In the 1990s many pedestrianisation schemes started requiring external stainless steel recessed manholes to receive paver blocks – particularly in London. We had begun supplying stainless steel drainage to Civils projects in London and the same projects required manholes and other connected products like street furniture.



In the mid to late 1990s, MORE London, Battersea Reach, Albion Riverside and Waterford City Centre were amongst our earliest pedestrianised civil landscape projects. Having such prestigious references led us on in the 2000s to win Southwark Bankside 123, Wexford Main Street and the award winning Letchworth Garden City.

By this time, BAM, John Doyle, Volker Highways, Maylim and Skanska were regular customers, with Laing O'Rourke, Pascall + Watson, Arup, and MACE choosing us for Dublin Airport Terminal 2 at the end of the decade.



Since 2010 major growth has come from the Middle East. Parsons, CH2M Hill, Jacobs, Aedas, SinoHydro and Metito have all been involved with Kent Stainless for such huge prestigious projects as Lusail City and Cleveland Clinic. At the same time ever increasing demand in UK saw us complete projects in Yorkminster, Cutty Sark, Regents Place, Canada Water, Greenwich Creekside and Colmore Plaza to name but a few.

Having taken over Solids Technology in 2002, we became involved in manufacturing wastewater belt filter presses and gravity belt thickeners from stainless steel. Solids Technology already had significant direct business with Thames Water, Anglian Water, Severn Trent Water, Scottish Water and Yorkshire Water. This customer base also had a requirement for chequer plate manholes, grilles and platforms and led to the development of this range in galvanised steel and in stainless steel allows us serve this sector of the market.

Product development in recent years has seen us develop Emergency Access HeelMesh Ventilation Grilles which are used as chamber covers often to access staircases or ladders below. We have developed Hinged Watertight Recessed Manhole Covers, and our innovative In Ground Power unit. We are now one of a handful of companies in the world who offer such a range.



## Accreditations



**ISO 9001:2008** relates to Quality. The standard is designed to help organisations ensure that they meet the needs of customers. ISO 9001:2008 is the world's foremost quality management standard, used by hundreds of thousands of organisations in over 170 countries worldwide. The standard helps Kents achieve customer satisfaction, while also meeting statutory and regulatory requirements related to our products.



**ISO 14001:2004** relates to the Environment. With the need to protect the environment, Kents aim to minimise their environmental footprint and promote sustainable development. Our Environmental Management Systems have been developed to help us identify, manage and control our activities that may have an environmental impact. We do this through establishing good environmental performance as a strategic objective, measuring outcomes, using sustainable raw material, reducing waste and complying with legislation. This allows us to continually improve our environmental performance.



**OHSAS 18001:2007** relates to Health and Safety. This international standard provides us with a framework to improve Kent's safety record through continuous improvement of our safety management system. This is achieved through assessing our safety hazards and implementing controls to reduce the risk. The advantage of this standard is that it provides a structured approach to safety which helps us reduce accidents and meet our legal requirements.

Kent Stainless use the National Standards Authority of Ireland as a third party certification body to provide independent confirmation that we meet the requirements of all three standard. We have integrated the three standards into our in house Quality, environmental, Health and Safety management.

## Understanding Loading

### Fabricated Access Covers and Loadings

A fabricated cover is a lot more than just a manhole cover. Unlike a manhole cover, fabricated covers fulfil a huge variety of applications both internal and external.

Fabricated covers can be made in a variety of materials and offer flexibility of design that a cast manhole cover cannot.

Bespoke designs, short production runs and even single covers are all possible.

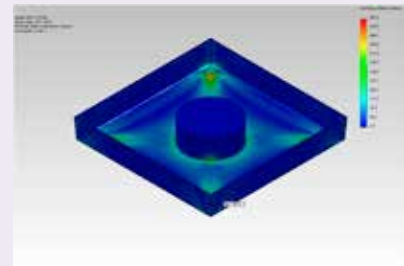
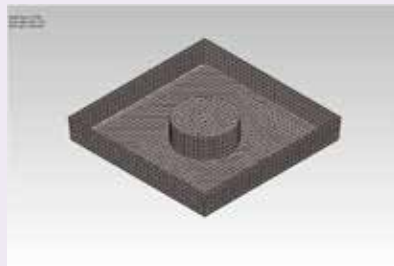
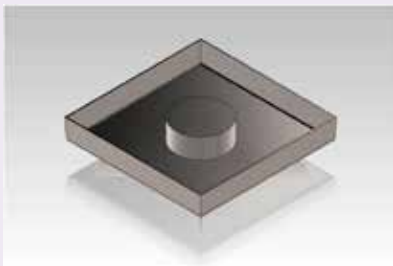
With this in mind we use analysis and calculation based upon the base wheel load to establish a calculated serviceability load.

Designed within the elastic limits of the steel we then add a further ultimate safety factor against failure.

Kent Stainless' Product Design team uses Solid Works and Cosmos Stress Analysis Software Packages. Using these in conjunction with our own in-house Physical Testing Rig, and, where required, third party testing Kent Stainless carry out testing to

1. The Desired Test Load of a Static Wheel, (e.g. 5 Ton wheel load)
2. The Service Test Load / Overload Factor/ Dynamic Load Factor (adding 10% overload plus 15% for dynamic loading situations e.g. 6.325 ton), and
3. An Ultimate Test Load (adding a 60% safety factor to the Service Test Load e.g. 12.5 ton)

And on most scenarios these tests are carried out on an unfilled manhole – i.e. any of the bedding/stone/ concrete filling in external manholes is not taken into account.



Images show SolidWorks simulation testing of Kent Solo Paver KSP-600/600

## EN 124

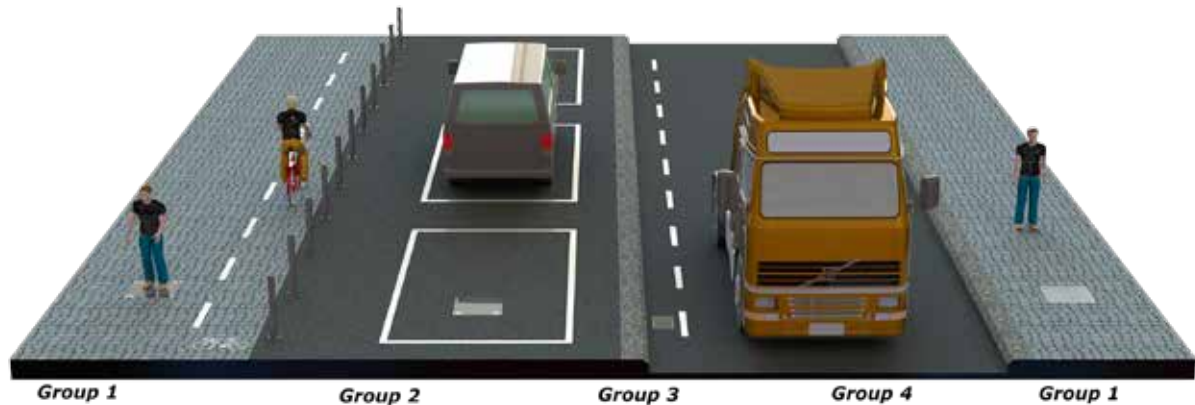
This standard applies for manhole tops and gully tops with a clear opening up to and including 1m for installation within areas subjected to pedestrian and/or vehicular traffic.

*"The European Standard EN 124 is the commonly used standard parameter for the design, manufacture and load testing of access covers. EN 124 classifies test loadings for access covers into 6 categories ranging from A15 (light) to F900 (ultra-heavy), to be proven by practical load test of the ready products. However, this kind of load test is meaningful and economical only for articles of mass production, such as cast iron covers. EN 124 emerged from Standards used for quality control of such products. For computation of load acceptance for cast iron covers there was no recognized static formula in existence, which made it necessary to establish their real capacity for load acceptance by practical load test."*



This standard does not apply for gratings as part of prefabricated drainage channels according to EN 1433.  
This standard does not apply for floor and roof gullies in buildings which are specified in EN 1253-1.

For covers over 1m clear opening please see BS9124.



Group	Traffic Description	Class
1	Areas which can only be used by pedestrians and pedal cyclists.	A15
2	Footways, pedestrian areas and comparable parks or car parking decks	B125
3	For gully tops installed in the area of kerbside channels of roads.	C250
4	Carriageways of roads (including pedestrian streets), hard shoulders and parking areas, for all types of road vehicles.	D400
5	Areas of imposing high wheel loads, e.g. dock and aircraft pavements.	E600
6	Areas imposing particularly high wheel loads, e.g. aircraft pavements.	F900

C250 and D400 are for FAST MOVING WHEEL LOADS.

Similar to B125 which is a SLOW MOVING WHEEL LOAD, all three classes are designed for road legal wheel loads - 5.750 tonne  
The differences are: -

- B125 - Slow Moving Wheel Load - Group 2
- C250 - Fast Moving Wheel Load - INFREQUENTLY trafficked because it's against the kerb - Group 3
- D400 - Fast Moving Wheel Load - FREQUENTLY trafficked because it's in the carriage way - Group 4

Fabricated access covers are designed for Slow Moving Wheel Loads ONLY, so there shouldn't be a need for C250 or D400 fabricated covers.

B125 is adequate for slow moving wheel loads - road legal

FATCA C and FACTA D could be used in areas subject to a higher frequency of slow moving traffic, these would be a lot more economical than C250 and D400 covers.

## BS 9124:2008

This British Standard specifies requirements for access cover systems manufactured from steel or aluminium and **with a clear opening greater than 1m** for installations within areas subject to pedestrian and/or slow moving vehicular traffic, for use as covers over chambers and ducts.

\*\*\*Note: For clear openings up to 1 m, BS EN 124 applies.\*\*\*

## FACTA

Kent Stainless are members of the Fabricated Access Covers Trade Association (FACTA). We operate and adhere to FACTA specifications which came into effect on 1st March 2013. The specification was prepared by the members of the FACTA Technical Committee and currently 15 major companies which represent the majority of supply in this sector have signed up to the standards.

FACTA focuses on wheel loadings and base their test loads and calculations on the European standards for structural steelwork.

For covers over 1m clear opening please see BS9124

FACTA loadings can be compared to relevant EN124 loadings – e.g. FACTA A compares to EN124 A15, FACTA B compares to EN124 B125 etc, but FACTA adds in 2 extra classes of AA and AAA which are particularly useful in factory settings.

The test loads in FACTA, particularly on the C Class and D Class manholes are much more practical and cost effective in real situations.

FACTA uses test blocks from 75mm to 250mm which Kent consider more suitable for the majority of the products outlined in this brochure.

The FACTA specification applies to fabricated access cover systems of the following types:

- \* Solid top covers
- \* Recessed covers designed for non-structural infill
- \* Recessed covers designed for structural infill
- \* Surface drainage products

See full table of FACTA load classes

## Understanding Loading Requirements









### Application Specific Loadings

Kent Stainless are happy to design access covers and grilles to suit each specific application taking into account:

- \* The characteristics of the traffic: wheel type (e.g. nylon, solid rubber, pneumatic)
- \* The weight of the vehicle
- \* The point load of the contact with the cover (wheel load)
- \* The direction of the traffic on the grating: mesh gratings have load bearing bars and cross bars
- \* The position of the **manhole / grille / channel**: at the bottom of a ramp, on a turning point, at a braking point

**The access covers and grilles throughout this brochure show information indicating the intended use they were originally designed for.**



FACTA Class	Comparison** EN124 Class	Wheel Loads		Load Test Data	
		Wheel Loads * (slow moving) Pneumatic	Wheel Loads * (slow moving) Solid	Test 1 (Service) (Static Wheel Load plus overload & dynamic effects)	Test 2 (Ultimate) (Test 1 load plus ultimate safety factor)
A 	A15	0.6 tonne (5kN)	N/A	$5.0 \times 1.0 \times 1.0 = 5.0\text{kN}$	$5.0 \times 1.6 = 8.0\text{kN}$
AA 	N/A	1.5 tonne (15kN)	N/A	$15.0 \times 1.1 \times 1.15 = 19.0\text{kN}$	$19.0 \times 1.6 = 31.0\text{kN}$
AAA 	N/A	2.5 tonne (25kN)	0.5 tonne	$25.0 \times 1.1 \times 1.15 = 32.0\text{kN}$	$32.0 \times 1.6 = 52.0\text{kN}$
B 	B125	5.0 tonne (50kN)	0.75 tonne	$50.0 \times 1.1 \times 1.15 = 63.25\text{kN}$	$63.25 \times 1.6 = 101.0\text{kN}$
C 	C250	6.5 tonne (65kN)	1.0 tonne	$65.0 \times 1.1 \times 1.15 = 82.5\text{kN}$	$82.5 \times 1.6 = 132.0\text{kN}$
D 	D400	11.0 tonne (108kN)	3.0 tonne	$108.0 \times 1.1 \times 1.15 = 137.5\text{kN}$	$137.5 \times 1.6 = 220.0\text{kN}$
E 	E600	16.0 tonne (158kN)	5.0 tonne	$158.0 \times 1.1 \times 1.15 = 200.0\text{kN}$	$200.0 \times 1.6 = 320.0\text{kN}$
F 	F900	24.0 tonne (237kN)	N/A	$237.0 \times 1.1 \times 1.15 = 300.0\text{kN}$	$300.0 \times 1.6 = 480.0\text{kN}$

**This by no means limits them to that use, and often a pedestrian cover can be designed to take 44 tonne vehicles with 5 tonne pneumatic wheel load**

*The engineering team employ SolidWorks Simulation allowing the engineers to carry out structural simulation on parts and assemblies with finite element analysis (FEA) while they work to improve and validate performance and reduce the need for costly prototypes or design changes later on.*



## How To Specify

To create your own **Specification Clause** please, simply choose the options you require to suit the product you need.

You can do this very simply by using the tables which are shown on each product page.

Each product page has:

1. Its own Product Details Table which shows the typical sizes it comes in. (Custom Sizes are also available, should you require a product in a size which is not covered in this table, please call our Technical Support team and we will be happy to assist you to suit your requirements.)
2. An Options table which shows which features can be added to the product if required.
3. Loading Class Tables, i.e. BS EN124, FACTA and an Application Load Specific Table.

If you are sure of the loading requirement of the products you need please choose one of these options.

If you are in any doubt of the required loading class required for any product please call our Technical Support team and we will be happy to assist you with choosing the correct option + 353 53 914 3216 or UK Freefone 0800 376 8377.

Kent Stainless reserve the right to modify dimensions and features as part of continuous improvements. Always request an approval drawing where dimensions are critical.



# EXAMPLE

## KENT SOLO PAVER KSP-450/450



Product Code	Clear Opening	Tray Depth	Visible Frame Size (Unsealed)
KSP-450/450	450mm x 450mm	80mm	552mm x 552mm
KSP-600/450	600mm x 450mm	80mm	702mm x 552mm

**Specify: Kent Solo Paver Manhole KSP-450/450; 450mm x 450mm clear ope; 80mm tray depth; Unsealed; Grade 316L; Loading B125**

OPTIONS
Unsealed or Double Sealed
Grade 304L Stainless Steel
Grade 316L Stainless Steel
Mild Steel Galvanised to BS EN ISO 1461 (1999)
Mild steel galvanised to 140 Micron minimum for Middle East projects

BS EN 124	Slow Moving Wheel Loads	Kent Safety Test (Unfilled)
A15	0.6T	1.5T
B125	5.0T	12.5T
C250	6.5T	25.0T
D400	11.0T	40.0T

FACTA Class	Slow Moving Wheel Loads	Kent Safety Test (Unfilled)
A	0.6T	0.8T
AA	1.5T	3.1T
AAA	2.5T	5.2T
B	5T	10.1T
C	6.5T	13.2T
D	11T	22T

Kent Stainless reserve the right to change dimensions due to continuous improvements. Always request approval drawings where dimensions are critical.

## I Beam and Bracket Support Systems

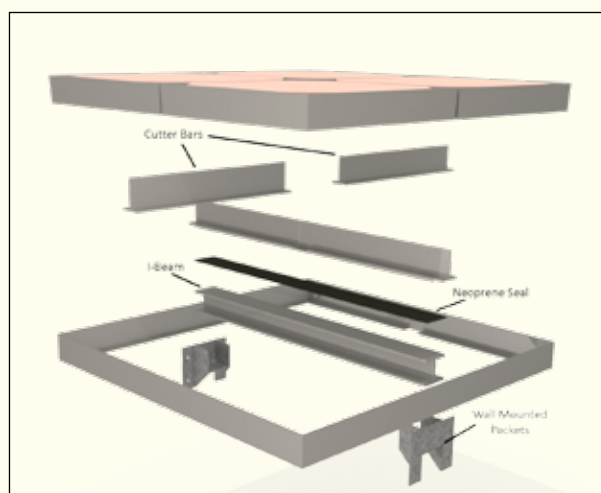
All Multi Tray Lift Out Manholes and Grilles have a beam system underneath which supports the individual trays. There are two ways in which we supply these support systems. Our Technical Support team are happy to assist in providing advice in order to make sure the most suitable option is chosen.

### Type 1 Vertical Wall Mounted Beam Pockets

These are wall mounted pockets which we supply to the customer which are to be bolted to the retaining wall, underneath the frame. The removable I-Beam then sits into these pockets and supports the loading on the tray or grille above. These pockets are to be bolted into place by the contractor on site.

### Type 2 Recessed Beam Pockets

With this option, Recessed pockets are formed in the frame to allow space for the I-Beam to be dropped into place. In this case, both the frame and the I-Beam are supported by the cast concrete of the retaining wall.

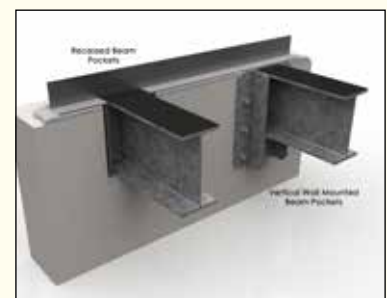
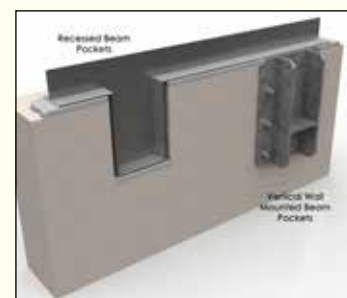
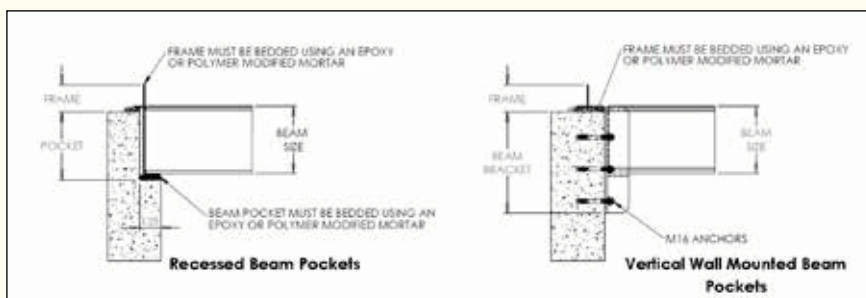


## Load Class B125 and FACTA C

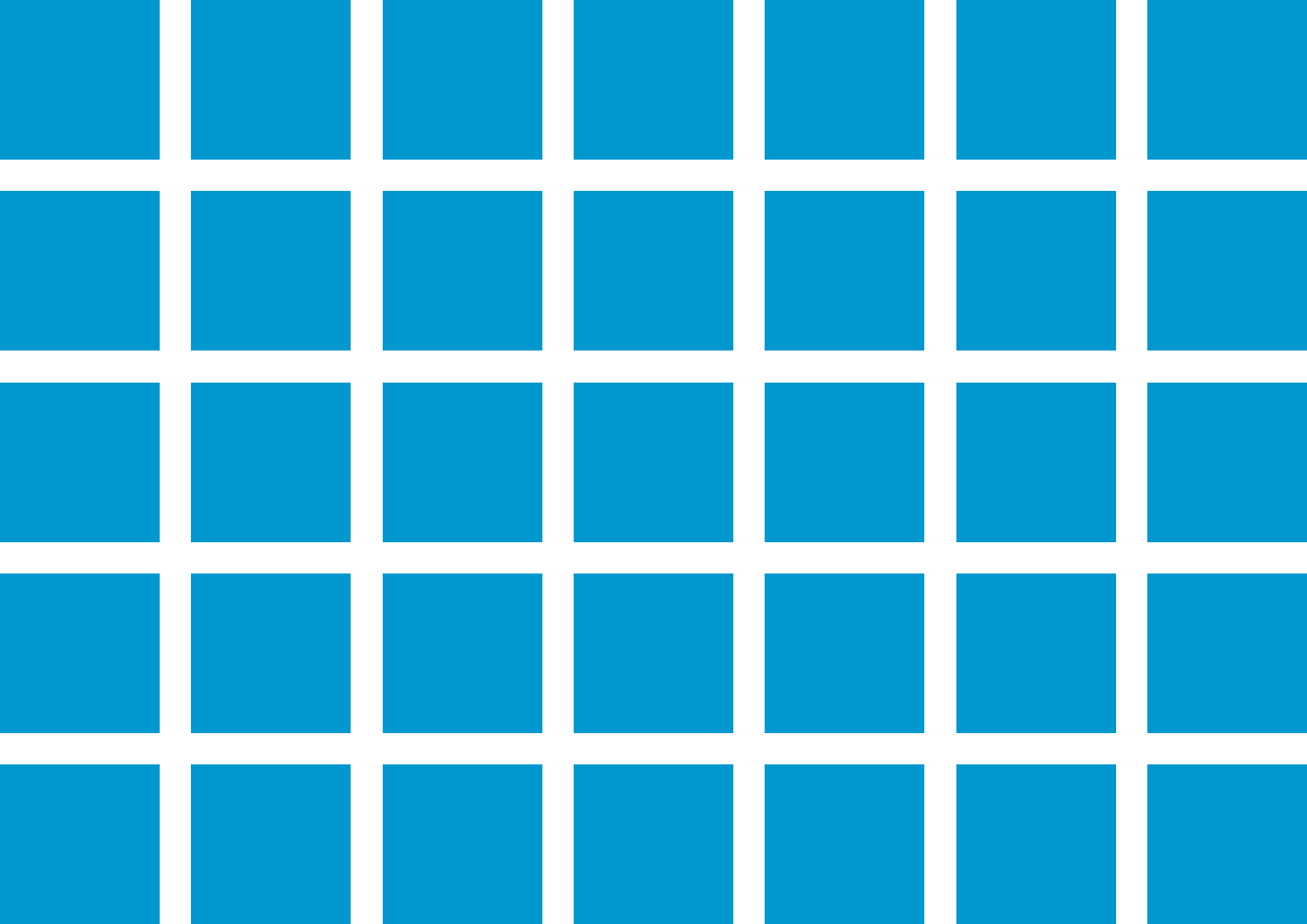
Removable support beam size	Max pit clear opening length (L)	Beam Bracket		Beam Pocket	
		Y	X	Y	X
152 x 152 x 37kg/m UC	2000	400	375	170	250
203 x 152 x 52kg/m RSJ	2750	400	375	220	250
305 x 165 x 54 kg/m UB	3900	500	375	320	250

## Load Class FACTA D

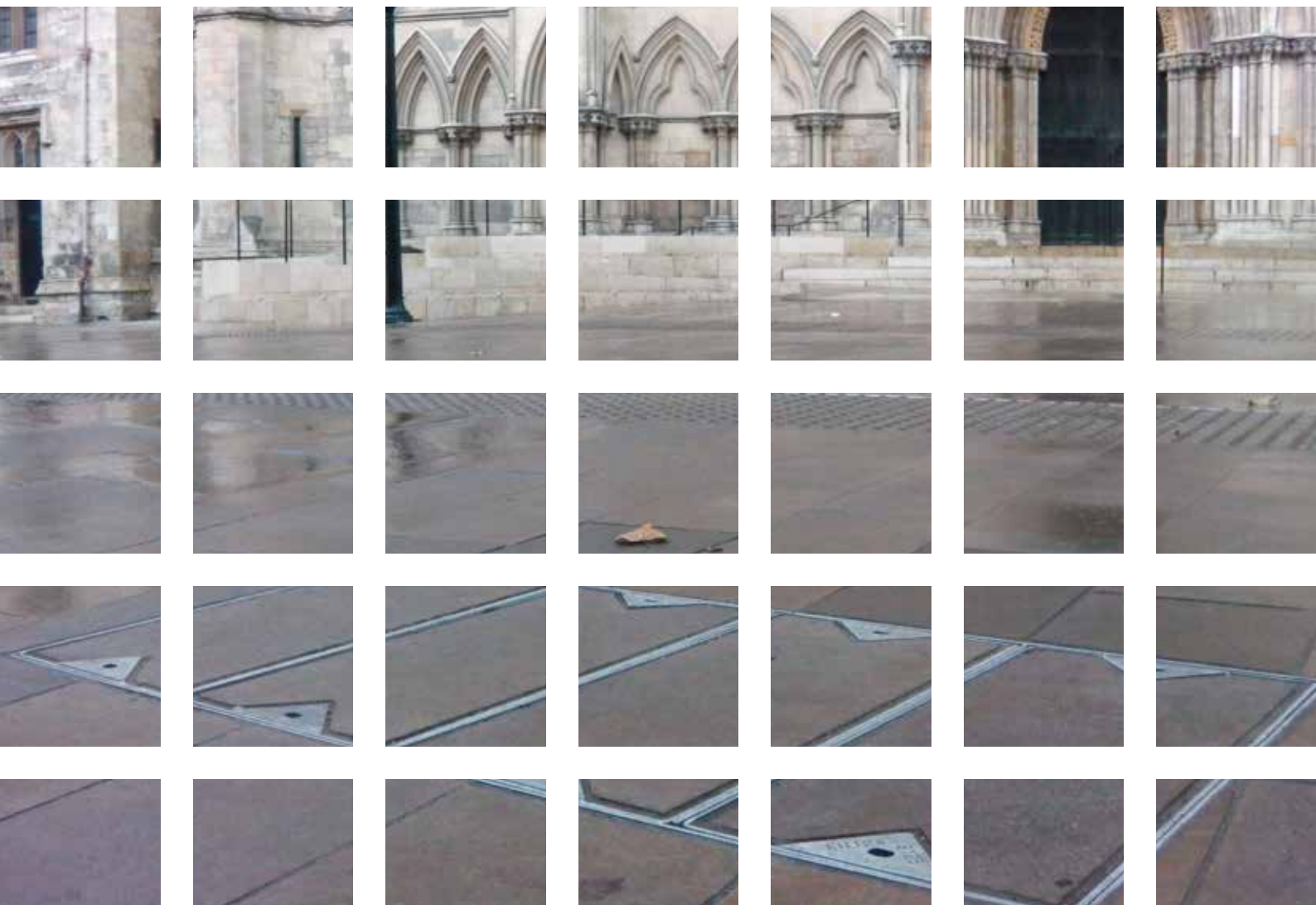
Removable support beam size	Max pit clear opening length (L)	Beam Bracket		Beam Pocket	
		Y	X	Y	X
152 x 152 x 37kg/m UC	1300	400	375	170	250
203 x 152 x 52kg/m RSJ	1750	400	375	220	250
305 x 165 x 54 kg/m UB	2300	500	375	320	250
356 x 171 x 67kg/m UB	2850	500	375	370	250
457 x 152 x 82 kg/m UB	3450	675	375	470	250
533 x 210x 122kg/m UB	3900	675	425	550	300







# PAVERS



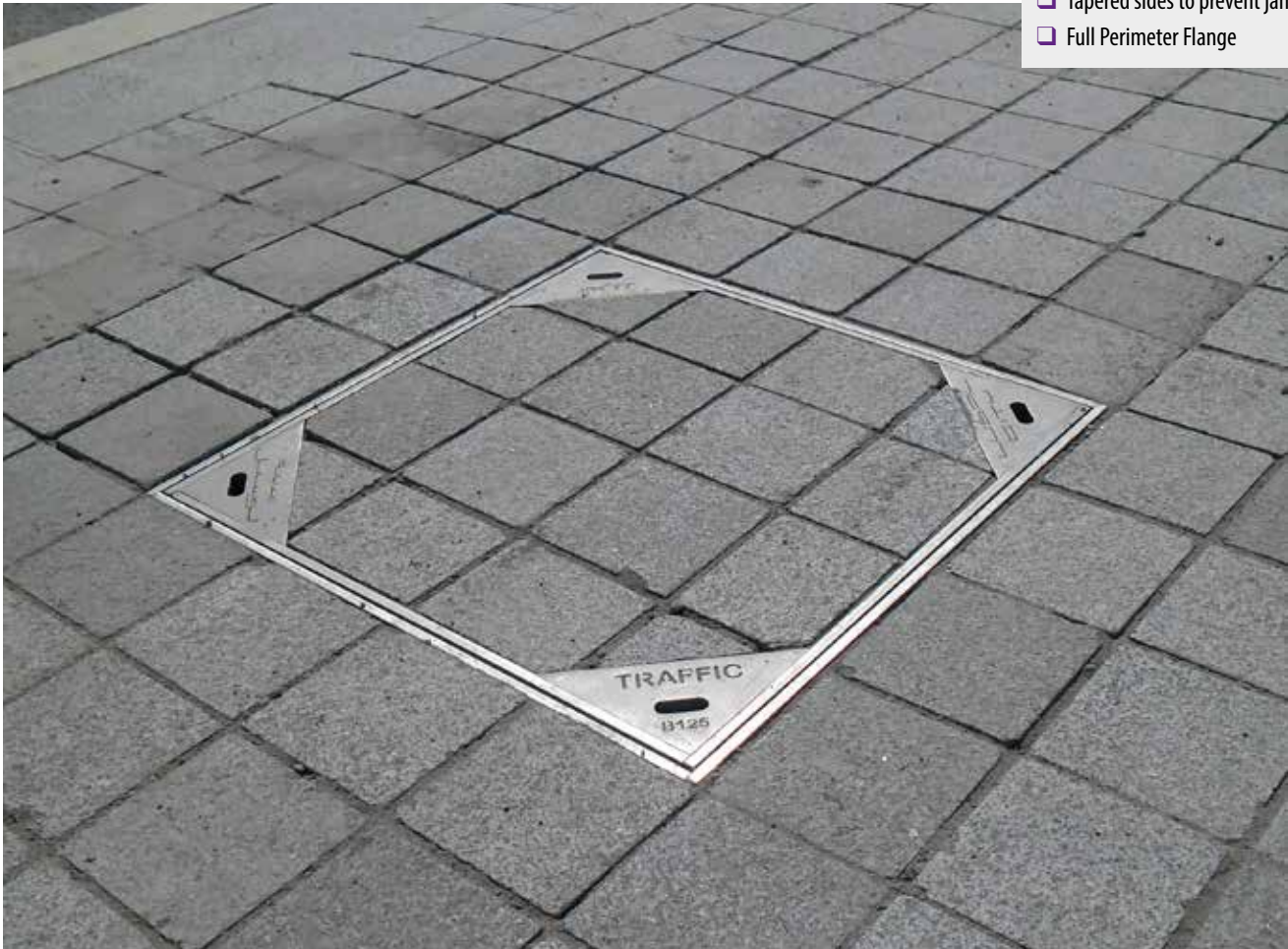
## KENT SOLO PAVER KSP-450/450

Kent Solo Paver Manholes for Block Paved Areas, KSP-450/450, have unique Laser Cut lettering on the lifting corners to indicate services.

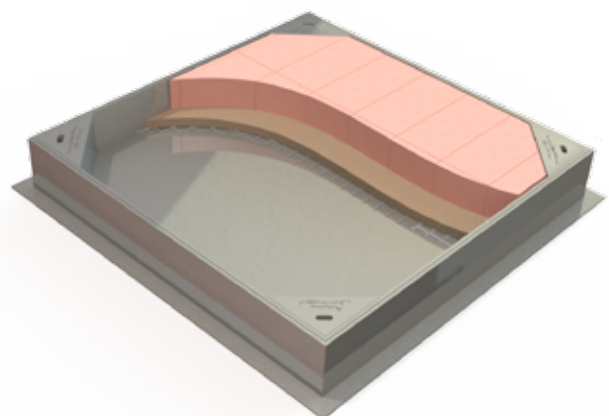
The Recessed cover units are manufactured in accordance with EN124 and FACTA standards and are available in various loadings. The covers are 80mm deep as standard (100mm deep is a popular option) and are fabricated in 3mm, 4mm, 6mm or 8mm thick stainless steel as standard, and galvanised versions are available.

### Features

- ❑ Laser cut lettering in four corners
- ❑ Triangle lifting points aid block cutting
- ❑ Identification normally comprises
  - Manufacturer
  - Loading
  - Year of Manufacture
  - Utility Identification
- ❑ Tapered sides to prevent jamming
- ❑ Full Perimeter Flange



### Laser Cut Lettering



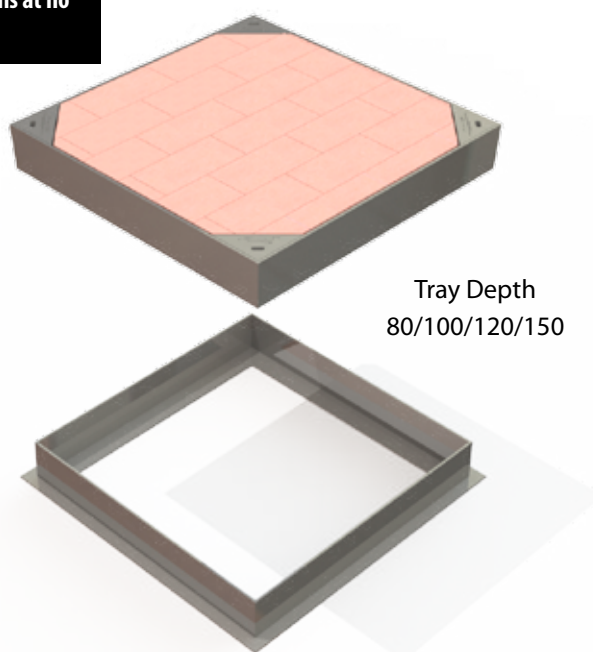
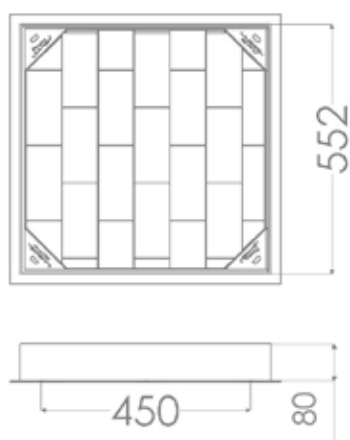


Product Code	Clear Opening	Tray Depth	Visible Frame Size (Unsealed)
KSP-450/450	450mm x 450mm	80mm	552mm x 552mm
KSP-600/450	600mm x 450mm	80mm	702mm x 552mm
KSP-600/600	600mm x 600mm	80mm	702mm x 702mm
KSP-750/600	750mm x 600mm	80mm	852mm x 702mm
KSP-750/750	750mm x 750mm	80mm	852mm x 852mm
KSP-900/600	900mm x 600mm	80mm	1002mm x 702mm
KSP-900/750	900mm x 750mm	80mm	1002mm x 852mm
KSP-900/900	900mm x 900mm	80mm	1002mm x 1002mm

**Specify: Kent Solo Paver Manhole KSP-450/450; 450mm x 450mm clear opening; 80mm tray depth; Unsealed; Grade 316L; Loading B125**

**See page 8 & 9 which shows how to create your own unique specification clause**

**Customised sizes to suit exact paving slab dimensions available in small production runs at no extra cost**



#### OPTIONS

Unsealed or Double Sealed  
 Grade 304L Stainless Steel  
 Grade 316L Stainless Steel  
 Mild Steel Galvanised to BS EN ISO 1461 (1999)  
 Mild steel galvanised to 140 Micron minimum for Middle East projects

BSEN124	Slow Moving Wheel Loads	Kent Safety Test (Unfilled)
A15	0.6T	1.5T
B125	5.0T	12.5T
C250	6.5T	25.0T
D400	11.0T	40.0T

FACTA Class	Slow Moving Wheel Loads	Kent Safety Test (Unfilled)
A	0.6T	0.8T
AA	1.5T	3.1T
AAA	2.5T	5.2T
B	5T	10.1T
C	6.5T	13.2T
D	11T	22T



## KENT DISHED SOLO PAVER KDSP-600/600

On request Kent Stainless can form a dished recess in the wall of the manhole frame and tray. Where your manhole transverses a dished channel, details of the stone used should be sent to Kent Stainless where we will arrange an approval drawing.

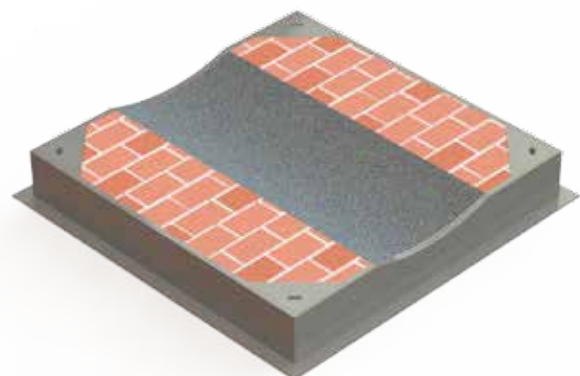
A typical example is shown here but any size manhole can be formed this way as part of a project for our other manholes.

### Features

- ☐ Dished to any radius
- ☐ Single or multi tray manholes available
- ☐ All features and loadings of our standard paver manholes apply



### Laser Cut Lettering



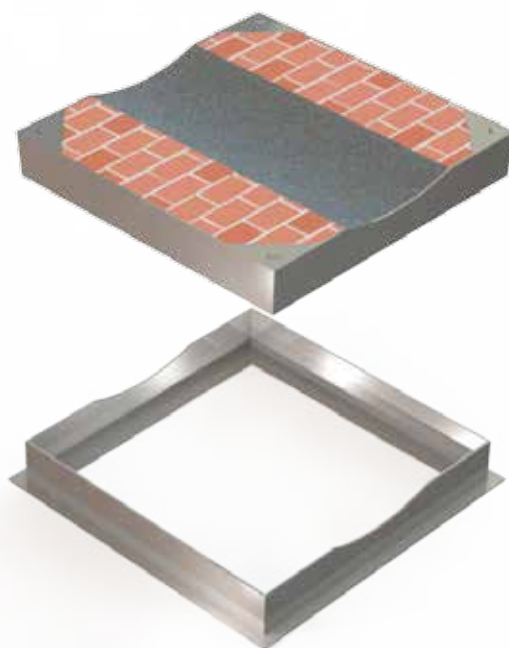
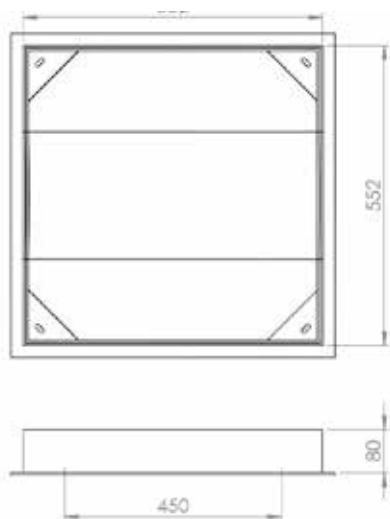
## KENT DISHED SOLO PAVER KDSP-600/600 continued

Product Code	Clear Opening	Internal Tray Depth	Visible Frame Size (Unsealed)
KDSP-450/450	450mm x 450mm	80mm	552mm x 552mm
KDSP-600/450	600mm x 450mm	80mm	702mm x 552mm
KDSP-600/600	600mm x 600mm	80mm	702mm x 702mm
KDSP-750/600	750mm x 600mm	80mm	852mm x 702mm
KDSP-750/750	750mm x 750mm	80mm	852mm x 852mm
KDSP-900/600	900mm x 600mm	80mm	1002mm x 702mm
KDSP-900/750	900mm x 750mm	80mm	1002mm x 852mm
KDSP-900/900	900mm x 900mm	80mm	1002mm x 1002mm

**Specify: Kent Dished Solo Paver KDSP600/600; 600mm x 600mm clear ope; Grade 316L Stainless Steel; Loading FACTA B**

**See page 8 & 9 which shows how to create your own unique specification clause**

**Customised sizes to suit exact paving slab dimensions available in small production runs at no extra cost**



### OPTIONS

Unsealed or Double Sealed  
Grade 304L Stainless Steel  
Grade 316L Stainless Steel  
Mild Steel Galvanised to BS EN ISO 1461 (1999)  
Mild steel galvanised to 140 Micron minimum for Middle East projects

BSEN124	Slow Moving Wheel Loads	Kent Safety Test (Unfilled)
A15	0.6T	1.5T
B125	5.0T	12.5T
C250	6.5T	25.0T
D400	11.0T	40.0T

FACTA Class	Slow Moving Wheel Loads	Kent Safety Test (Unfilled)
A	0.6T	0.8T
AA	1.5T	3.1T
AAA	2.5T	5.2T
B	5T	10.1T
C	6.5T	13.2T
D	11T	22T





## KENT MULTI PAVER KMP-1200/1200

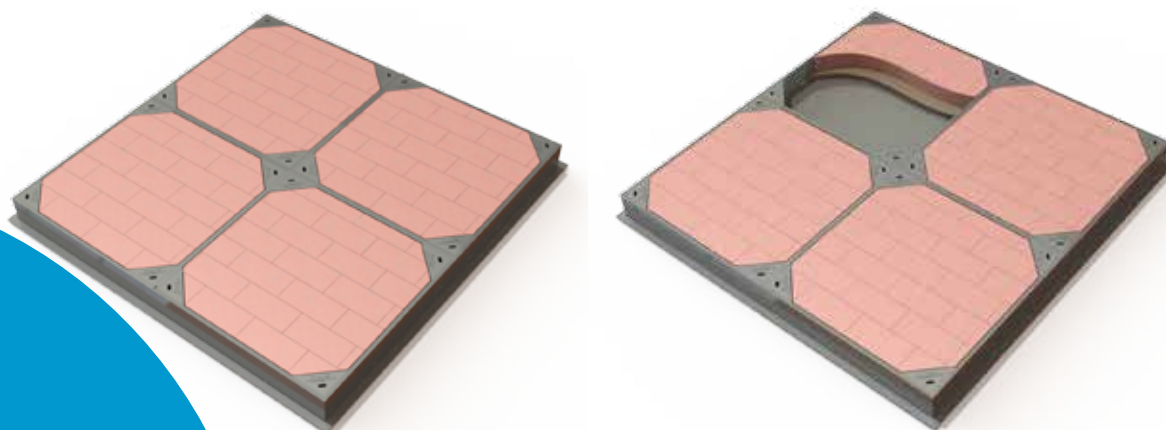
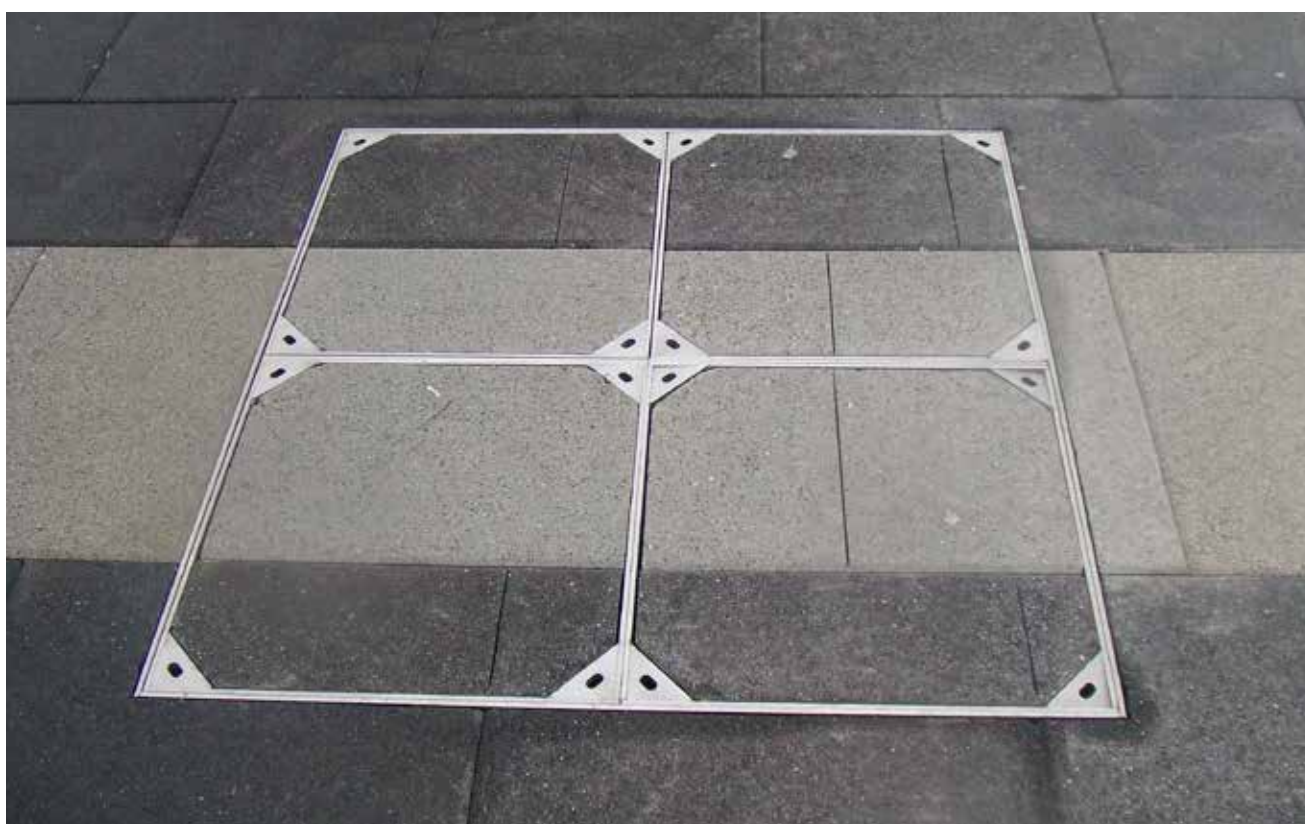
Kent Multi Paver manholes for Block Paved Areas, KMP-1200/1200, have unique Laser Cut lettering on the lifting corners to indicate services.

The recessed cover units are manufactured in accordance with BS9124:2008 standards and are available in various loadings. The covers are 80mm deep as standard, but 100mm deep is a popular option. They are fabricated in 6mm, 8mm or 10mm thick stainless steel as standard, and galvanised versions are available.

The beam network is completely removable, Vertical Wall Mounted Beam Pockets or Recessed Beam pockets are available depending on the application. See page 12.

### Features

- ❑ Laser cut lettering in four corners
- ❑ Triangle lifting points aid block cutting
- ❑ Identification normally comprises
  - Manufacturer
  - Loading
  - Year of Manufacture
  - Utility Identification
- ❑ Tapered sides to prevent jamming
- ❑ Full Perimeter Flange
- ❑ Beam Network is fully removable

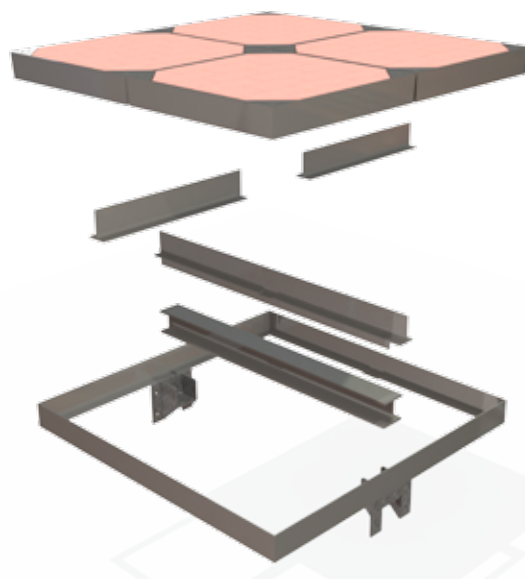
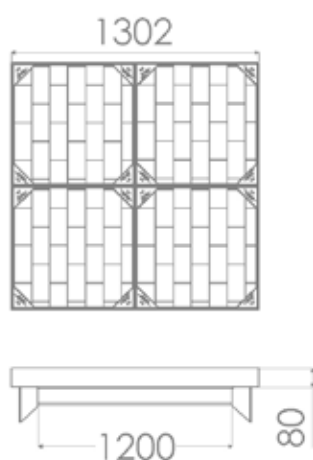


## KENT MULTI PAVER KMP-1200/1200 continued

Product Code	Clear Opening	No. of Trays	Tray Depth	Visible Frame Size (Unsealed)
KMP-1200/600	1200mm x 600mm	2	80mm	1302mm x 702mm
KMP-1200/1200	1200mm x 1200mm	4	80mm	1302mm x 1302mm
KMP-1800/600	1800mm x 600mm	3	80mm	1902mm x 702mm
KMP-1800/1200	1800mm x 1200mm	6	80mm	1902mm x 1302mm
KMP-1800/1800	1800mm x 1800mm	9	80mm	1902mm x 1902mm
KMP-2400/600	2400mm x 600mm	4	80mm	2502mm x 702mm
KMP-2400/1200	2400mm x 1200mm	8	80mm	2502mm x 1302mm
KMP-2400/1800	2400mm x 1800mm	12	80mm	2502mm x 1902mm
KMP-2400/2400	2400mm x 2400mm	16	80mm	2502mm x 2502mm

**Specify: Kent Multi Paver Manhole KMP-1200/1200; 1200mm x 1200mm clear opening; 4 Trays; 80mm Tray Depth; Unsealed; Grade 316L; Loading FACTA B**  
See page 8 & 9 which shows how to create your own unique specification clause

**Customised sizes to suit exact paving slab dimensions available in small production runs at no extra cost**



### OPTIONS

Various Loadings (See FACTA and BS9124:2008 Application Load Specific Tables)

Grade 304L Stainless Steel

Grade 316L Stainless Steel

Mild Steel Galvanised (in accordance with BS EN ISO 1461 (1999))

Galvanised to 140 Micron (minimum for Middle East projects)

Various Tray Depths (80mm, 100mm)

Vertical Beam Pockets or Recessed Beam Pockets

Unsealed or Double Sealed

### Application Load Specific (In accordance with BS9124:2008)

1.0T
5.0T
10.0T

### FACTA Class

FACTA Class	Slow Moving Wheel Loads	Kent Safety Test (Unfilled)
A	0.6T	0.8T
AA	1.5T	3.1T
AAA	2.5T	5.2T
B	5T	10.1T
C	6.5T	13.2T
D	11T	22T



Made in IRELAND

[www.solidstechnology.com](http://www.solidstechnology.com) | [www.kentstainless.com](http://www.kentstainless.com)

## KENT HINGED SOLO PAVER KHSP-450/450

Kent Hinged Solo Paver Manholes are used where opening the manhole is more frequent, where a single operator may arrive on site and where maintenance personnel may not have access to specialised lifting equipment.

They contain all the features of our Kent Solo Paver Manholes. In addition the manholes are hinged with a robust stainless steel hinge, they have keying in mesh to allow block adhesion with epoxy mortar, and they have Kent lift-assist mechanical struts to allow the manholes to be opened with a force compliant with manual handling regulations.

### Features

- ☐ Triangle lifting points aid block cutting
- ☐ Optional Safety Grid
- ☐ Safety Stay as standard
- ☐ Kent Lift-Assist Mechanical Struts
- ☐ Laser Cut Lettering typically comprises
  - Manufacturer
  - Loading
  - Year of Manufacture
  - Utility Identification
- ☐ Tapered sides to prevent jamming
- ☐ Covers in various depths (80mm standard, 100mm regularly requested)
- ☐ Full Perimeter Flange
- ☐ Gas struts for smaller sizes

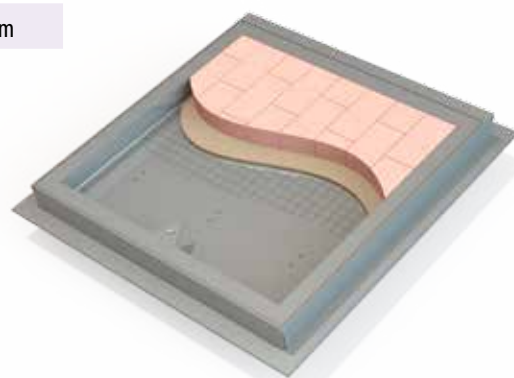




## KENT HINGED SOLO PAVER KHSP-450/450 continued

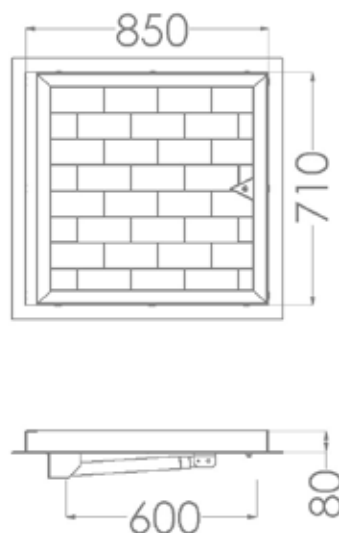
Product Code	Clear Opening	Tray Depth	Visible Frame Size (Unsealed)
KHSP-450/450	450mm x 450mm	80mm	560mm x 700mm
KHSP-600/450	600mm x 450mm	80mm	710mm x 700mm
KHSP-600/600	600mm x 600mm	80mm	710mm x 850mm
KHSP-750/600	750mm x 600mm	80mm	860mm x 850mm
KHSP-750/750	750mm x 750mm	80mm	860mm x 1000mm
KHSP-900/600	900mm x 600mm	80mm	1010mm x 850mm
KHSP-900/750	900mm x 750mm	80mm	1010mm x 1000mm
KHSP-900/900	900mm x 900mm	80mm	1010mm x 1150mm

**Standard Safety Stay**



**Specify: Kent Hinged Solo Paver Manhole KHSP-900/900; 900mm x 900mm clear opening; 80mm Tray Depth; Unsealed; Grade 316L Stainless Steel; Loading FACTA B See page 8 & 9 which shows how to create your own unique specification clause**

**Customised sizes to suit exact paving slab dimensions available in small production runs at no extra cost**



**Optional Safety Grid**



### OPTIONS

Various Loadings (See FACTA and BSEN124 Tables)

Various Tray Depths(80mm, 100mm)

Safety Grid

Unsealed or Double Sealed

Grade 304L Stainless Steel

Grade 316L Stainless Steel

Mild Steel Galvanised (in accordance with BS EN ISO 1461 (1999))

Galvanised to 140 Micron (minimum for Middle East projects)

BSEN124	Slow Moving Wheel Loads	Kent Safety Test (Unfilled)
B125	5.0T	12.5T
C250	6.5T	25.0T
D400	11.0T	40.0T

FACTA Class	Slow Moving Wheel Loads	Kent Safety Test (Unfilled)
A	0.6T	0.8T
AA	1.5T	3.1T
AAA	2.5T	5.2T
B	5T	10.1T
C	6.5T	13.2T
D	11T	22T

## KENT HINGED MULTI PAVER KHMP-1200/1200

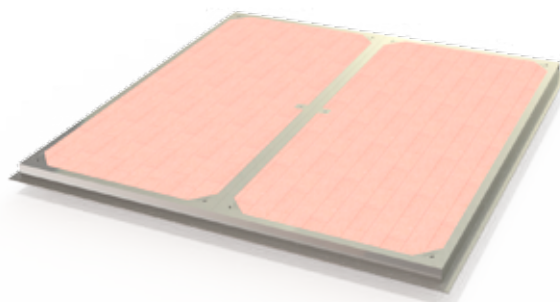
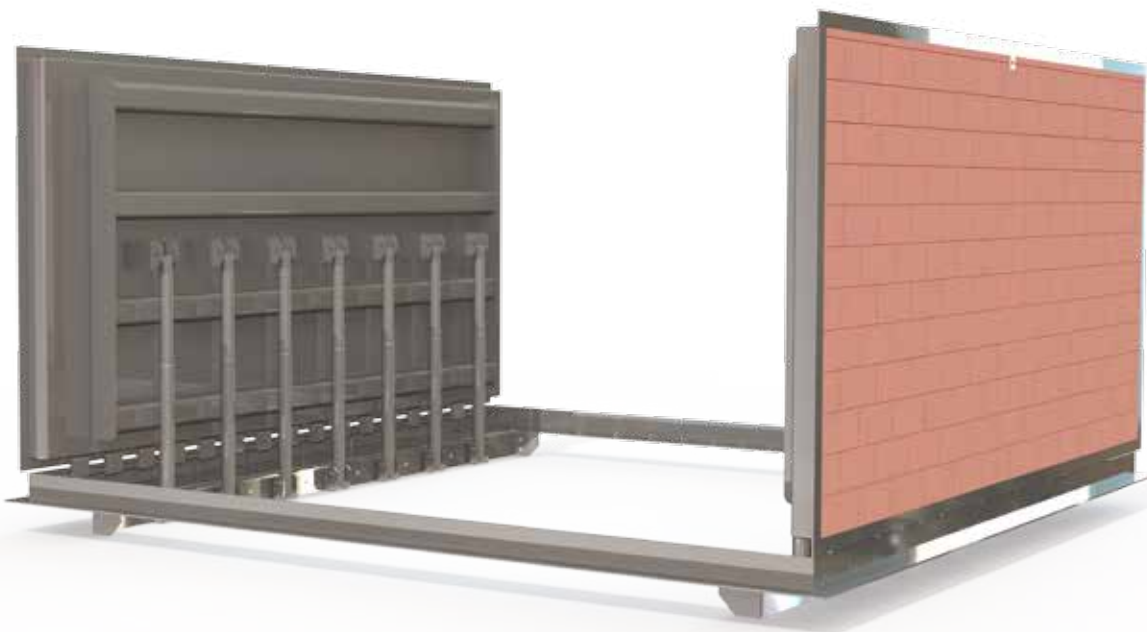
The Kent Hinged Multi Paver is ideal for covering staircases down to tunnels, or for areas where equipment or supplies (spare parts, generators, substations) may need to be lifted in and out relatively frequently. It is perfect where opening the manhole can be frequent, where a single operator may arrive on site and where maintenance personnel may not have access to specialised lifting equipment.

This makes them ideal for covering tunnels or large underground chambers.

They contain all the features of our Kent Solo Paver manholes. They are typically supplied in stainless steel, but with an option for galvanised steel. In addition the manholes are hinged with a robust stainless steel hinge, they have keying in mesh to allow block adhesion with epoxy mortar, and they have Kent lift-assist mechanical struts to allow a manhole to be opened with a force compliant with manual handling regulations.

### Features

- ❑ Laser Cut Lettering
- ❑ Kent Lift-Assist Mechanical Struts
- ❑ Central support beam built into cover
- ❑ Opens to 90 degrees
- ❑ Safety Stay as standard
- ❑ Lift Assist Automatic Watertight option also available

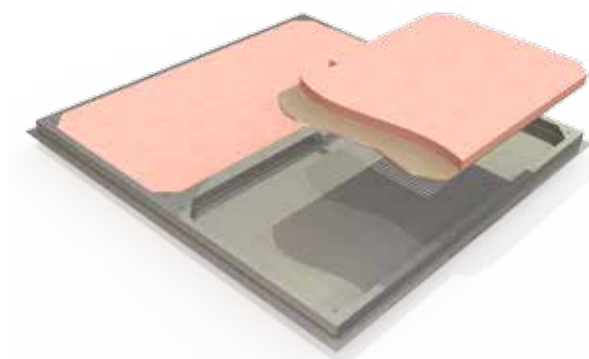
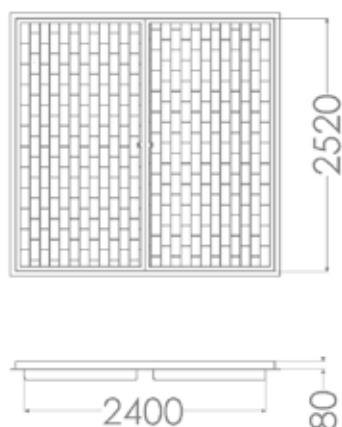


## KENT HINGED MULTI PAVER KHMP-1200/1200 continued

Product Code	Clear Opening	Tray Depth	No of Trays	Visible Frame Size (Unsealed)
KHMP-1200/1200	1200mm x 1200mm	80mm	2	1320mm x 1320mm
KHMP-1800/1200	1800mm x 1200mm	80mm	3	1920mm x 1320mm
KHMP-1800/1800	1800mm x 1800mm	80mm	2/4	1920mm x 1920mm
KHMP-2400/1800	2400mm x 1800mm	80mm	4	2520mm x 1920mm
KHMP-2400/2400	2400mm x 2400mm	80mm	4	2520mm x 2520mm

**Specify: Kent Hinged Multi Paver Manhole KHMP-1200/1200; 1200mm x 1200mm clear opening; 80mm Tray Depth; 2 trays; Grade 316L Stainless Steel; Loading FACTA B**  
See page 8 & 9 which shows how to create your own unique specification clause

**Customised sizes to suit exact paving slab dimensions available in small production runs at no extra cost**



### OPTIONS

Various Loadings (See FACTA and BS9124:2008 Application Load Specific Tables)

Various Tray Depths  
(80mm, 100mm)

Grade 304L Stainless Steel

Grade 316L Stainless Steel

Mild Steel Galvanised (in accordance with BS EN ISO 1461 (1999))

Galvanised to 140 Micron (minimum for Middle East projects)

Unsealed or Double Sealed

Safety Barrier

Safety Grid (this can be automatic for larger sizes)

Watertight

Application Load Specific (In accordance with BS9124:2008)
1.0T
5.0T
10.0T

FACTA Class	Slow Moving Wheel Loads	Kent Safety Test (Unfilled)
A	0.6T	0.8T
AA	1.5T	3.1T
AAA	2.5T	5.2T
B	5T	10.1T
C	6.5T	13.2T
D	11T	22T

## KENT PAVER MAN ACCESS KPMA-2400/2400

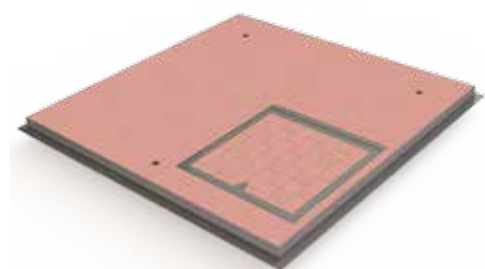
Kent Paver Man Access Manholes are used where equipment may be inserted into a chamber at the beginning of a project and should not need to be replaced for many years. The tray therefore can be one large cover, optionally watertight, but with a Kent Hinged Solo Paver insert which acts as a man access hatch for frequent access.

They can be watertight against pressureless water and can feature an additional internal drainage channel as an extra option.

They contain all the features of our Kent Solo Paver. In addition the manholes are hinged with a robust stainless steel hinge, they have keying in mesh to allow block adhesion with epoxy mortar, and they have Kent lift-assist mechanical struts to allow the manhole to be opened with a force compliant with manual handling regulations.

### Features

- ☐ Watertight against pressureless surface water
- ☐ Laser Cut lettering
- ☐ Watertight option with additional internal drainage channel feature
- ☐ Safety stay as standard
- ☐ Infrequent Equipment Access
- ☐ Frequent Man Access
- ☐ Man access hatch can open from above only
- ☐ Man access hatch can open from above and below





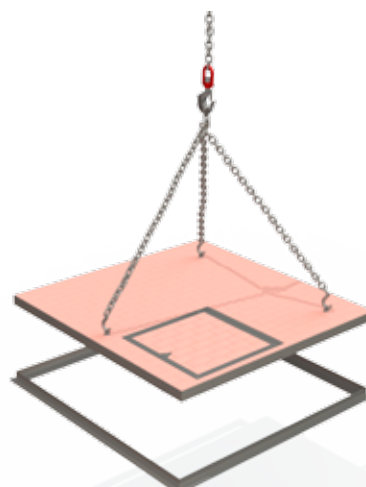
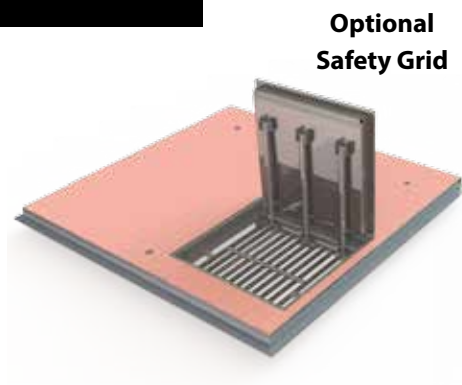
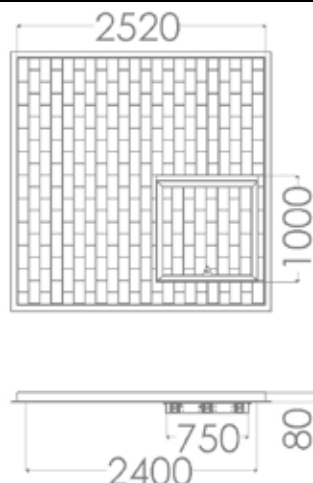
## KENT PAVER MAN ACCESS KPMA-2400/2400 continued

Product Code	Clear Opening	Tray Depth	Visible Frame Size
KPMA-1800/1800	1800mm x 1800mm	80mm	1920mm x 1920mm
KPMA-2400/1800	2400mm x 1800mm	80mm	2520mm x 1920mm
KPMA-2400/2400	2400mm x 2400mm	80mm	2520mm x 2520mm

**Specify: Kent Paver Man Access KPMA-2400/2400; 2400mm x 2400mm clear opening; Single Tray with Man Access Hatch can open from above only; 80mm deep tray; Grade 316L Stainless Steel; Loading FACTA B**

**See page 8 & 9 which shows how to create your own unique specification clause**

**Customised sizes to suit exact paving slab dimensions available in small production runs at no extra cost**



### OPTIONS

Various Loadings (See FACTA and BS9124:2008 Application Load Specific Tables)

Grade 304L Stainless Steel

Grade 316L Stainless Steel

Mild Steel Galvanised (in accordance with BS EN ISO 1461 (1999))

Galvanised to 140 Micron (minimum for Middle East projects)

Unsealed or Double Sealed

Various Tray Depths (80mm, 100mm)

Watertight against pressureless surface water

Watertight with additional internal drainage channel feature

Safety grid

Man access hatch can open from above only

Man access hatch can open from above and below

Application Load Specific (In accordance with BS9124:2008)
1.0T
5.0T
10.0T

FACTA Class	Slow Moving Wheel Loads	Kent Safety Test (Unfilled)
A	0.6T	0.8T
AA	1.5T	3.1T
AAA	2.5T	5.2T
B	5T	10.1T
C	6.5T	13.2T
D	11T	22T

## KENT TELECOVER PAVER KTC-1200/600

This is our version of the Kent Solo Paver manholes but adhering to the requirement of telecoms and electricity utility providers a hanging beam is used.

They have 2 lifting eyes, which facilitate an operator leveraging them upwards with a lifting tool, then dragging towards them. The sizes & weights are designed to match in with other telecom covers on site, but this style can be made larger and used on chambers other than telecoms. They have no requirement for beam brackets to be bolted to the chamber wall.

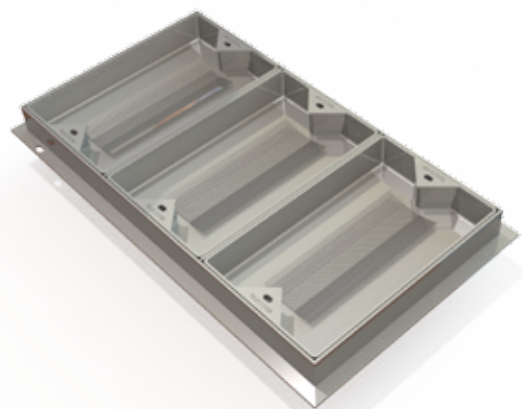
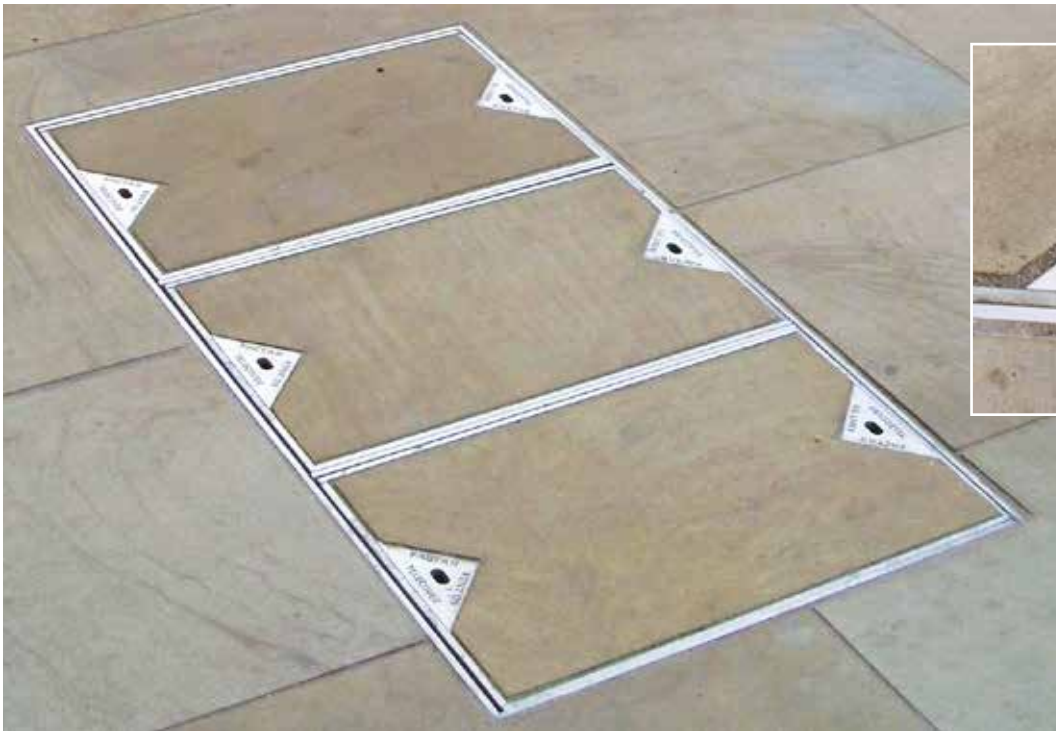
A 'hanging' beam is used.

Any size can be provided but by adhering to the sizes on the table shown we can achieve a 78kg tray weight when filled with bedding and paver blocks.

Most telecom covers are situated on footpaths and not carriageways and so FACTA Class B is appropriate. If matching covers are situated on a carriageway these covers can be made up to Load Class FACTA C or D.

### Features

- ❑ Designed to suit the Lift & Drag method of opening manholes
- ❑ Mesh insert to ensure bond with block or infill
- ❑ 2 Triangular lifting points per tray

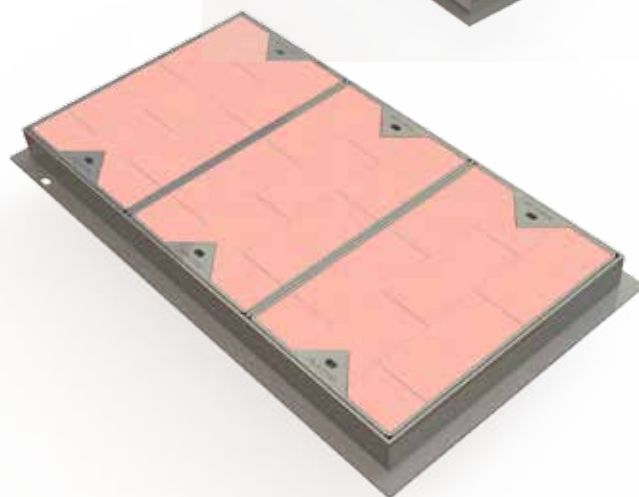
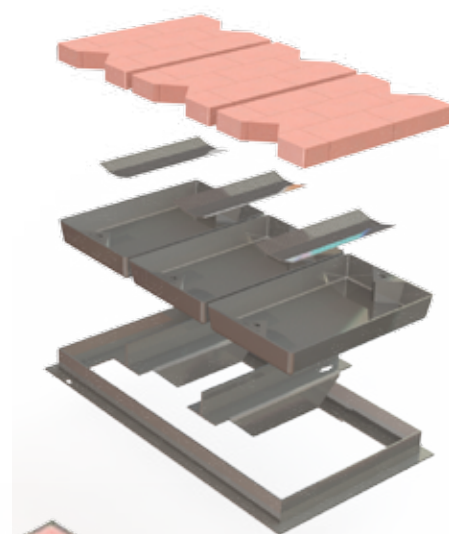
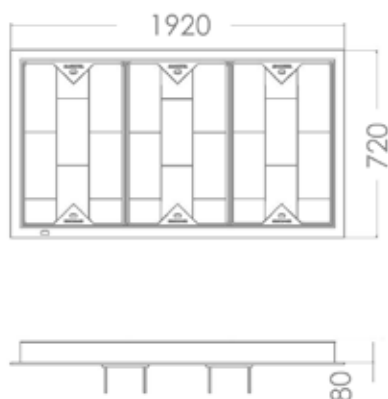


## KENT TELECOVER PAVER KTC-1200/600 continued

Product Code	Clear Opening	Visible Frame Size (unsealed)	Tray Depth	No of Trays
KTC-1200/600	1200mm x 600mm	1320mm x 720mm	80mm	3
KTC-1500/600	1500mm x 600mm	1620mm x 720mm	80mm	3
KTC-1800/600	1800mm x 600mm	1920mm x 720mm	80mm	3
KTC-2000/600	2000mm x 600mm	2120mm x 720mm	80mm	3
KTC-2400/600	2400mm x 600mm	2520mm x 720mm	80mm	4

**Specify: Kent Telecover Manhole KTC - 1200/600; 1200mm x 600mm clear opening; 80mm Tray Depth; Unsealed; Grade 316L Stainless Steel; Loading FACTA B**  
See page 8 & 9 which shows how to create your own unique specification clause

**Customised sizes to suit exact paving slab dimensions available in small production runs at no extra cost**



### OPTIONS

Various Loadings (See EN 124 and FACTA Tables)

Grade 304L Stainless Steel

Grade 316L Stainless Steel

Mild Steel Galvanised (In accordance with BS EN ISO 1461 (1999))

Mild steel Galvanised to 140 Micron (minimum for Middle East projects)

BSEN124	Slow Moving Wheel Loads	Kent Safety Test (Unfilled)
A15	0.6T	1.5T
B125	5.0T	12.5T
C250	6.5T	25.0T
D400	11.0T	40.0T

FACTA Class	Slow Moving Wheel Loads	Kent Safety Test (Unfilled)
A	0.6T	0.8T
AA	1.5T	3.1T
AAA	2.5T	5.2T
B	5T	10.1T
C	6.5T	13.2T
D	11T	22T



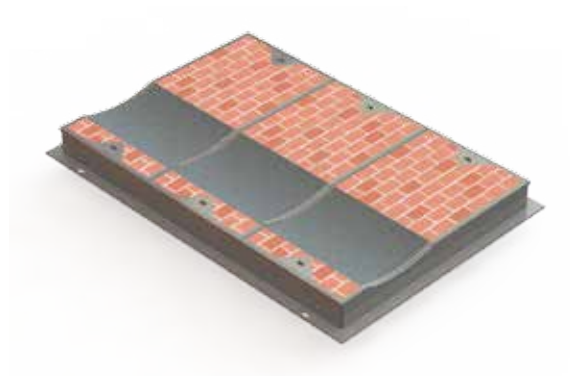


**KENT TELECOVER PAVER KDMTP-1200/600**

On request Kent Stainless can form a dished recess in the wall of the manhole frame and tray. Where your manhole traverses a dished channel, details of the stone used should be sent to Kent Stainless where will arrange an approval drawing. A typical example is shown here but any size manhole can be formed this way as part of a project for our other manholes.

**Features**

- Dished to any radius
- Single or multi tray manholes available
- All features and loadings of our standard paver manholes apply

**Laser Cut Lettering**

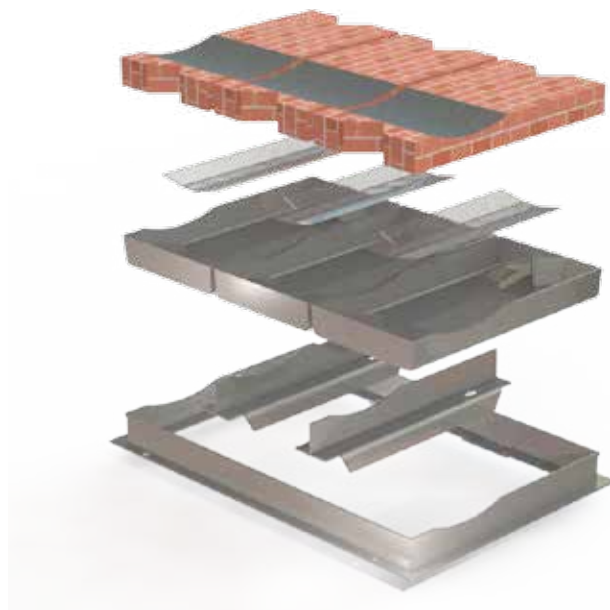
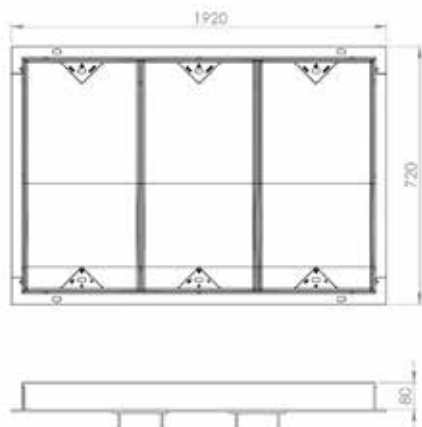


## KENT TELECOVER PAVER KDMTP-1200/600 continued

Product Code	Clear Opening	Visible Frame Size (unsealed)	Tray Depth	No of Trays
KDMTP-1200/600	1200mm x 600mm	1320mm x 720mm	80mm	3
KDMTP-1500/600	1500mm x 600mm	1620mm x 720mm	80mm	3
KDMTP-1800/600	1800mm x 600mm	1920mm x 720mm	80mm	3
KDMTP-2000/600	2000mm x 600mm	2120mm x 720mm	80mm	3
KDMTP-2400/600	2400mm x 600mm	2520mm x 720mm	80mm	4

**Specify: Kent Telecover Manhole KDMTP - 1200/600; 1200mm x 600mm clear opening; 80mm Tray Depth; Unsealed; Grade 316L Stainless Steel; Loading FACTA B**  
See page 8 & 9 which shows how to create your own unique specification clause

**Customised sizes to suit exact paving slab dimensions available in small production runs at no extra cost**



### OPTIONS

Unsealed or Double Sealed  
Grade 304L Stainless Steel  
Grade 316L Stainless Steel  
Mild Steel Galvanised to BS EN ISO 1461 (1999)  
Mild steel galvanised to 140 Micron minimum for Middle East projects

BSEN124	Slow Moving Wheel Loads	Kent Safety Test (Unfilled)
A15	0.6T	1.5T
B125	5.0T	12.5T
C250	6.5T	25.0T
D400	11.0T	40.0T

FACTA Class	Slow Moving Wheel Loads	Kent Safety Test (Unfilled)
A	0.6T	0.8T
AA	1.5T	3.1T
AAA	2.5T	5.2T
B	5T	10.1T
C	6.5T	13.2T
D	11T	22T



## KENT ESB MULTI PAVER KEMP

These manholes are designed for ESB Chambers on pedestrianisation schemes where the council do not want to use black cast iron covers on utility chambers

Sizes are designed to allow them to fit into VC1, VC2, VC3 and SC1 chambers. They can be made to fit any utility chamber. Manholes are manufactured to take a minimum B125 loading, but generally produced to sustain D400 loading where footpath and carriageway are not clearly defined.

Special loads to suit each separate utility are available. Triangle lifting points are standard. Special ESB approved lock is standard. ESB text plate is standard on slip resistant chequer plate.

A removable box beam needs to be bolted to the chamber wall.

### Features

- ☐ Warning Text
- ☐ 2 lifting points per tray
- ☐ Suits one operator arriving on site
- ☐ Lift and Drag method of opening



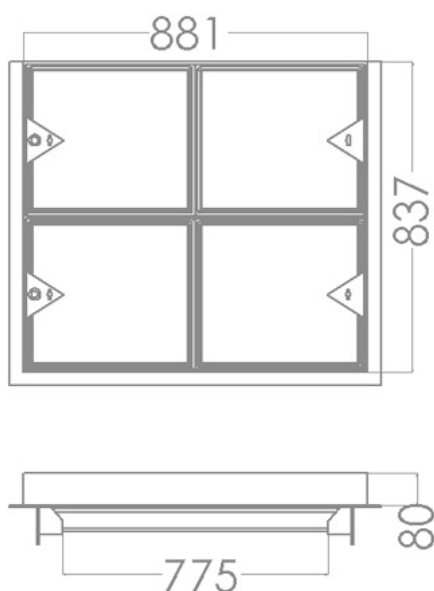
**VC1 Chamber**



**VC2 Chamber**

Product Code	Clear Opening	Tray Depth	No. of Trays
KEMP-VC1	775mm x 324	80mm	2
KEMP-VC2	775mm x 729mm	80mm	4
KEMP-VC3	775mm x 1129mm	80mm	6
KEMP-SC1	487mm x 359mm	80mm	2

**Specify: Kent ESB Multi Paver KEMP-VC2 775x 729mm clear opening; 4 trays; Unsealed; Grade 316L Stainless Steel, Loading B125**  
**See page 8 & 9 which shows how to create your own unique specification clause**



#### OPTIONS

Various Loadings (See EN124 table)

Grade 304L Stainless Steel

Grade 316L Stainless Steel

Mild Steel Galvanised (In accordance with BS EN ISO 1461 (1999))

Mild steel Galvanised to 140 Micron (minimum for Middle East projects)

BSEN124	Slow Moving Wheel Loads	Kent Safety Test (Unfilled)
A15	0.6T	1.5T
B125	5.0T	12.5T
C250	6.5T	25.0T
D400	11.0T	40.0T



# Letchworth Garden City

**Location:** Letchworth Garden City, Hertfordshire, England  
**Project:** Manufacture and Supply of a range of stainless steel Manhole Covers  
**Client:** Letchworth Garden City Heritage Foundation  
**Architect:** LDA Design  
**Main Contractor:** Skanska  
**Value:** €210,000

Kent Stainless worked closely with Skanska in 2009 to deliver unobtrusive, stainless steel manhole covers for this historic site. Skanska's overall brief to deliver the £8 million regeneration with an improved and less cluttered streetscene was greatly helped by Kent Stainless' ability to provide bespoke, yet modular covers with consistent identification and load class ratings.

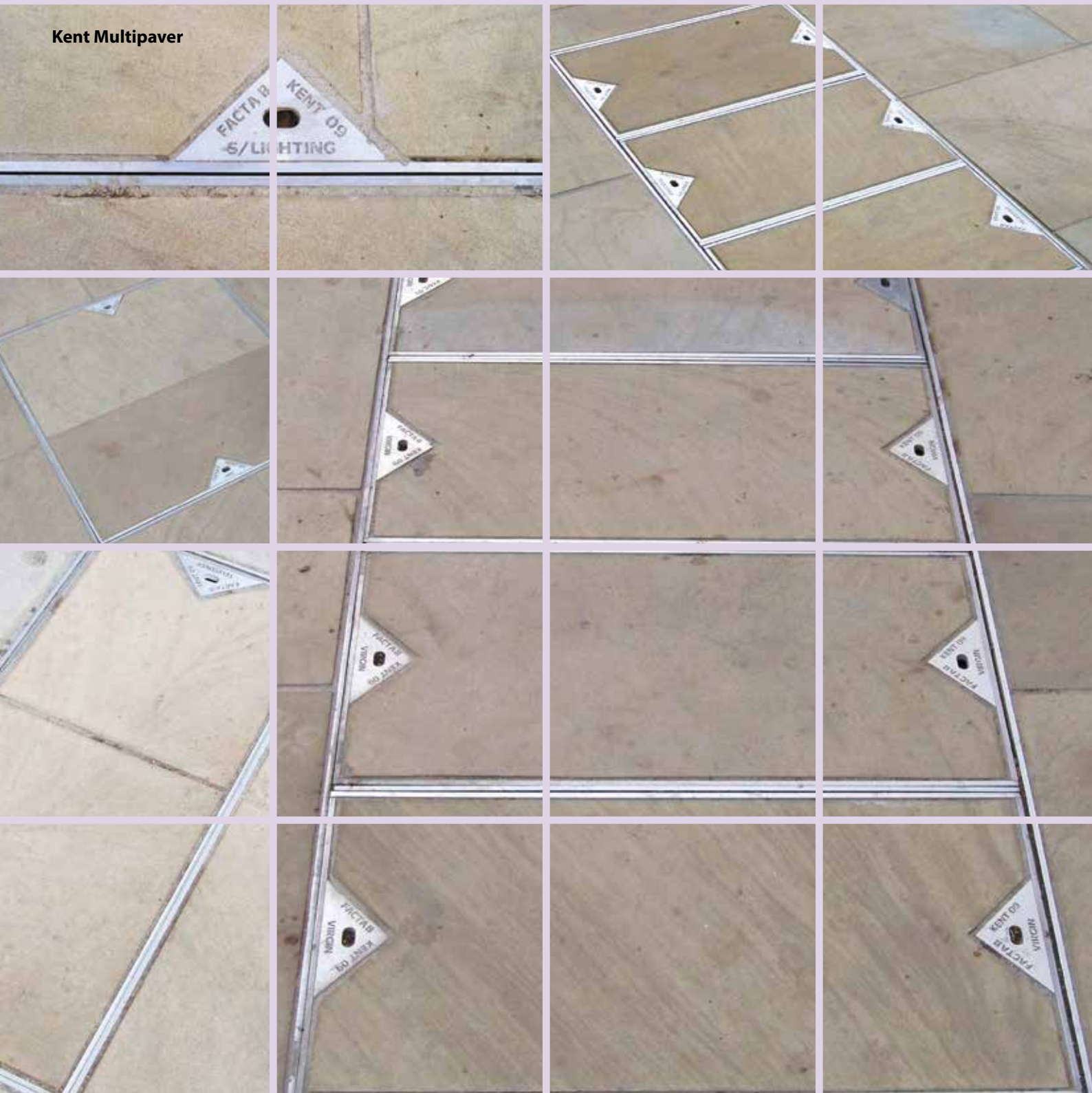
The covers included single tray, double tray, multi tray B125 and D400 covers in various locations throughout the city. All structural calculations were performed on our 3D modelling software Solid Works and Solid Edge, and simulation of a 44 ton vehicle wheel load on unfilled manholes was carried out physically on our in-house manhole test rig.

Project delivered On Time and In Budget.

## Outline of the Project Requirements:

- ★ Stainless steel recessed manhole covers
- ★ Various loadings required - mainly B125 and D400
- ★ Single, double and multi tray covers were supplied
- ★ Laser Cut Inscriptions on lifting points

Kent Multipaver





## Merchants Square

**Location:** Merchant Square, Paddington, London  
**Project:** Manufacture and Supply of a Slot Drain and Access Covers  
**Client:** Gatic, Maylim Ltd., British Land  
**Architect:** Mossession & Partners / Townshend Architects  
**Main Contractor:** Frost Landscapes  
**Value:** €100, 000

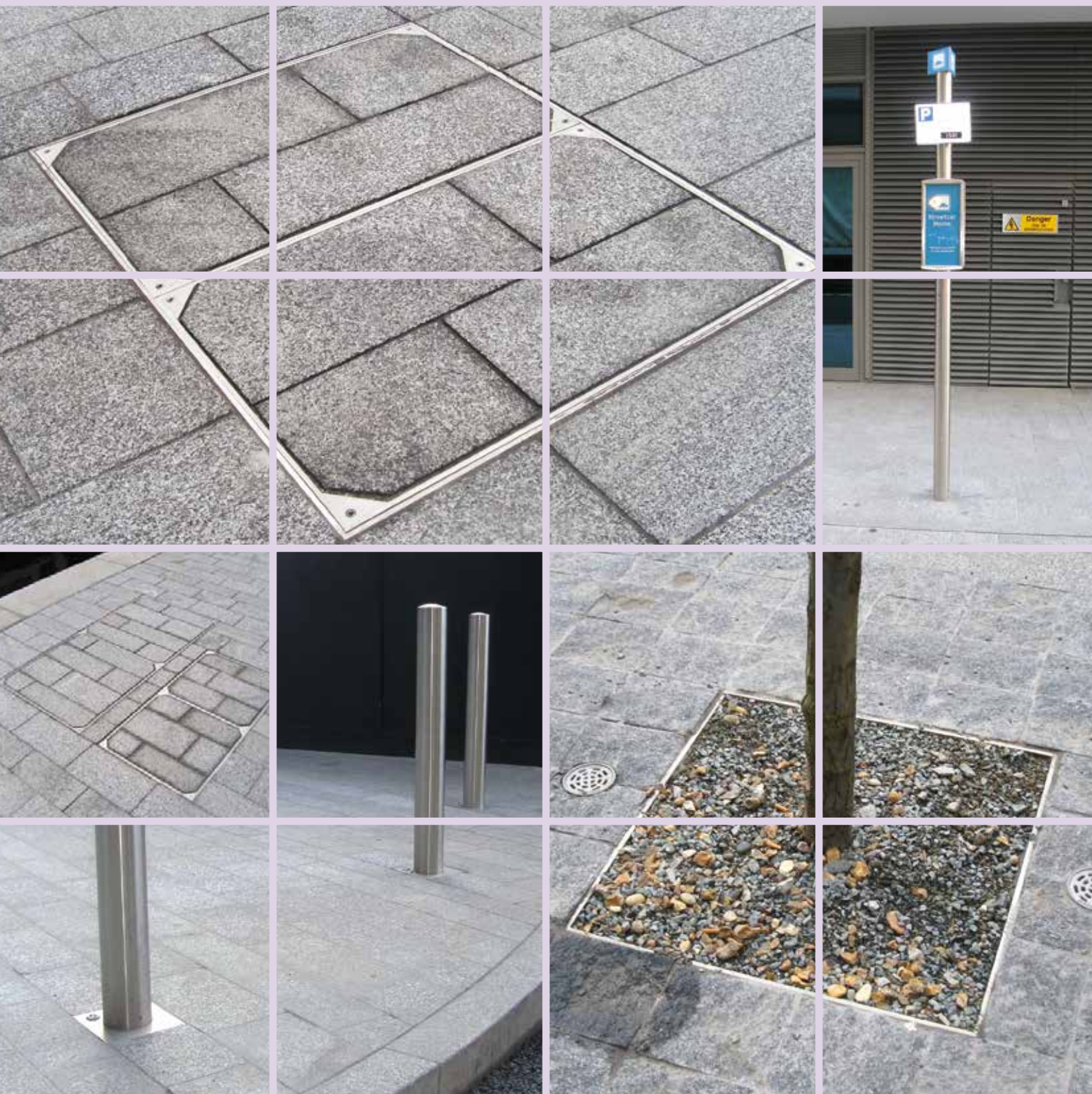
In 2010, Kent Stainless worked closely with Gatic and Frost Landscapes to deliver manholes and slot drainage to Merchants Square which is the final section of the Paddington Basin redevelopment in London. The major requirement for this prestigious public realm development was for the manhole covers to fit in seamlessly with the surrounding stone paving pattern. Here, we supplied our Kent Solo Paver manholes and Kent Multi Paver manholes in various sizes and dimensions. Standard manhole sizes

were modified, only by millimetres in some cases, to meet the requirement of matching the stone paving. The manholes supplied were to give access to sump outlets, access points and various utilities. They were designed to class FACTA AAA loading, as the loading requirement was for pedestrian traffic with occasional maintenance and cleaning traffic. We are currently working on Phase 3 of this development along with Gatic and Frost Landscapes.

Project delivered On Time and In Budget.

### Outline of the Project Requirements:

- ★ Stainless steel recessed manhole covers to take stone infill
- ★ Various loadings required - mainly FACTA AAA
- ★ Single, double and multi tray covers were supplied
- ★ Laser Cut Inscriptions on lifting points
- ★ 300m of slot drainage
- ★ Custom sizes throughout





## Main Street, Wexford

**Location:** Wexford Main Street  
**Project:** Manufacture and supply of a range of recessed manholes, channel and street furniture  
**Client:** Wexford County Council  
**Architect:** Wexford County Council  
**Main Contractor:** Niall Barry & Co Ltd  
**Value:** €180,000

Kent Stainless worked closely with local contractor Niall Barry & Co. Ltd on all phases of the Wexford main Street refurbishment works. There were numerous stipulations for the paving design and layout which had a knock on effect on the dimensions of many of the recessed utility covers. Kent Stainless were able to design, manufacture and test all B125, C250 and D400 manholes to ensure

all frame sizes tied in with the paving layout specified by Wexford County Council.

Kent Stainless supplied the covers with various badges and laser cut text to identify the services underneath. Our 3 axis laser machine allowed the flexibility and accuracy required for such a requirement. The badges included Eircom, ESB, Water Meter and Broadband.

Kent Stainless continue to work with Niall Barry & Co. on the latest phase of the upgrade works.

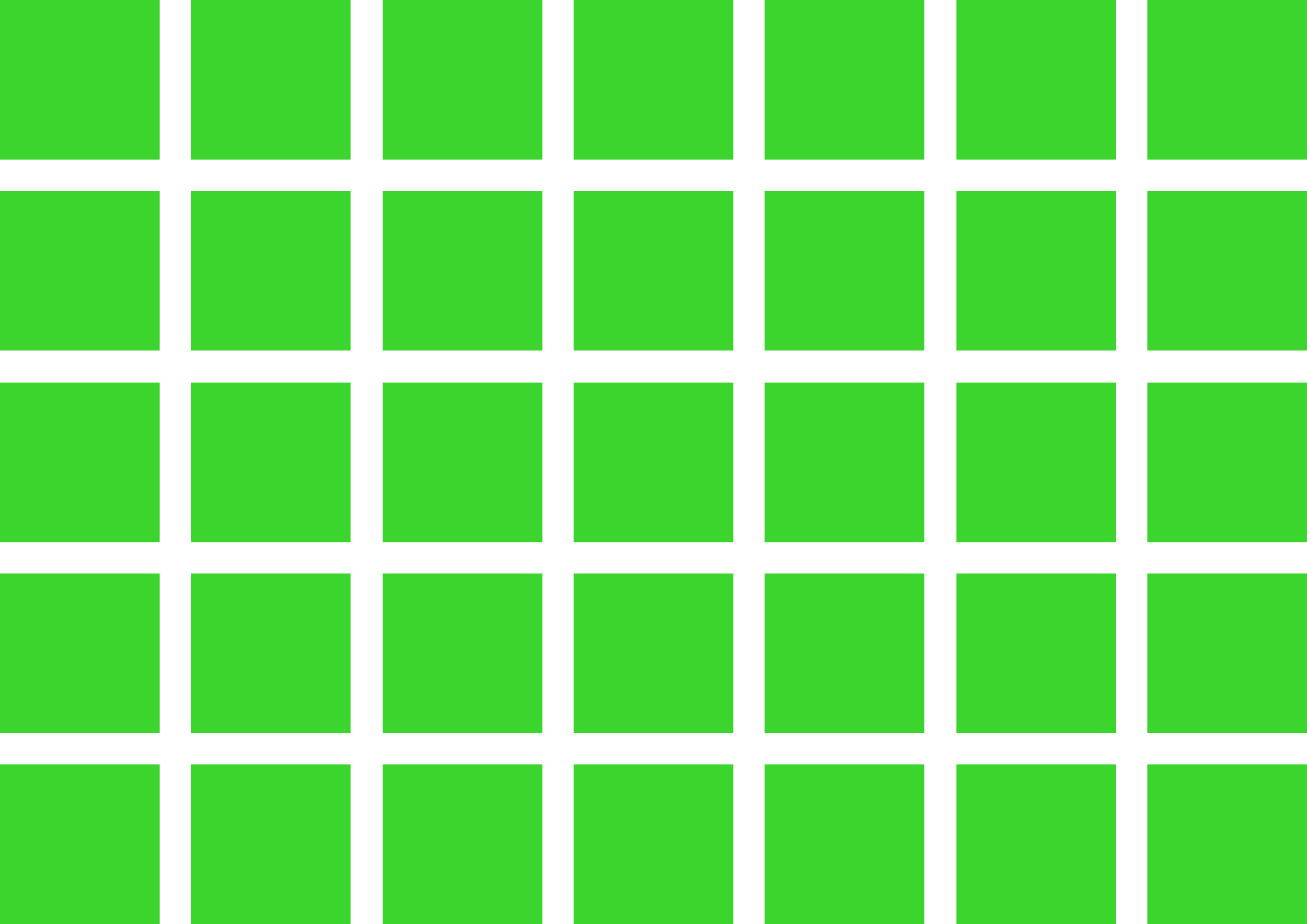
Outline of the project requirements:

- ★ Stainless steel recessed access covers
- ★ Stainless steel dish channels
- ★ Stainless steel utility covers including Eircom and ESB covers
- ★ Stainless steel static and removable bollards



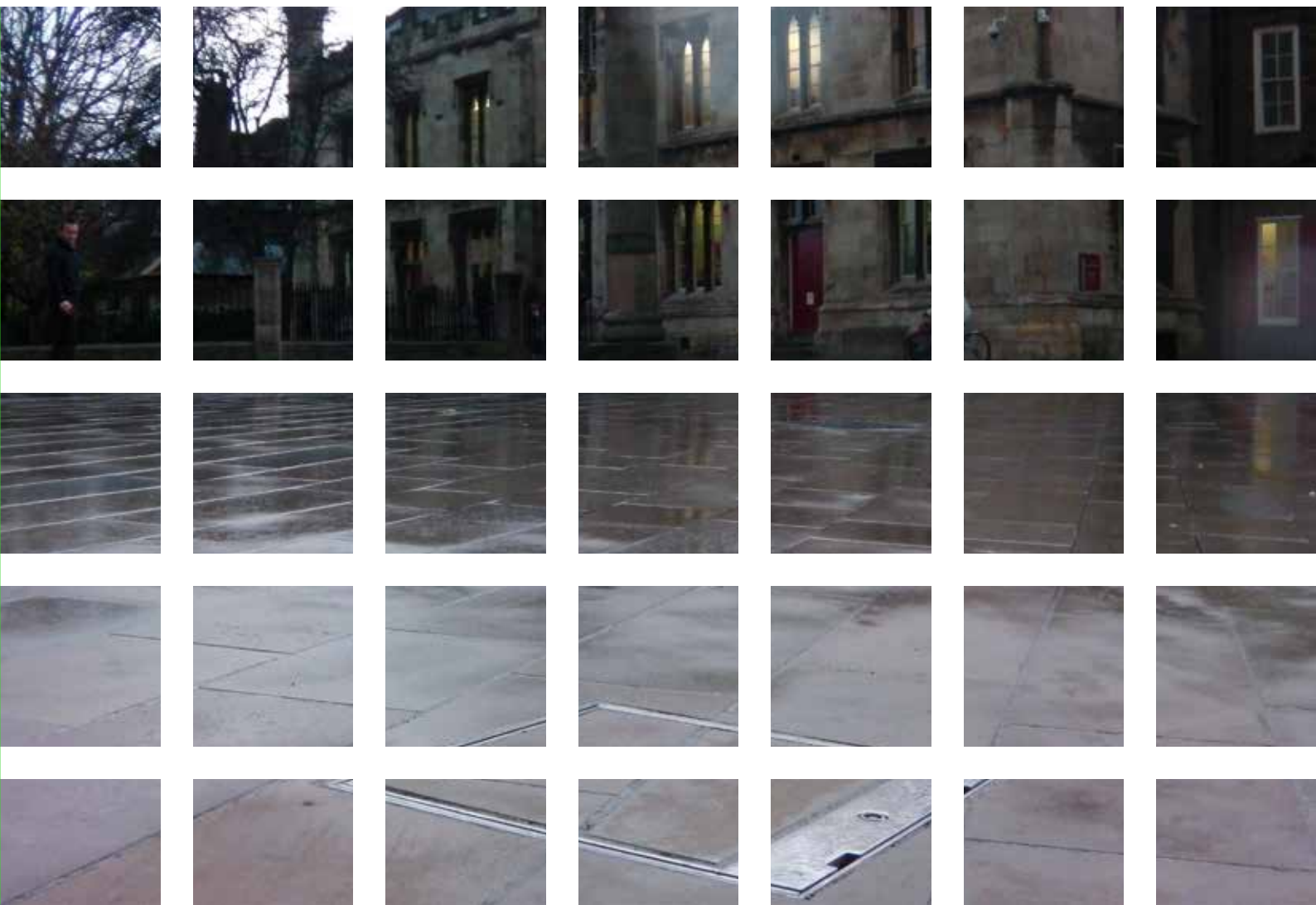








# IGU



## KENT PAVER IN GROUND POWER UNIT KIGU-600/400

The Kent Paver In Ground Power Unit, KIGU-600/400 is an ideal product for trading areas, open air areas with events and exhibitions where temporary power is required. The In Ground Power Unit is also ideal for traffic light control, CCTV control and telecoms. It comes complete with 4 No. sockets as standard, these are IP67 rated to ensure the highest level of safety. For added safety the lids are closed during operation. The hinged recessed cover ensures the units are unobtrusive when not in use.

The In Ground Power Units are manufactured in accordance with FACTA and BS EN124 standards. The covers are suitable for all types of paving blocks and are manufactured to meet required loadings. They are fabricated in 3mm, 4mm, 6mm and 8mm stainless steel as standard but material can be changed to Mild Steel Galvanised when required.

### Features

- ☐ Gas Rams
- ☐ 4 IP67 rated sockets as standard
- ☐ Slam lock
- ☐ Excellent for market trading areas
- ☐ Drain point with anti-rodent mesh
- ☐ Galvanised version available
- ☐ Chequerplate tops available



16/32 amp



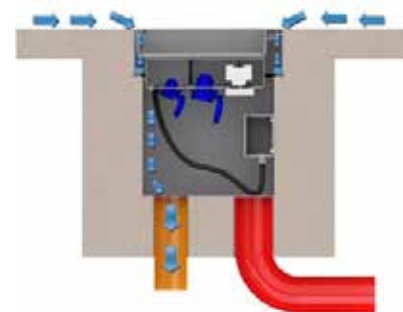
RCBO



RJ45



240V 13a



Ensure connection to drainage pipe or soakaway. Ensure C35/45 grade concrete all round and underneath

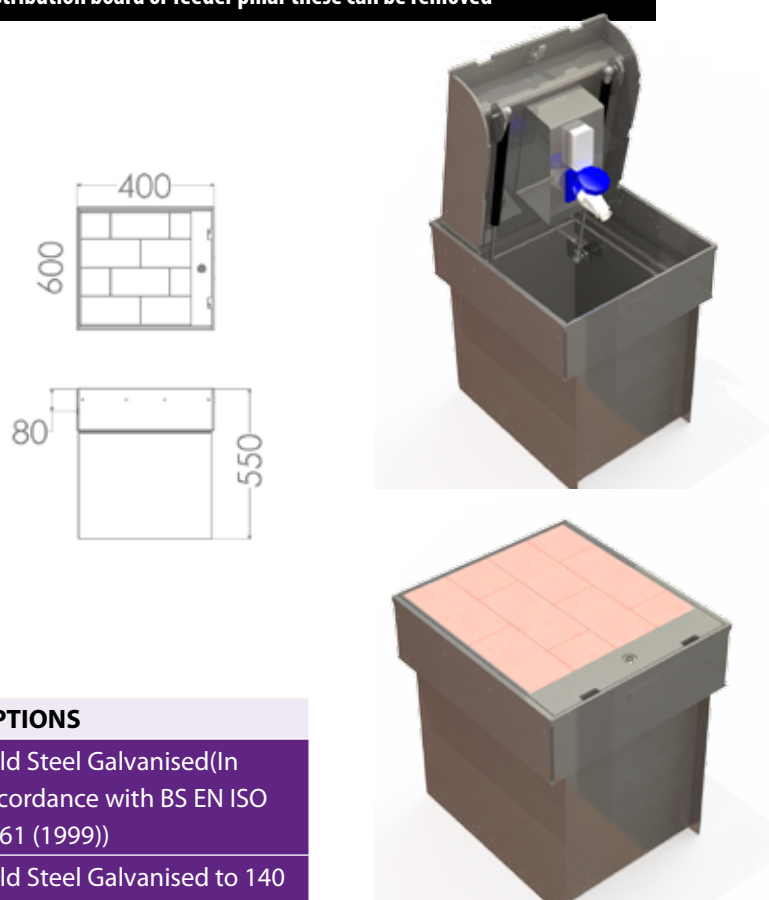
## KENT PAVER IN GROUND POWER UNIT KIGU-600/400 continued

Product Code	Visible Frame Size	Unit Depth	Tray Depth
KIGU-600/400	600mm x 400mm	550mm	80mm

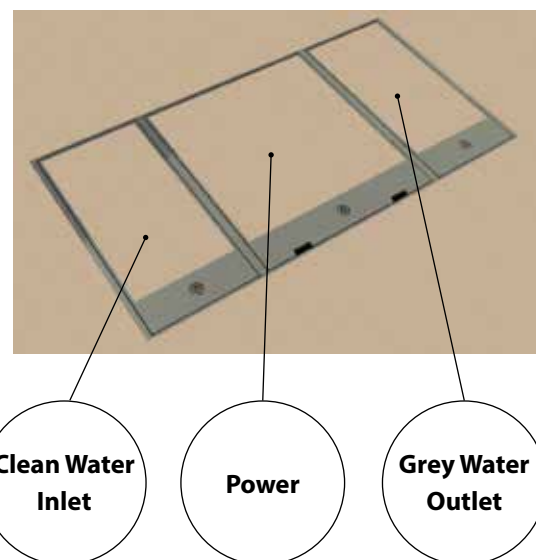
**Specify: Kent In Ground Power Unit KIGU-600/400; 80mm Tray Depth; Grade 316L Stainless Steel; Loading FACTA B; Internally 3 no. 16A IP67 SPN socket outlets and 1 no. 32A IP67 SPN**  
See page 8 & 9 which shows how to create your own unique specification clause

**Customised sizes to suit exact paving slab dimensions available in small production runs at no extra cost**

**RCBO fitted as standard, but where RCBOs on site are fitted on distribution board or feeder pillar these can be removed**



**Combination Power / Grey Water / Potable water units now available**



### OPTIONS

Mild Steel Galvanised(In accordance with BS EN ISO 1461 (1999))

Mild Steel Galvanised to 140 Micron( minimum for Middle East projects)

Grade 316L Stainless Steel

Grade 304L Stainless Steel

Socket options-

13 amp

16 amp

32 amp

63 amp

RJ45, 2 pole RCD, 4 pole RCD

BSEN124	Slow Moving Wheel Loads	Kent Safety Test (Unfilled)
A15	0.6T	1.5T
B125	5.0T	12.5T
C250	6.5T	25.0T
D400	11.0T	40.0T

FACTA Class	Slow Moving Wheel Loads	Kent Safety Test (Unfilled)
A	0.6T	0.8T
AA	1.5T	3.1T
AAA	2.5T	5.2T
B	5T	10.1T
C	6.5T	13.2T
D	11T	22T



## KENT PAVER IN GROUND GREY WATER UNIT (KIGGWU-600/300)

The Kent Paver In Ground Grey Water Unit, KIGGWU-600/300 is an ideal product for trading areas, open air areas with events and exhibitions where discreet liquid disposal required. It was designed for the growing number of coffee stalls that are used on a temporary basis in town plazas, pedestrianisation schemes, and other areas of high footfall like stadium, rail station traffic etc.

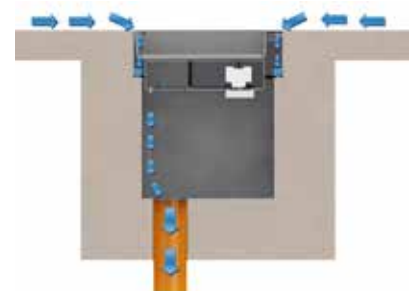
The Grey Water Unit is trapped using a Kent foul air trap system. The hinged recessed cover ensures the units are unobtrusive when not in use. The covers are lift assist recessed manholes and blend in with any paving scheme.

The In Ground Power Units are manufactured in accordance with FACTA and BS EN124 standards. The covers are suitable for all types of paving blocks and are manufactured to meet required loads. They are fabricated in 3mm, 4mm, 6mm and 8mm stainless steel as standard but material can be changed to Mild Steel Galvanised when required.

The 80mm deep tray is design for 60mm deep paving blocks - but this design is customisable to suit your paver depths and lengths.

### Features

- ☐ Gas Rams
- ☐ Trapped 110mm outlet as standard
- ☐ Excellent for market trading areas
- ☐ Galvanised version available
- ☐ Chequerplate tops available
- ☐ Combination Power / Grey Water / Potable water units now available



**Ensure connection to drainage pipe or soakaway. Ensure C35/45 grade concrete all round and underneath**

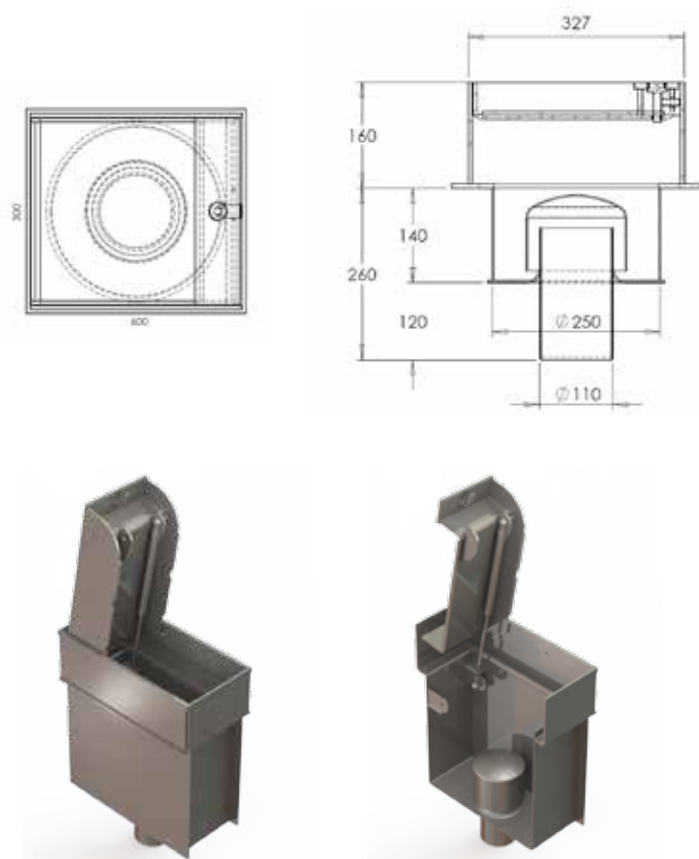


## KENT PAVER IN GROUND GREY WATER UNIT (KIGGWU-600/300) continued

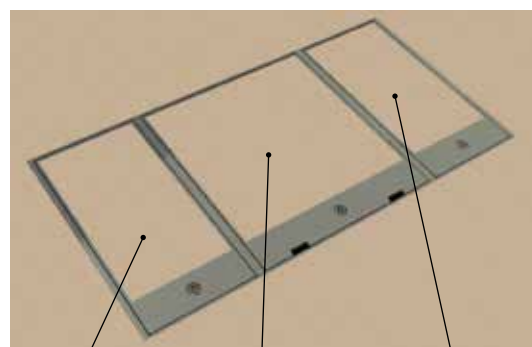
Product Code	Visible Frame Size	Unit Depth	Tray Depth
KIGGWU-600/300	600mm x 300mm	550mm	80mm

**Specify: Kent In Ground Grey Water Unit KIGGWU-500/500; 80mm Tray Depth; Grade 316 Stainless Steel; Loading FACTA B; Internally Trapped Bottom outlet 110mm**  
See page 8 & 9 which shows how to create your own unique specification clause

**Customised sizes to suit exact paving slab dimensions available in small production runs at no extra cost**



**Combination Power / Grey Water / Potable water units now available**



**Clean Water Inlet**

**Power**

**Grey Water Outlet**

### OPTIONS

Mild Steel Galvanised(In accordance with BS EN ISO 1461 (1999))  
Mild Steel Galvanised to 140 Micron( minimum for Middle East projects)  
Grade 316L Stainless Steel  
Grade 304L Stainless Steel

BSEN124	Slow Moving Wheel Loads	Kent Safety Test (Unfilled)
A15	0.6T	1.5T
B125	5.0T	12.5T
C250	6.5T	25.0T
D400	11.0T	40.0T

FACTA Class	Slow Moving Wheel Loads	Kent Safety Test (Unfilled)
A	0.6T	0.8T
AA	1.5T	3.1T
AAA	2.5T	5.2T
B	5T	10.1T
C	6.5T	13.2T
D	11T	22T

## KENT PAVER IN GROUND POTABLE WATER UNIT (KIGPWU- 600/300)

The Kent Paver In Ground Grey Water Unit, KIGPWU- 600/300 is an ideal product for trading areas, open air areas with events and exhibitions where potable water flow is required. It was designed for the growing number of coffee stalls that are used on a temporary basis in town plazas, pedestrianisation schemes, and other areas of high footfall like stadium, rail station traffic etc.

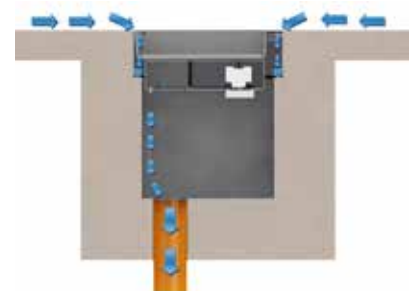
The Clean Water Unit is trapped using a bell trap system. The internal upstand is 30mm diameter, 50mm high for copper or plastic pipe to feed through as standard. Tap connection can be supplied as an option to suit the particular site. The hinged recessed cover ensures the units are unobtrusive when not in use. The covers are lift assist recessed manholes and blend in with any paving scheme.

The In Ground Clean Water Units are manufactured in accordance with FACTA and BS EN124 standards. The covers are suitable for all types of paving blocks and are manufactured to meet required loads. They are fabricated in 3mm, 4mm, 6mm and 8mm stainless steel as standard but material can be changed to Mild Steel Galvanised when required.

The 80mm deep tray is design for 60mm deep paving blocks - but this design is customisable to suit your paver depths and lengths.

### Features

- ☐ Gas Rams
- ☐ 30mm conduit pipe
- ☐ Excellent for market trading areas
- ☐ Galvanised version available
- ☐ Chequerplate tops available
- ☐ Combination Power / Grey Water / Potable water units now available



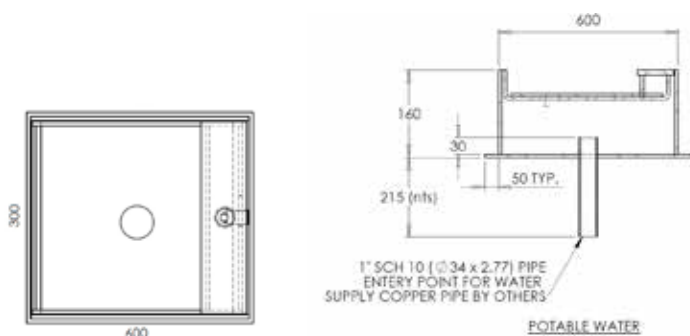
**Ensure connection to drainage pipe or soakaway. Ensure C35/45 grade concrete all round and underneath**

## KENT PAVER IN GROUND POTABLE WATER UNIT (KIGPWU- 600/300) continued

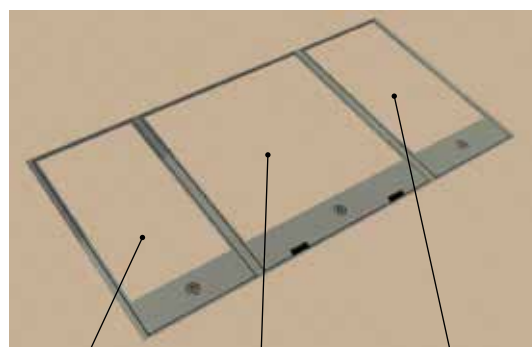
Product Code	Visible Frame Size	Unit Depth	Tray Depth
KIGPWU- 600/300	600mm x 300mm	550mm	80mm

**Specify: Kent In Ground Potable Water Unit KIGPWU- 600/300; 80mm Tray Depth; Grade 316 Stainless Steel; Loading FACTA B; Internally Trapped Bottom outlet 110mm**  
**See page 8 & 9 which shows how to create your own unique specification clause**

**Customised sizes to suit exact paving slab dimensions available in small production runs at no extra cost**



**Combination Power / Grey Water / Potable water units now available**



**Clean Water  
Inlet**

**Power**

**Grey Water  
Outlet**

**3/4" mains water feed with  
isolation valve with 1/2"  
hose connection**

### OPTIONS

Mild Steel Galvanised(In accordance with BS EN ISO 1461 (1999))  
Mild Steel Galvanised to 140 Micron( minimum for Middle East projects)  
Grade 316L Stainless Steel  
Grade 304L Stainless Steel

BSEN124	Slow Moving Wheel Loads	Kent Safety Test (Unfilled)
A15	0.6T	1.5T
B125	5.0T	12.5T
C250	6.5T	25.0T
D400	11.0T	40.0T

FACTA Class	Slow Moving Wheel Loads	Kent Safety Test (Unfilled)
A	0.6T	0.8T
AA	1.5T	3.1T
AAA	2.5T	5.2T
B	5T	10.1T
C	6.5T	13.2T
D	11T	22T



Made in IRELAND

[www.solidstechnology.com](http://www.solidstechnology.com) | [www.kentstainless.com](http://www.kentstainless.com)



## Cutty Sark

**Location:** Greenwich, London  
**Project:** Cutty Sark Gardens Project  
**Clients:** Greenwich Council,  
**Contrcator:** Volker Highways  
**Architect:** OKRA  
**Value:** €30,000

Kent Stainless worked with Volker Highways on their contract to upgrade the hard landscaping around the famous "Cutty Sark" ship. The area was identified by Greenwich Council as being underdeveloped with huge potential for tourism in the area. Kent Stainless had previously worked with Volker Highways and Greenwich Council in the very successful "Woolwich town centre

redevelopment" project. With this in mind Kent Stainless were asked to design and manufacture a range of custom made "in ground units" and recessed access covers. The covers were designed to be as invisible as possible to add to the aesthetics of the stone paving and the general area. All covers were designed and manufactured to D400 loading in case of emergency vehicle access.

The "in ground units" were required to allow outdoor events and public speaking to be held in the area without the need for generators. The In ground units were custom designed for secure access, so that only permitted users can access the units.

Kent Stainless Anti Skateboard Studs were also used extensively on the edges of all planters and stone seating.





# York Minster

**Location:** York, England  
**Project:** Manufacture and Supply of a range of stainless steel Manhole Covers  
**Architect:** Aroll & Snell  
**Main Contractor:** William Annaley  
**Value:** €300, 000

The cathedral in York is recognised as one of the most beautiful medieval buildings in Europe and was constructed between 1220 and 1470. The area around the cathedral was renovated in 2012 and 2013, during which time remnants of an old Roman fortress and road were uncovered.

Kent Stainless tailored the design of their In Ground Power Units, and matched this with recessed stainless steel Kent Solo Paver

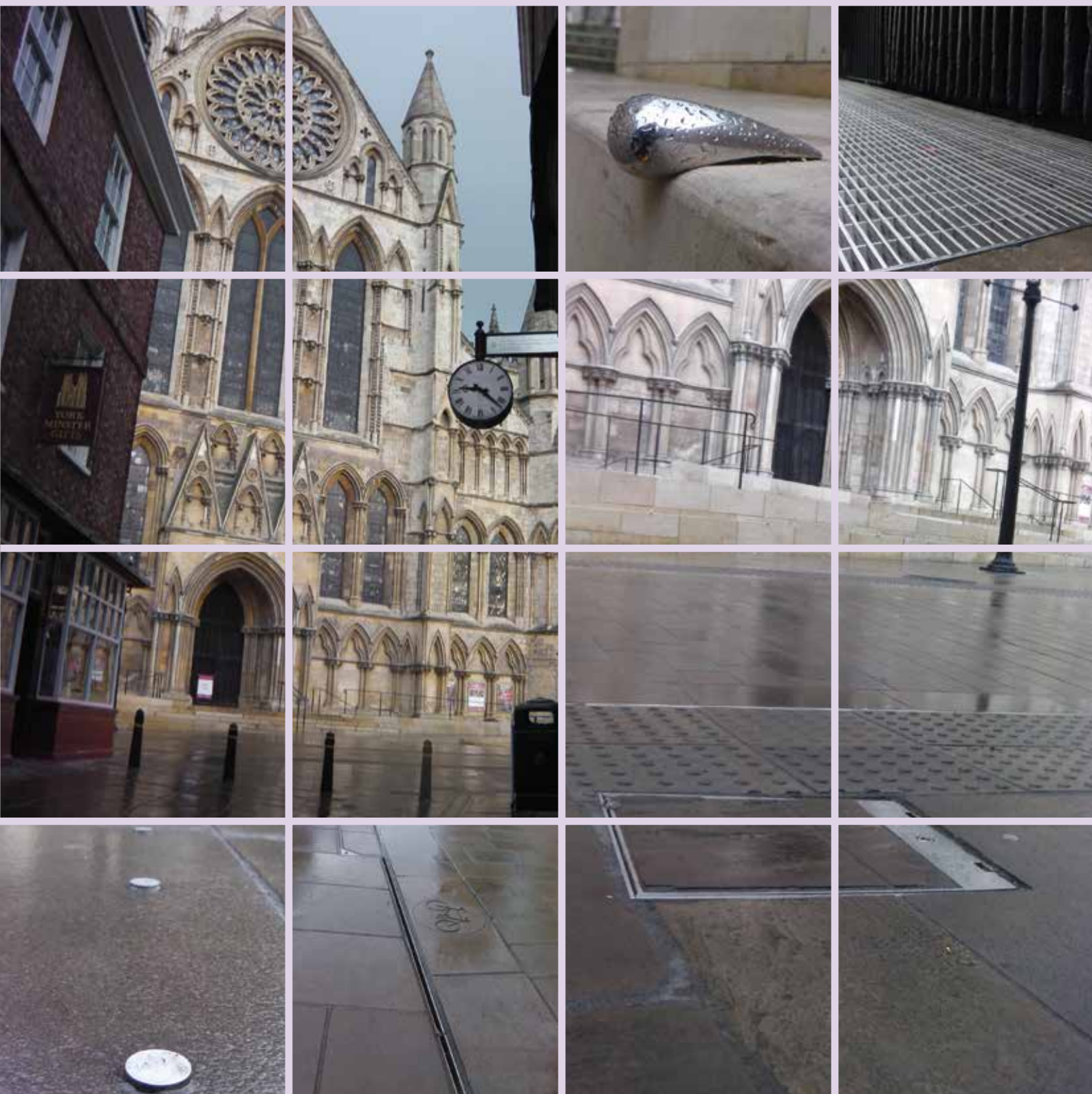
manholes to ensure the beautiful york stone paving remained prominent and unbroken. The bench edges were protected with the Kent Swoosh Studs, and the site perimeter was delineated with Kent Demarcation Studs.

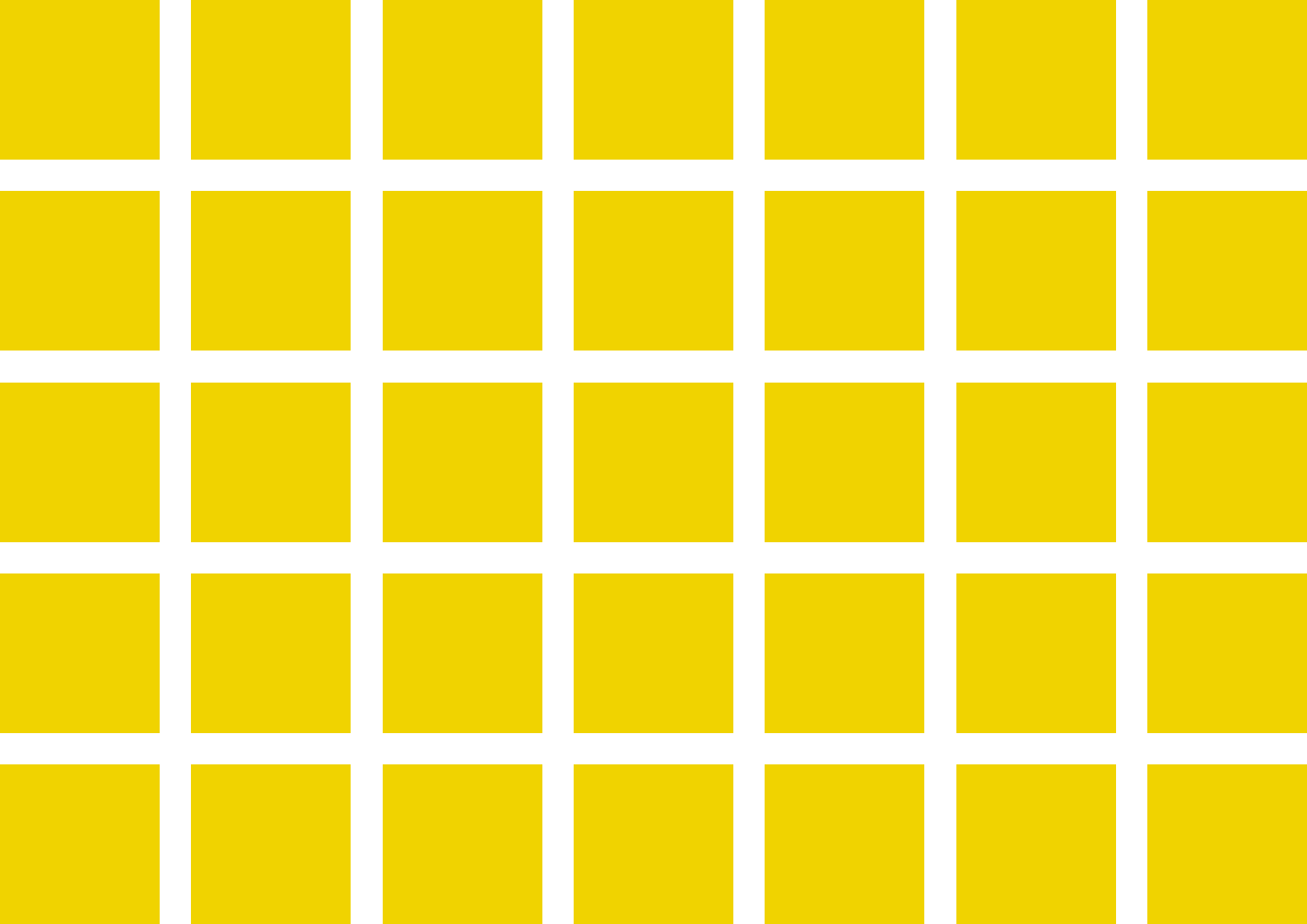
Kent Heelmesh Ventilation Grilles were used to cover underground basements – these were a special commission – support on 3 sides only and with tapered sides.

Project delivered On Time and In Budget.

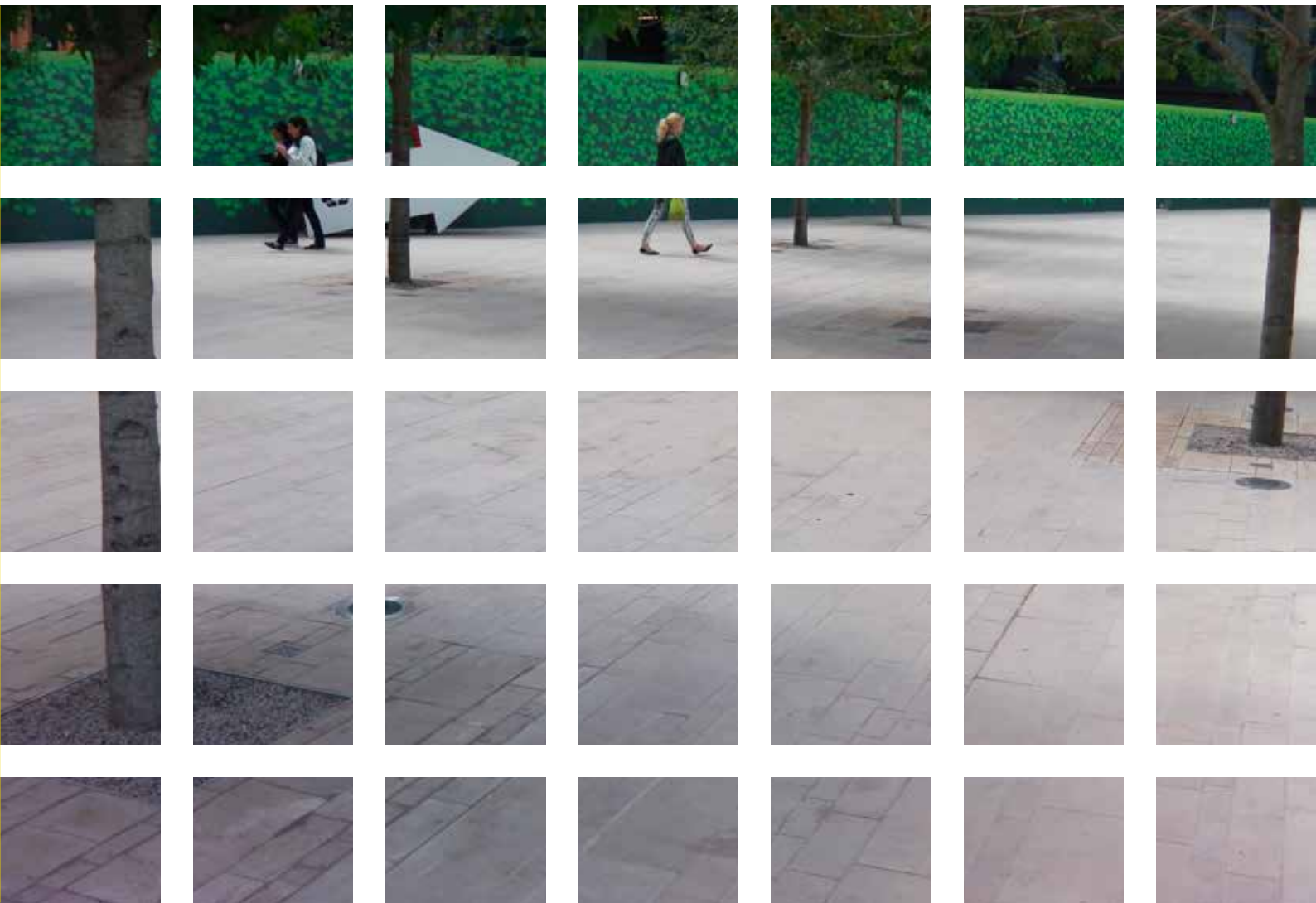
## Outline of the Project Requirements:

- ★ Stainless steel recessed manhole covers
- ★ Various loadings required - mainly B125 and D400
- ★ Stainless Steel In Ground Power units
- ★ Stainless Steel Swoosh Studs and Demarcation Studs
- ★ Stainless Steel Ventilation Grilles





# STREET GULLIES





## KENT DISHED PERFORATED GRATING KDPG-755/300

The Kent Dished Perforated Grating KDPG-755/300 is designed to match the profile of curved dished channel drains in streetscapes. They replace the large ductile iron gully covers in areas where heelproof covers are required. They are made in accordance with FACTA and BS EN124 loading standards. It comes with an angle frame and it is lockdown as standard. It does not include a gully trap.

### Features

- ❑ Perforated Gully Top to provide heelproof surface finish
- ❑ Dished profile to suit streetscapes
- ❑ Satin 320 Grit Polished finish





## KENT DISHED PERFORATED GRATING KDPG-755/300 continued

Product Code	Length	Width	Depth
KDPG-755/300	755mm	300mm	80mm

**Specify: Kent Dished Perforated Grating KDPG-755/300; 755mm; 80mm Tray Depth; Grade 316L Stainless Steel; Loading FACTA D**  
See page 8 & 9 which shows how to create your own unique specification clause

**Customised sizes to suit exact paving slab dimensions available in small production runs at no extra cost**

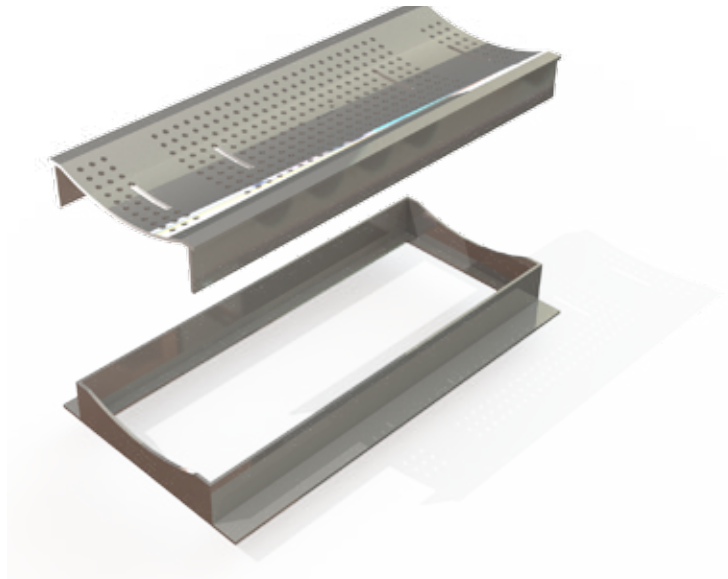
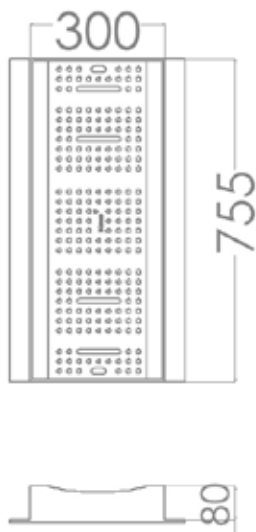


**Heelproof**



**Truck Loading**

**Please see also our dished channel manholes**



### OPTIONS

Various Loadings (See FACTA and BS EN124 Tables)

Grade 304L Stainless Steel

Grade 316L Stainless Steel

BSEN124	Slow Moving Wheel Loads	Kent Safety Test (Unfilled)
A15	0.6T	1.5T
B125	5.0T	12.5T
C250	6.5T	25.0T
D400	11.0T	40.0T

FACTA Class	Slow Moving Wheel Loads	Kent Safety Test (Unfilled)
A	0.6T	0.8T
AA	1.5T	3.1T
AAA	2.5T	5.2T
B	5T	10.1T
C	6.5T	13.2T
D	11T	22T



## KENT DISHED LADDER GRATING KDLG-560/300

The Kent Dished Ladder Gratings are external heavy duty gully covers. They are curved to suit a dish channel (any radius possible). They are manufactured from 6mm bars and come in Grade 304L or Grade 316L Stainless Steel as standard. They can be supplied with a hinge when required.

### Features

- ❑ 60% Free Area
- ❑ Available with a dish profile or flat top profile
- ❑ Heel safe (10mm spacing between bars)
- ❑ Dipped Passivated finish



## KENT DISHED LADDER GRATING KDLG-560/300 continued

Product Code	Length	Width	Depth
KDLG-560/300 (L)	560mm	300mm	50mm
KDLG-560/300 (H)	560mm	300mm	50mm

**Specify: Kent Dishd Ladder Grating KDLG-560/300; 50mm Tray Depth; Grade 316L Stainless Steel; Loading FACTA D**  
See page 8 & 9 which shows how to create your own unique specification clause

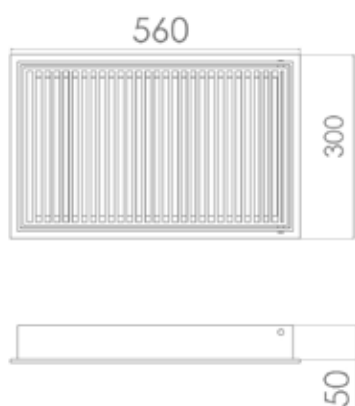
**Customised sizes to suit exact paving slab dimensions available in small production runs at no extra cost**



**Heelproof**



**Truck Loading**



**Lift Out As Standard**



**Hinged Option**

### OPTIONS

Various Loadings (See FACTA and BS EN124 Tables)

Grade 304L Stainless Steel

Grade 316L Stainless Steel

Hinged

Flat

BSEN124	Slow Moving Wheel Loads	Kent Safety Test (Unfilled)
A15	0.6T	1.5T
B125	5.0T	12.5T
C250	6.5T	25.0T
D400	11.0T	40.0T

FACTA Class	Slow Moving Wheel Loads	Kent Safety Test (Unfilled)
A	0.6T	0.8T
AA	1.5T	3.1T
AAA	2.5T	5.2T
B	5T	10.1T
C	6.5T	13.2T
D	11T	22T





## KENT FLAT LADDER GRATING KFLG-560/300

The Kent Flat Ladder Gratings are external heavy duty gully covers. They are flat to suit a flat channel. They are manufactured from 6mm bars and come in Grade 304L or Grade 316L Stainless Steel as standard. They can be supplied with a hinge when required.

### Features

- ❑ 60% Free Area
- ❑ Available with a flat top profile or a dished profile
- ❑ Heel safe (10mm spacing between bars)
- ❑ Dipped Passivated Finish



## KENT FLAT LADDER GRATING KFLG-560/300 continued

Product Code	Length	Width	Depth
KFLG-560/300 (L)	560mm	300mm	50mm
KFLG-560/360 (H)	560mm	300mm	50mm

**Specify: Kent Flat Ladder Grating KFLG-560/300; 50mm Tray Depth; Grade 316L Stainless Steel; Loading FACTA D**  
See page 8 & 9 which shows how to create your own unique specification clause

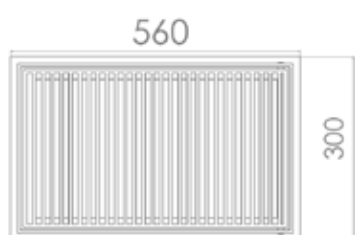
Customised sizes to suit exact paving slab dimensions available in small production runs at no extra cost



Heelproof



Truck Loading



Lift Out As Standard



Hinged Option

### OPTIONS

Various Loadings (See FACTA and BS EN124 Tables)

Grade 304L Stainless Steel

Grade 316L Stainless Steel

Hinged

Flat

BSEN124	Slow Moving Wheel Loads	Kent Safety Test (Unfilled)
A15	0.6T	1.5T
B125	5.0T	12.5T
C250	6.5T	25.0T
D400	11.0T	40.0T

FACTA Class	Slow Moving Wheel Loads	Kent Safety Test (Unfilled)
A	0.6T	0.8T
AA	1.5T	3.1T
AAA	2.5T	5.2T
B	5T	10.1T
C	6.5T	13.2T
D	11T	22T

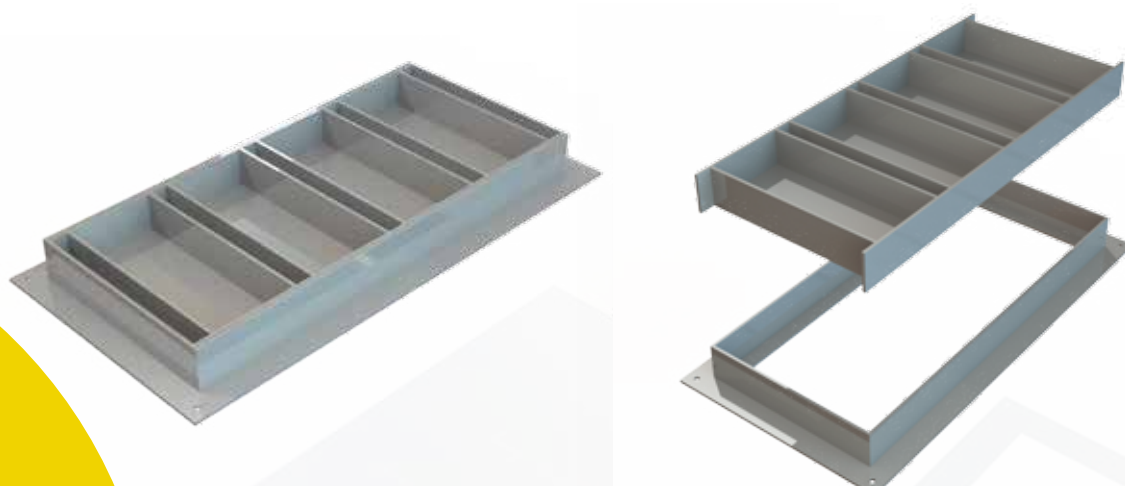


## KENT PAVER SLOT GRATING KPSG-560/458

The Kent Paver Slot Gratings are external heavy duty gratings, which have recesses where block pavers can be inserted. The trays are generally 80mm deep which suit 60mm deep blocks but they can be made to any depth to suit the required paving pattern. It comes as a single tray with angle frame. The tray features slots which act as drains when installed. It is manufactured in accordance with FACTA and BS EN124 from Grade 316L Stainless Steel as standard.

### Features

- Slot drain feature
- Frame has perimeter flange
- Available to suit paving pattern





## KENT PAVER SLOT GRATING KPSG-560/458 continued

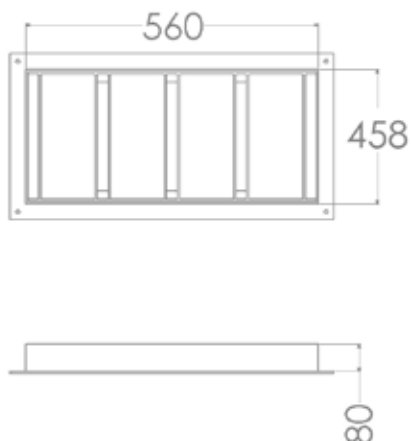
Product Code	Length	Width	Tray Depth
KPSG-560/370	560mm	458mm	80mm

**Specify: Kent Paver Slot Grating KPSG-560/370; 560mm x 458mm Visible Frame Size; 80mm Tray Depth; Grade 316L Stainless Steel; Loading FACTA D See page 8 & 9 which shows how to create your own unique specification clause**

**Customised sizes to suit exact paving slab dimensions available in small production runs at no extra cost**



Truck Loading



### OPTIONS

Grade 304L Stainless Steel  
Grade 316L Stainless Steel  
Various Loadings (See FACTA and BS EN124 Tables)

BSEN124	Slow Moving Wheel Loads	Kent Safety Test (Unfilled)
A15	0.6T	1.5T
B125	5.0T	12.5T
C250	6.5T	25.0T
D400	11.0T	40.0T

FACTA Class	Slow Moving Wheel Loads	Kent Safety Test (Unfilled)
A	0.6T	0.8T
AA	1.5T	3.1T
AAA	2.5T	5.2T
B	5T	10.1T
C	6.5T	13.2T
D	11T	22T

## KENT WATERFORD RECESSED TREE PIT KWRTP-1200/1200

The Kent Waterford Recessed Tree Pit is manufactured from Grade 316L Stainless Steel. The external finish of the Tree Pit is a Satin 320 Grit Polished finish. The tree pit was designed with removable inner tray sections which can be taken out when the tree trunk starts to expand as it grows. The tree pit can also feature an optional aeration inlet cover which can also act as a cover for an irrigation system. Optional uplighters can also be added if required.

### Features

- ❑ Corner Plates have a Satin 320 Grit Polished finish
- ❑ Grade 316L Stainless Steel
- ❑ 10mm thickness
- ❑ Recessed design to suit various paver and resin infill sizes.

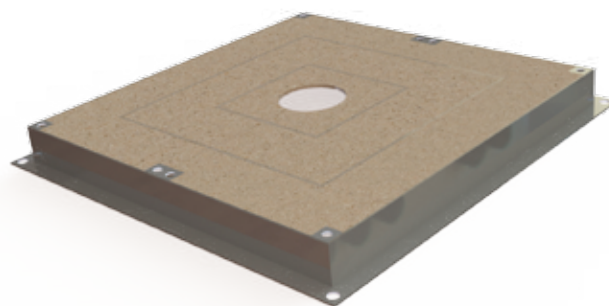
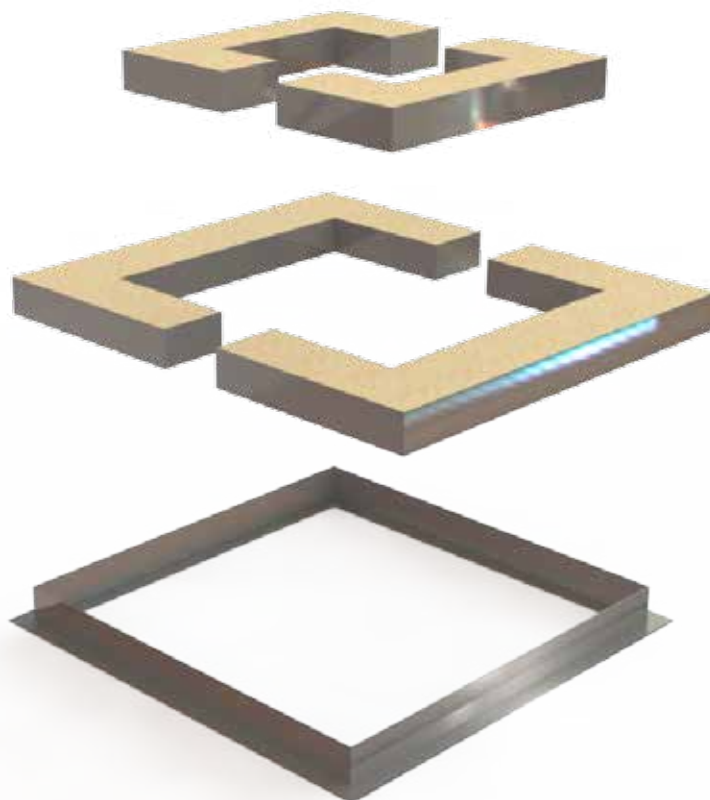
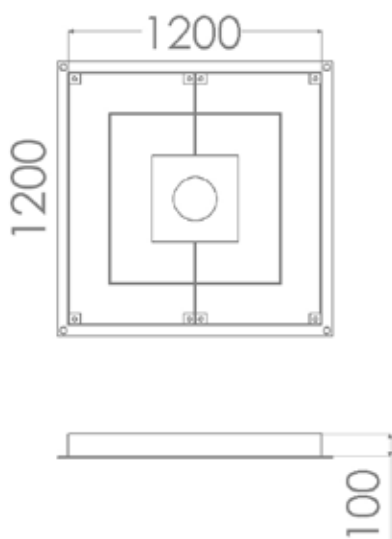


## KENT WATERFORD RECESSED TREE PIT KWRTP-1200/1200 continued

Product Code	Length	Width	Depth
KWRTP-1200/1200	1200mm	1200mm	100mm

**Specify: Kent Waterford Recessed Tree Pit KWRTP-1200/1200: 1200mm x 1200mm; 100mm Tray Depth; Grade 316L Stainless Steel; Aeration Inlet Cover; Loading FACTA A**

See page 8 & 9 which shows how to create your own unique specification clause



### OPTIONS

Various loadings (See FACTA and BS EN124 Tables)

Grade 304L Stainless Steel

Grade 316L Stainless Steel

Mild Steel Galvanised (In accordance with BS EN ISO 1461 (1999))

Galvanised to 140 Micron (minimum for Middle East projects)

Aeration Inlet Cover

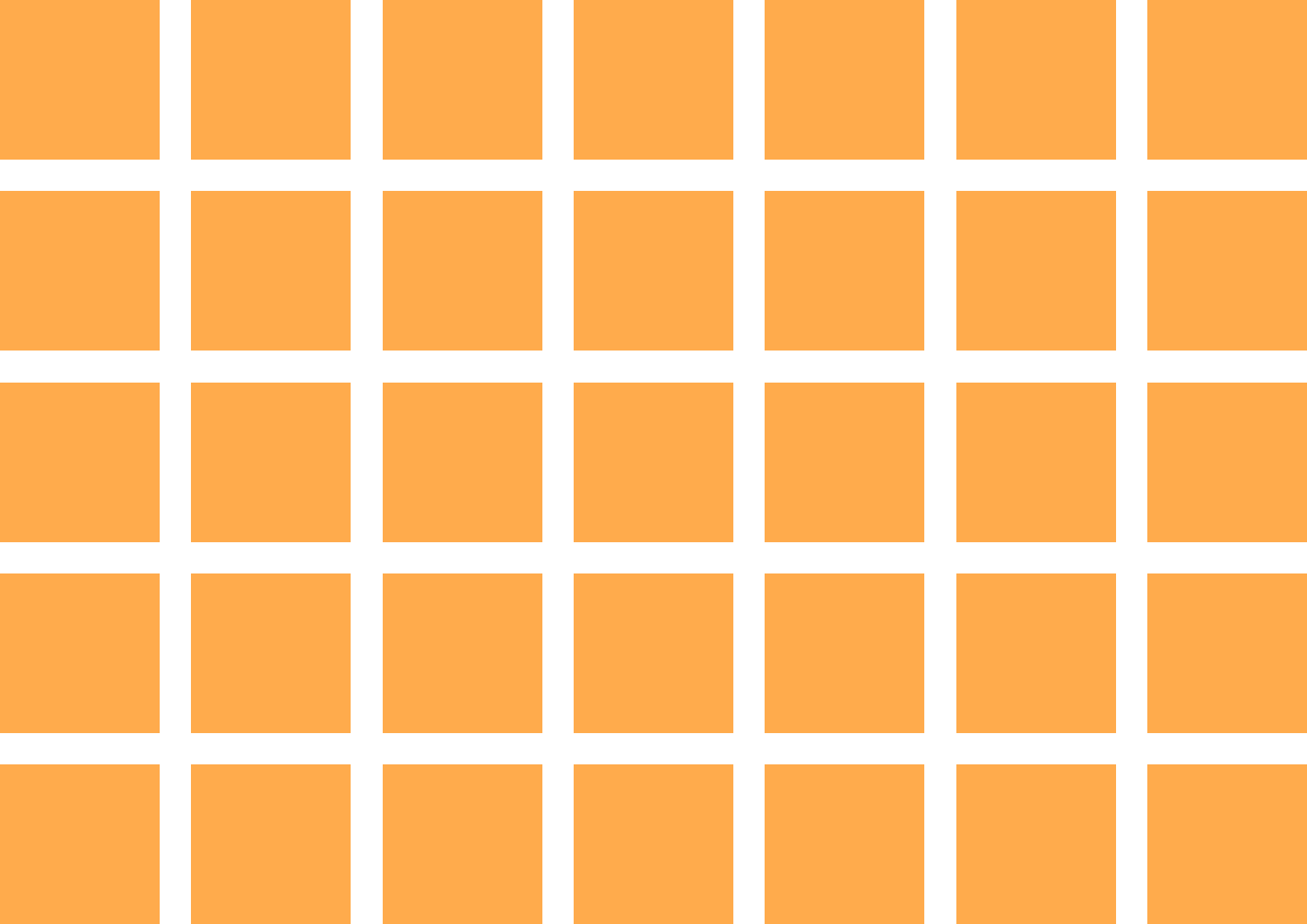
Irrigation Inlet Cover

Uplighter

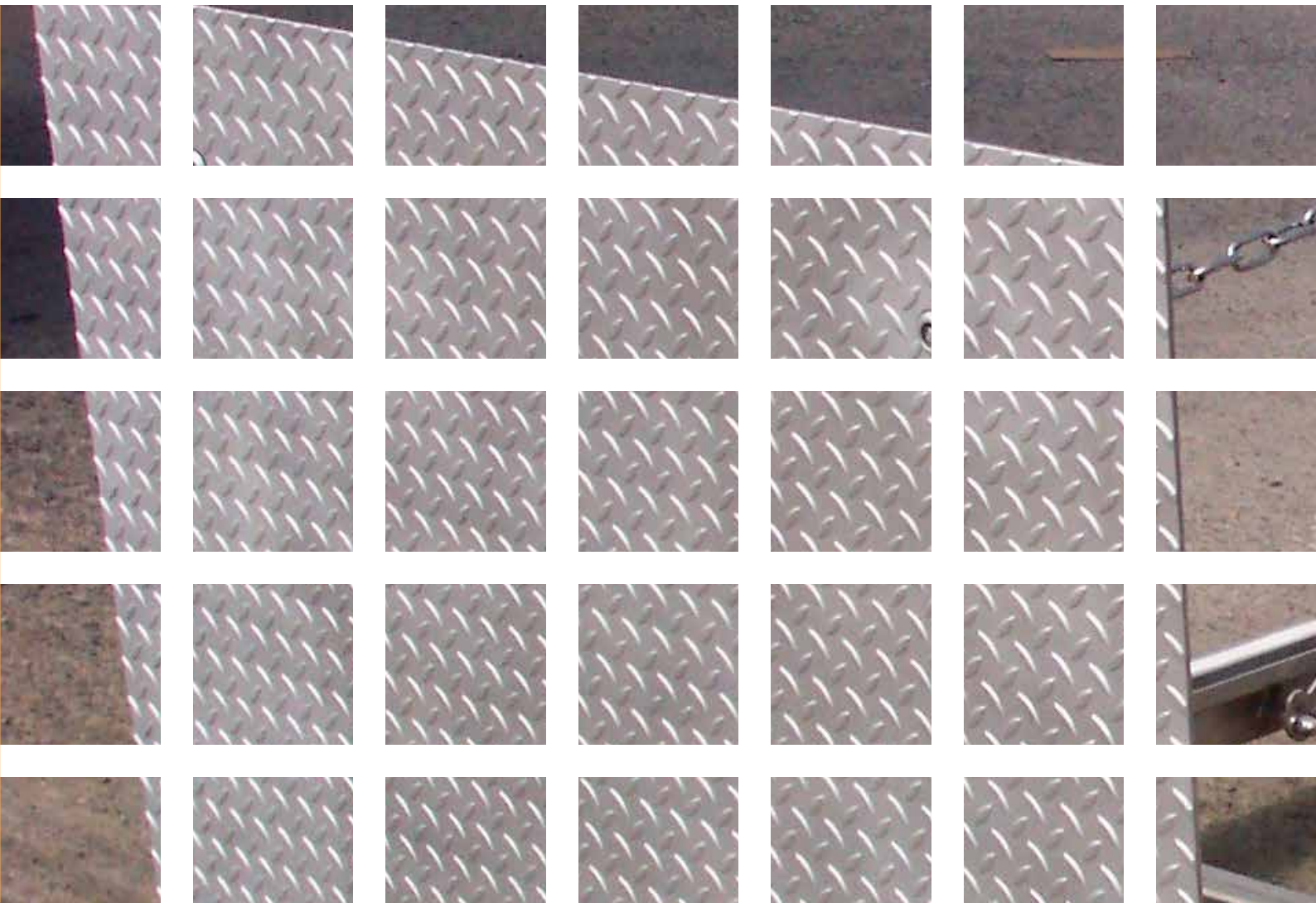
BSEN124	Slow Moving Wheel Loads	Kent Safety Test (Unfilled)
A15	0.6T	1.5T
B125	5.0T	12.5T
C250	6.5T	25.0T
D400	11.0T	40.0T

FACTA Class	Slow Moving Wheel Loads	Kent Safety Test (Unfilled)
A	0.6T	0.8T
AA	1.5T	3.1T
AAA	2.5T	5.2T
B	5T	10.1T
C	6.5T	13.2T
D	11T	22T





# CHEQUERS



## KENT SOLO CHEQUER KSCHQ-450/450

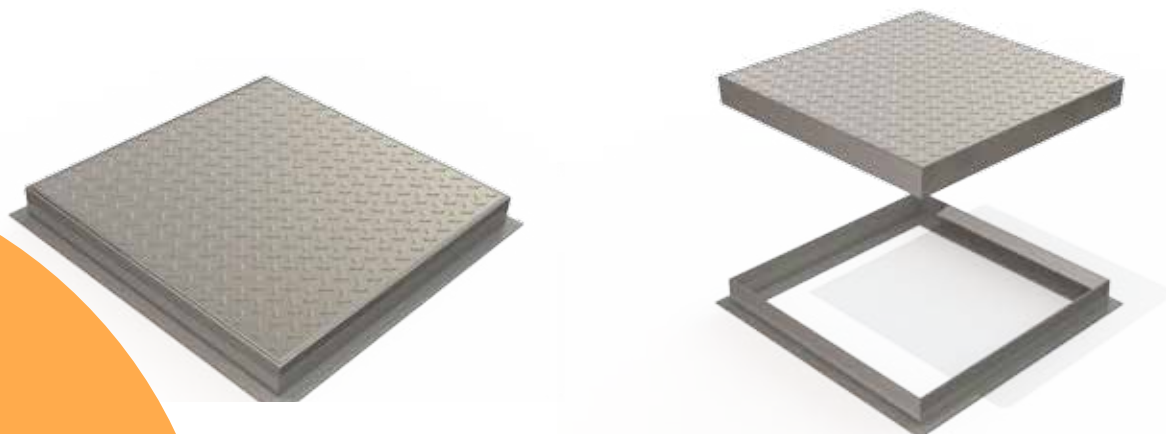
The Kent Solo Chequer manholes, KSCHQ-450/450, are solid top manholes with a raised 'chequer plate' surface. They are manufactured in accordance with BS EN124 and FACTA standards and are available in various loadings. They come manufactured from Grade 304L or Grade 316L Stainless Steel as standard and galvanised versions are available.

There is a Double Sealed version available and there is also an option to add an Inspection Port as a feature (150mm x 150mm hinged).

Manholes can be supplied with a powdercoated finish where there may be a need to increase the visibility of the manhole.

### Features

- ❑ Chequer Plate surface finish
- ❑ Lockdown feature available
- ❑ Shallow Tray Depth—20mm for light loading areas
- ❑ 4 Lifting points per cover

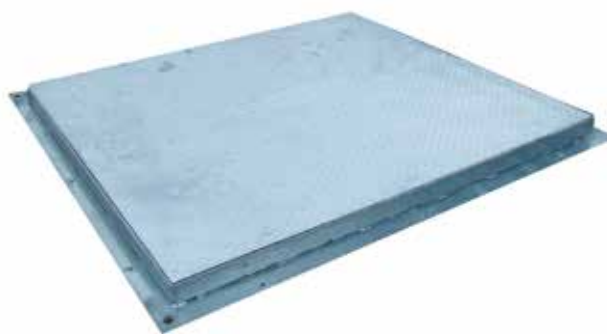
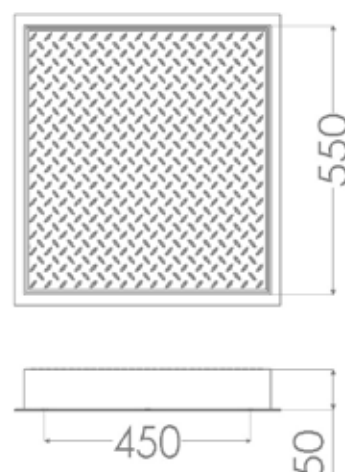




Product Code	Clear Opening	Tray Depth	Visible Frame Size (Unsealed)
KSCHQ-450/450	450mm x 450mm	50mm	550mm x 550mm
KSCHQ-600/450	600mm x 450mm	50mm	700mm x 550mm
KSCHQ-600/600	600mm x 600mm	50mm	700mm x 700mm
KSCHQ-750/600	750mm x 600mm	50mm	850mm x 700mm
KSCHQ-750/750	750mm x 750mm	50mm	850mm x 850mm
KSCHQ-900/600	900mm x 600mm	50mm	1000mm x 700mm
KSCHQ-900/750	900mm x 750mm	50mm	1000mm x 850mm
KSCHQ-900/900	900mm x 900mm	50mm	1000mm x 1000mm

**Specify: Kent Solo Chequer Manhole KSCHQ-450/450; 450mm x 450mm clear opening; Unsealed; 50mm Tray Depth; Grade 316L Stainless Steel; Loading FACTA B**  
**See page 8 & 9 which shows how to create your own unique specification clause**

**Customised sizes to suit specific projects available in small production runs at no extra cost**



## OPTIONS

Various Loadings (See BS EN124 and FACTA tables)  
 Grade 304L Stainless Steel  
 Grade 316L Stainless Steel  
 Mild Steel Galvanised (In accordance with BS EN ISO 1461 (1999))  
 Mild Steel Galvanised to 140 Micron (minimum requirement for Middle East projects)  
 Various Tray Depths (20mm, 50mm, 80mm, 100mm)  
 Lockdown  
 Unsealed or Double Sealed  
 Powdercoated finish

BSEN124	Slow Moving Wheel Loads	Kent Safety Test (Unfilled)
A15	0.6T	1.5T
B125	5.0T	12.5T
C250	6.5T	25.0T
D400	11.0T	40.0T

FACTA Class	Slow Moving Wheel Loads	Kent Safety Test (Unfilled)
A	0.6T	0.8T
AA	1.5T	3.1T
AAA	2.5T	5.2T
B	5T	10.1T
C	6.5T	13.2T
D	11T	22T

## KENT MULTI CHEQUER KMCHQ1200/1200

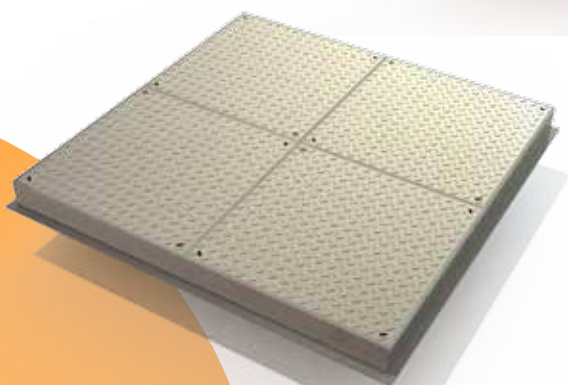
Kent Multi Chequer manholes, KMCHQ-1200/1200 are solid top manholes with a raised 'chequer plate' surface. They are manufactured in accordance with BS9124:2008 and FACTA standards and are available in various loadings. They come manufactured from Grade 304 or Grade 316L Stainless Steel as standard and galvanised versions are available.

The manholes are supported by an under mounted beam and bracket system which is designed to support the required loading. See page 12.

There is a Double Sealed version available and there is also an option to add an Inspection Port as a feature (150mm x 150mm hinged).

### Features

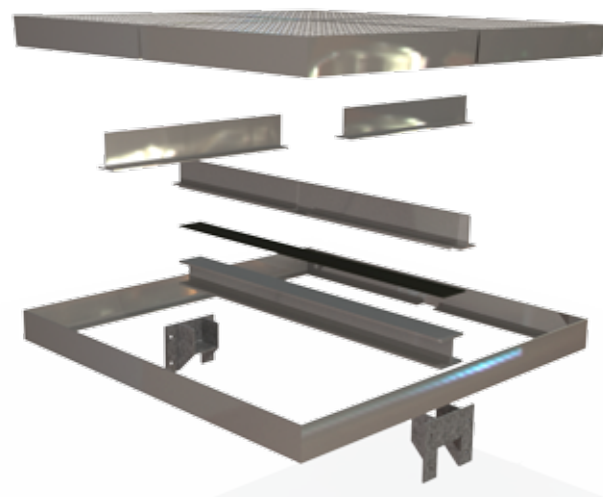
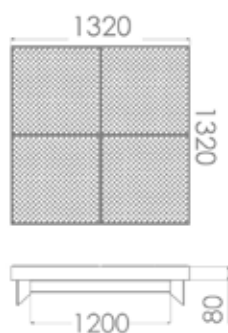
- ☐ Chequer Plate Surface Finish
- ☐ 4 Lifting Points per tray
- ☐ Vertical Wall Mounted Beam Pockets or Recessed Beam Pockets
- ☐ Beam Network is fully removable
- ☐ Lockdown feature available upon request



Product Code	Clear Opening	Number of Trays	Visible Frame Size (Unsealed)	Tray Depth
KMCHQ-1200/600	1200mm x 600mm	2	1320mmx720mm	80mm
KMCHQ-1200/1200	1200mm x 1200mm	4	1320mm x 1320mm	80mm
KMCHQ-1800/600	1800mm x 600mm	3	1920mm x 720mm	80mm
KMCHQ-1800/1200	1800mm x 1200mm	4	1920mm x 1320mm	80mm
KMCHQ-1800/1800	1800mm x 1800mm	4	1920mm x 1920mm	80mm
KMCHQ-2400/600	2400mm x 600mm	4	2520mm x 720mm	80mm
KMCHQ-2400/1200	2400mm x 1200mm	8	2520mm x 1320mm	80mm
KMCHQ-2400/1800	2400mm x 1800mm	8	2520mm x 1920mm	80mm

**Specify: Kent Multi Chequer Plate Manhole KMCHQ-1200/1200; 1200mm x 1200mm clear opening; 4 Tray; Unsealed; Grade 316L Stainless Steel; Plate Manhole; Loading FACTA B**  
**See page 8 & 9 which shows how to create your own unique specification clause**

**Customised sizes to suit project available in small production runs at no extra cost**



## OPTIONS

Various Loadings (See FACTA and BS9124:2008 Application Load Specific Tables)

Grade 304L Stainless Steel

Grade 316L Stainless Steel

Mild Steel Galvanised (In accordance with BS EN ISO 1461 (1999))

Mild Steel Galvanised to 140 Micron (minimum requirement for Middle East projects)

Various Tray Depths (50mm, 80mm, 100mm)

Vertical Beam Pockets or Recessed Beam Pockets (See page 12)

Unsealed or Double Sealed

Lockdown Feature

Perimeter Flange

Application Load Specific (In accordance with BS9124:2008)
1.0T
5.0T
10.0T

FACTA Class	Slow Moving Wheel Loads	Kent Safety Test (Unfilled)
A	0.6T	0.8T
AA	1.5T	3.1T
AAA	2.5T	5.2T
B	5T	10.1T
C	6.5T	13.2T
D	11T	22T



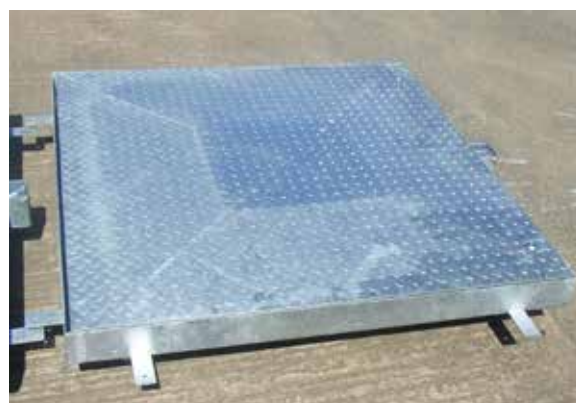
## KENT HINGED SOLO CHEQUER KHSCHQ-600/600

Kent Hinged Solo Chequer Manholes KHSCHQ-600/600, are solid top manholes with a raised 'chequer plate' surface. They are used where opening the manhole is more frequent, where a single operator may arrive on site and where maintenance personnel may not have access to specialised lifting equipment. They are manufactured in accordance with EN 124 and FACTA standards and they are made from Grade 304 or Grade 316L Stainless Steel as standard. Material can be changed to Galvanised Mild steel when required and there is a Double Sealed version available.

They contain all the features of our Kent Solo Chequer manholes and are hinged with a robust stainless steel hinge. We use gas struts for smaller sizes and for larger sizes we use Kent lift assist Mechanical struts to allow a manhole to be opened with a force compliant with manual handling regulations.

### Features

- ☐ Gas Struts for smaller sizes
- ☐ Kent Lift assist Mechanical Struts for larger sizes
- ☐ Optional Safety Grid
- ☐ Safety Stay as Standard
- ☐ One Lifting Point as Standard
- ☐ Lockdown as standard

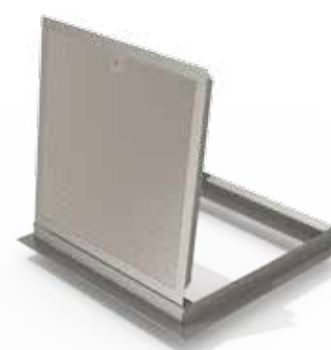
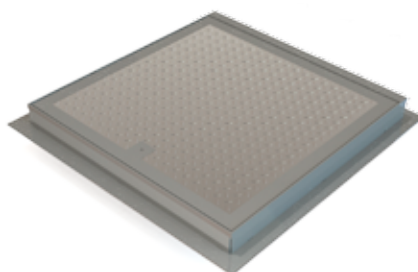
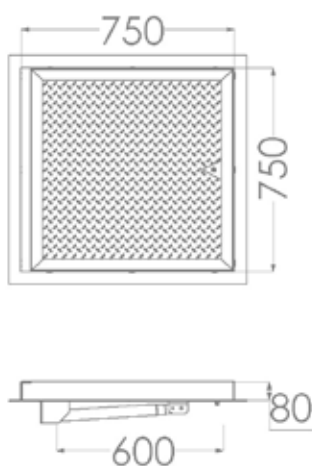


## KENT HINGED SOLO CHEQUER KHSCHQ-600/600 continued

Product Code	Clear Opening	Tray Depth	Visible Frame Size (Unsealed)
KHSCHQ-600/600	600mm x 600mm	80mm	750mm x 750mm
KHSCHQ-750/600	750mm x 600mm	80mm	900mm x 750mm
KHSCHQ-750/750	750mm x 750mm	80mm	900mm x 900mm
KHSCHQ-900/600	900mm x 600mm	80mm	1050mm x 750mm
KHSCHQ-900/750	900mm x 750mm	80mm	1050mm x 900mm
KHSCHQ-900/900	900mm x 900mm	80mm	1050mm x 1050mm

**Specify: Kent Hinged Solo Chequer Manhole KHSCHQ-600/600; 600mm x 600mm clear opening; 80mm Tray Depth; Unsealed; Grade 316L Stainless Steel; Loading FACTA B**  
**See page 8 & 9 which shows how to create your own unique specification clause**

**Standard Safety Stay**



**Optional Safety Grid**



### OPTIONS

Various Loadings (See BSEN124 and FACTA tables)

Grade 304L Stainless Steel

Grade 316L Stainless Steel

Mild Steel Galvanised (In accordance with BS EN ISO 1461 (1999))

Mild Steel Galvanised to 140 Micron (minimum requirement for Middle East projects)

Unsealed or Double Sealed

Various Tray Depths(50mm, 80mm,100mm)

Safety Grid

Gas struts (for smaller sizes)

Kent lift assist Mechanical struts (for larger sizes)

BSEN124	Slow Moving Wheel Loads	Kent Safety Test (Unfilled)
A15	0.6T	1.5T
B125	5.0T	12.5T
C250	6.5T	25.0T
D400	11.0T	40.0T

FACTA Class	Slow Moving Wheel Loads	Kent Safety Test (Unfilled)
A	0.6T	0.8T
AA	1.5T	3.1T
AAA	2.5T	5.2T
B	5T	10.1T
C	6.5T	13.2T
D	11T	22T



## KENT HINGED MULTI CHEQUER KHMCHQ-1200/1200

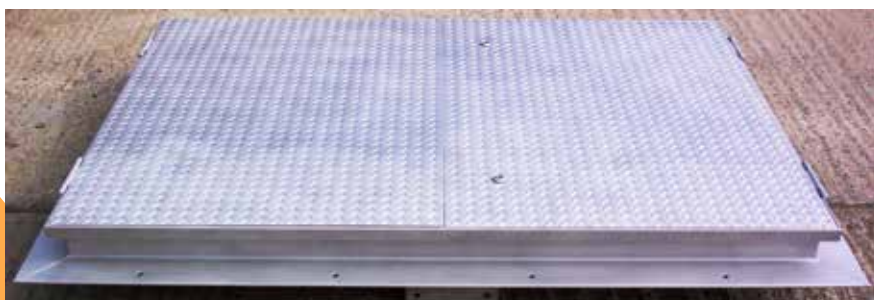
The Kent Hinged Multi Chequer manholes, KHMCHQ-1200/1200 are ideal for covering staircases down to tunnels, or for areas where equipment or supplies (spare parts, generators, substations) may need to be lifted in and out relatively frequently. It is perfect where opening the manhole can be frequent, where a single operator may arrive on site and where maintenance personnel may not have access to specialised lifting equipment.

This makes them ideal for covering tunnels or large underground chambers. They can be supplied with Gas Struts for smaller sizes or with Kent Lift Assist Mechanical Struts for larger sizes.

They are manufactured in accordance with BS9124:2008 and FACTA standards and they are made from Grade 304L or Grade 316L Stainless Steel as standard. Material can be changed to Galvanised Mild steel when required and there is also a Double Sealed version available.

### Features

- ☐ Gas Struts or Kent Lift Assist Mechanical Struts
- ☐ Beam support built into covers
- ☐ Optional Safety grid
- ☐ Safety stay as standard
- ☐ Opens to 90°

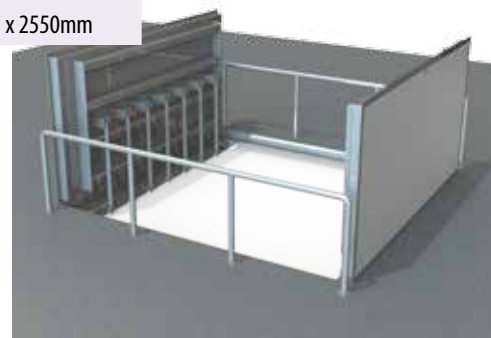




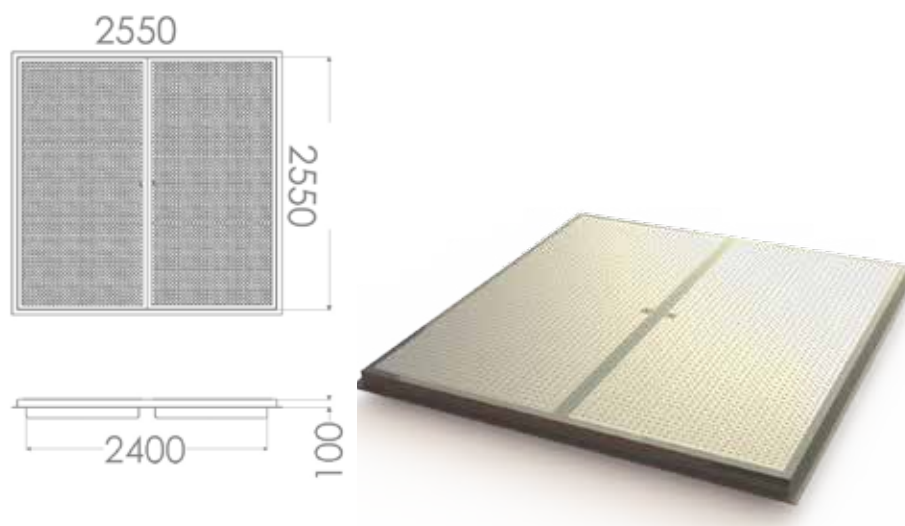
## KENT HINGED MULTI CHEQUER KHMCHQ-1200/1200 continued

Product Code	Clear Opening	No. of Trays	Tray Depth	Visible Frame Size (Unsealed)
KHMCHQ-1200/1200	1200mm x 1200mm	2	100mm	1350mm x 1350mm
KHMCHQ-1800/1200	1800mm x 1200mm	2	100mm	1950mm x 1350mm
KHMCHQ-1800/1800	1800mm x 1800mm	2	100mm	1950mm x 1950mm
KHMCHQ-2400/1200	2400mm x 1200mm	2	100mm	2550mm x 1320mm
KHMCHQ-2400/1800	2400mm x 1800mm	2	100mm	2550mm x 1920mm
KHMCHQ-2400/2400	2400mm x 2400mm	2	100mm	2550mm x 2550mm

### Optional Safety Barrier



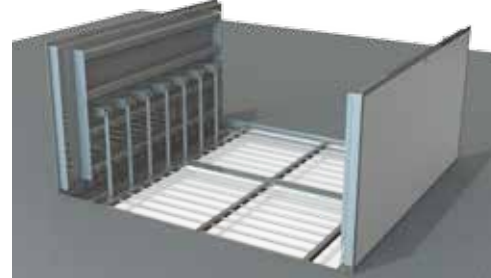
**Kent Hinged Multi Chequer Manhole KHMCHQ-1200/1200; 1200mm x 1200mm clear opening; 2 Trays; 100mm Tray Depth; Grade 316L Stainless Steel; Loading FACTA B316L Stainless Steel; Loading FACTA B**  
See page 8 & 9 which shows how to create your own unique specification clause



### Safety Grid Open



### Safety Grid Closed



### OPTIONS

Various Loadings (See BS9124:2008 Application Load Specific and FACTA tables)  
Grade 304L Stainless Steel  
Grade 316L Stainless Steel  
Mild Steel Galvanised (In accordance with BS EN ISO 1461 (1999))  
Mild Steel Galvanised to 140 Micron (minimum requirement for Middle East projects)  
Unsealed or Double Sealed  
Various Tray Depths  
Safety grid  
Kent lift assist Mechanical struts

### Application Load Specific (In accordance with BS9124:2008)

1.0T
5.0T
10.0T

FACTA Class	Slow Moving Wheel Loads	Kent Safety Test (Unfilled)
A	0.6T	0.8T
AA	1.5T	3.1T
AAA	2.5T	5.2T
B	5T	10.1T
C	6.5T	13.2T
D	11T	22T

## KENT CHEQUER MAN ACCESS KCHQMA2400/2400

The Kent Chequer Man Access Manholes KCHQMA-2400/2400 are used where equipment may be inserted in a chamber at the beginning of a project and should not need to be replaced for many years. Overall, this is one large manhole cover which has a man access hatch inserted to cater for frequent access by maintenance personnel and also to cater for emergency situations. As this is one large cover, it lends itself to be easily modified to become watertight. They can be supplied as watertight against pressureless surface water and they can also be modified to include an additional internal drainage channel as an extra feature.

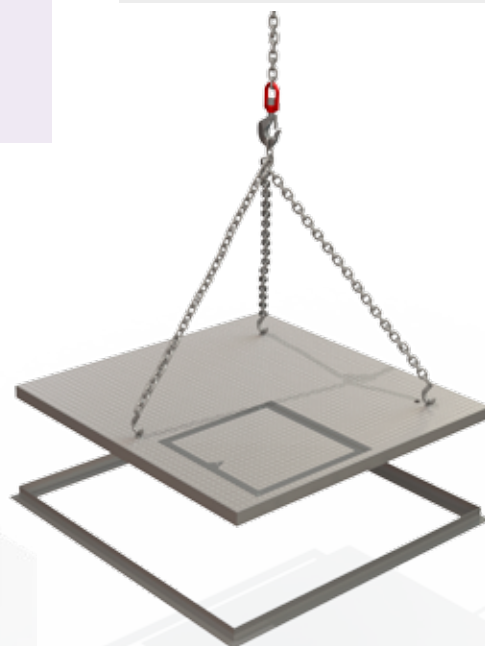
They are manufactured in accordance with BS9124:2008 and FACTA standards and they are made from Grade 304 or Grade 316L Stainless Steel as standard. Material can be changed to Galvanised Mild steel when required and there is a Double Sealed version available.

There is also an option to include an Inspection Port if required. (150mm x 150mm hinged)

Typically the 'Man Access Hatch' has 600mm x 600mm clear opening. These covers are hinged with a robust stainless steel hinge, and they can be supplied with Gas struts or Kent Lift Assist mechanical struts to allow the 'Man Access Hatch' to be opened with a force compliant with manual handling regulations.

### Features

- ☐ Emergency Access
- ☐ Large Single Unit (Easily modified to become watertight)
- ☐ Man Access Hatch can have Gas Struts or Kent Lift Assist Mechanical Struts
- ☐ Beam support built into cover
- ☐ Optional Safety Grid
- ☐ Standard Safety Stay
- ☐ Lockdown as standard
- ☐ 3 Lifting Points as standard (Cover to be craned into position)
- ☐ Man access hatch can be supplied to be open from above only
- ☐ Where emergency access is required, the man access hatch can be supplied to open from above and below.

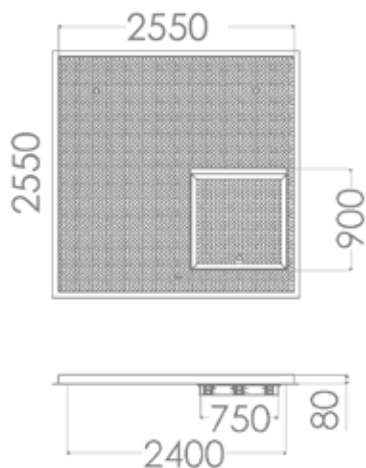


## KENT CHEQUER MAN ACCESS KCHQMA2400/2400 continued

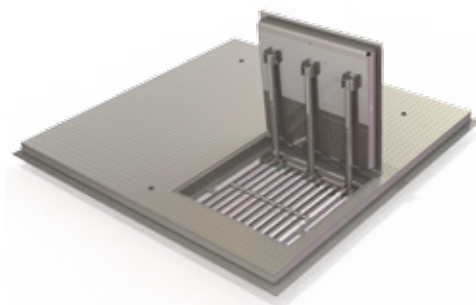
Product Code	Clear Opening	Tray Depth	Visible Frame Size (Unsealed)
KCHQMA-1800/1800	1800mm x 1800mm	80mm	1950mm x 1950mm
KCHQMA-2400/1800	2400mm x 1800mm	80mm	2550mm x 1950mm
KCHQMA-2400/2400	2400mm x 2400mm	80mm	2550mm x 2550mm

**Specify: Kent Chequer Man Access manhole KCHQMA-2400/2400; 2400mm x 2400mm clear opening; Man Access Hatch open from above only; 80mm deep tray; Unsealed; Grade 304L Stainless Steel; Loading FACTA B**

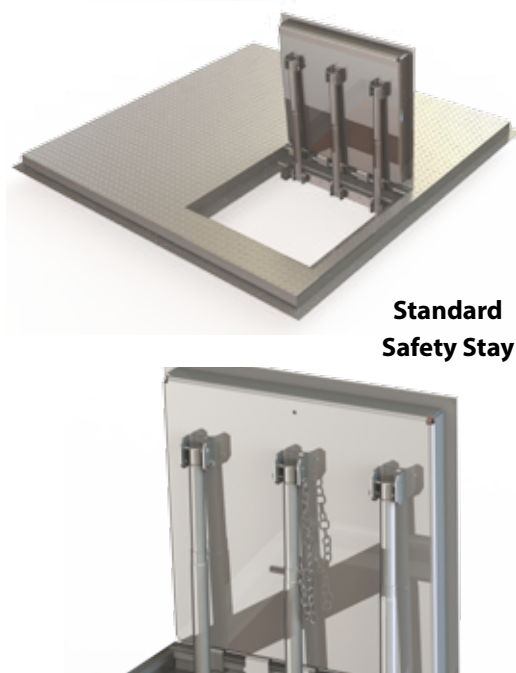
**Customised sizes to suit project available in small production runs at no extra cost**



**Optional Safety Grid**



**Standard Safety Stay**



### OPTIONS

Various Loadings (See BS9124:2008 and FACTA tables)

Grade 304L Stainless Steel

Grade 316L Stainless Steel

Mild Steel Galvanised (In accordance with BS EN ISO 1461 (1999))

Mild Steel Galvanised to 140 Micron (minimum requirement for Middle East projects)

Unsealed or Double Sealed

Various Tray Depths (50mm, 80mm, 100mm)

Safety Grid

Gas Struts (for smaller sizes)

Kent lift assist Mechanical struts (for larger sizes)

Watertight against pressureless surface water

Watertight with internal drainage channel

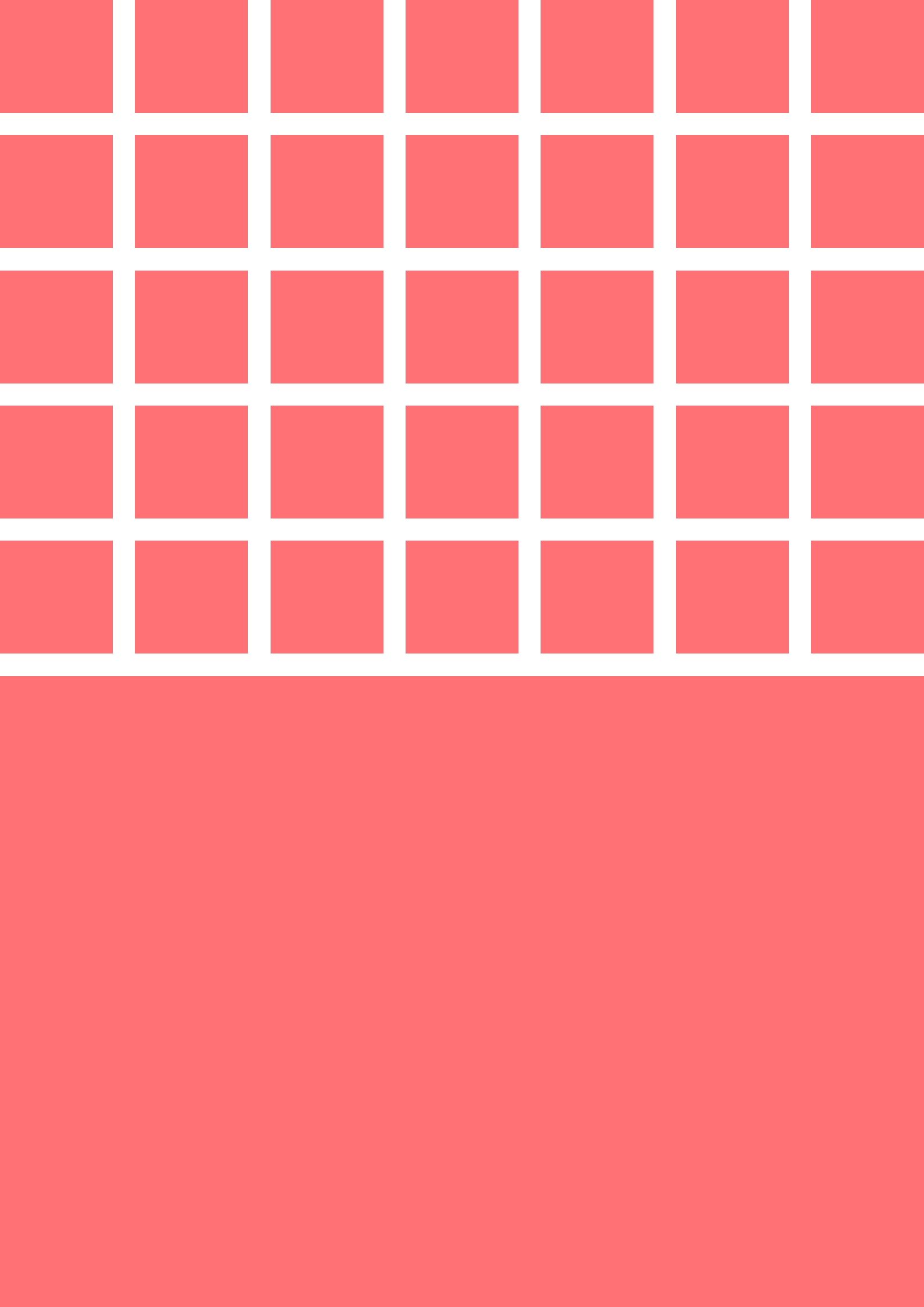
### Application Load Specific (In accordance with BS9124:2008)

1.0T
5.0T
10.0T

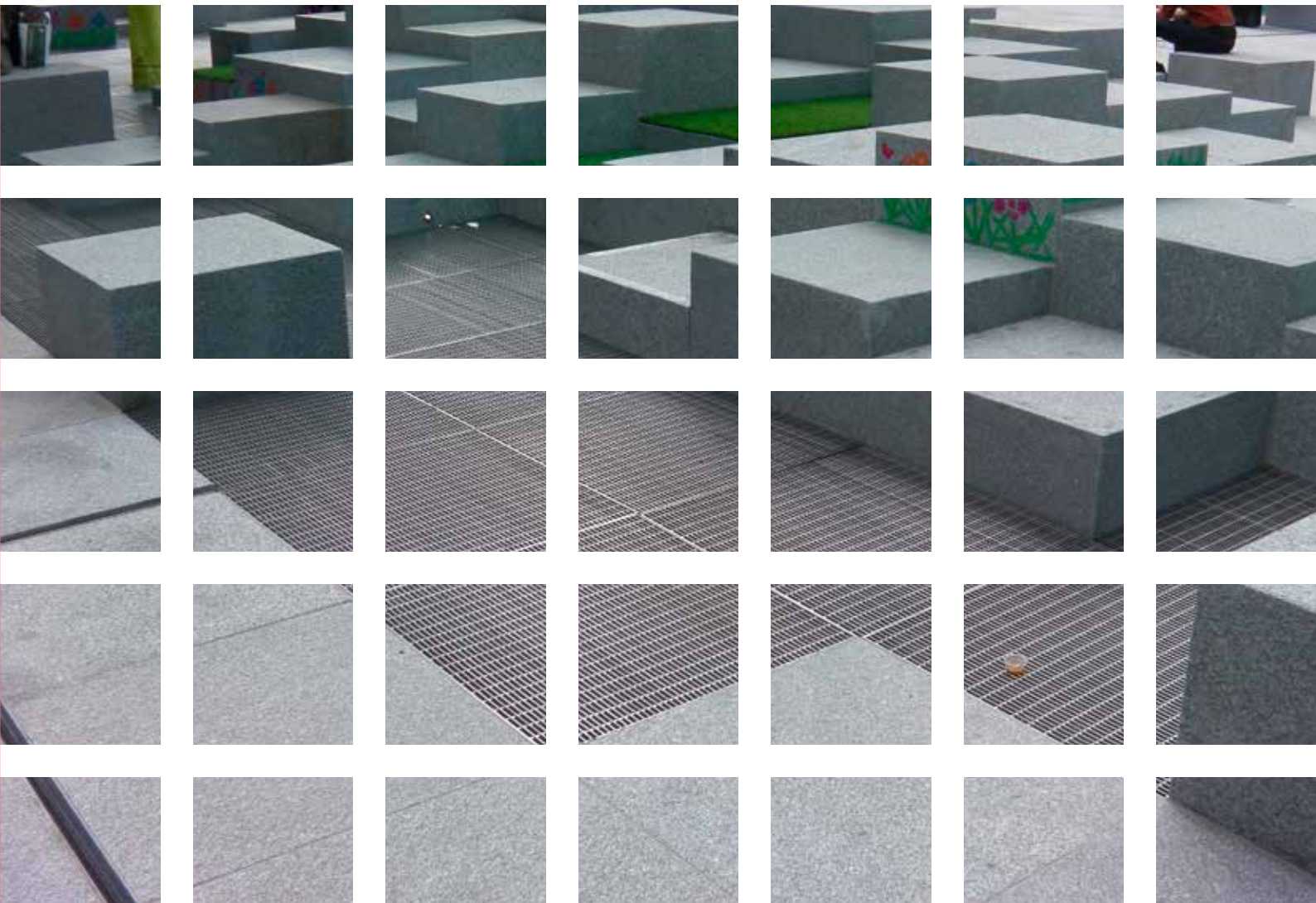
### FACTA Class

FACTA Class	Slow Moving Wheel Loads	Kent Safety Test (Unfilled)
A	0.6T	0.8T
AA	1.5T	3.1T
AAA	2.5T	5.2T
B	5T	10.1T
C	6.5T	13.2T
D	11T	22T





# VENTILATION



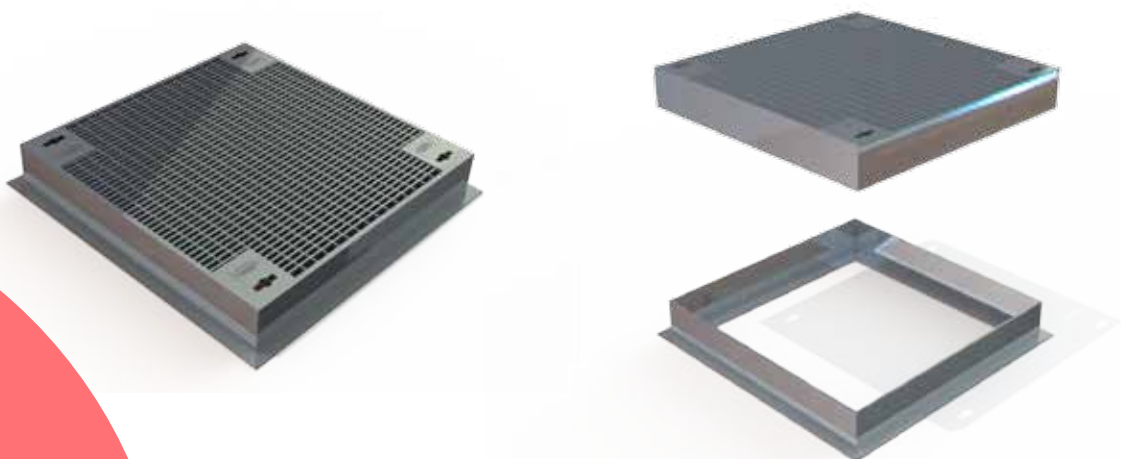
## KENT SOLO VENT GRILLE KSVG-600/600

The Kent Solo Vent Grille, KSVG-600/600 is a heavy duty heelproof grille which comes with an angle frame. It is generally demanded for civil landscape projects. They are manufactured in Grade 304L or Grade 316L Stainless Steel but material can be changed to Galvanised Mild Steel when required. They are manufactured in accordance with FACTA loading standards. The grilles are typically manufactured with 5mm thick bars. They feature robust laser cut lettering which is generally used to identify the utility beneath or a project logo.

These Grilles have the load bearing bars stepped down by 2mm-5mm below the surface of the transverse bars for aesthetic reasons.

### Features

- ❑ Made from Grade 304L or Grade 316L Stainless Steel as standard
- ❑ 4 lifting points as standard
- ❑ Optional lockdown feature
- ❑ Typically 65% free area



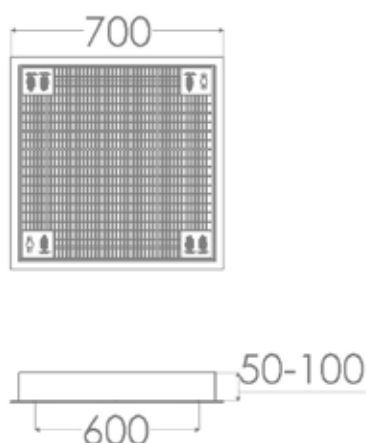


Product Code	Clear Opening	Grille Depth	Visible Frame Size
KSVG-600/600	600mm x 600mm	50-100mm	700mm x 700mm
KSVG-800/600	800mm x 600mm	50-100mm	900mm x 700mm
KSVG-800/800	800mm x 800mm	50-100mm	900mm x 900mm
KSVG-1000/600	1000mm x 600mm	50-100mm	1100mm x 700mm
KSVG-1000/800	1000mm x 800mm	50-100mm	1100mm x 900mm
KSVG-1000/1000	1000mm x 1000mm	50-100mm	1100mm x 1100mm

**Specify: Kent Solo Vent Grille KSVG-600/600; 600mm x 600mm clear opening; 100mm Grille Depth; Grade 316L Stainless Steel; Loading FACTA B**  
See page 8 & 9 which shows how to create your own unique specification clause

**Customised sizes to suit exact paving slab dimensions available in small production runs at no extra cost**


**Heelproof**

**Truck Loading**


## OPTIONS

Various Loadings (See FACTA Table)

Grade 304L Stainless Steel

Grade 316L Stainless Steel

Mild Steel Galvanised to BS EN ISO 1461 (1999)

Galvanised to 140 Micron for Middle East projects

FACTA Class	Slow Moving Wheel Loads	Kent Safety Test (Unfilled)
A	0.6T	0.8T
AA	1.5T	3.1T
AAA	2.5T	5.2T
B	5T	10.1T
C	6.5T	13.2T
D	11T	22T

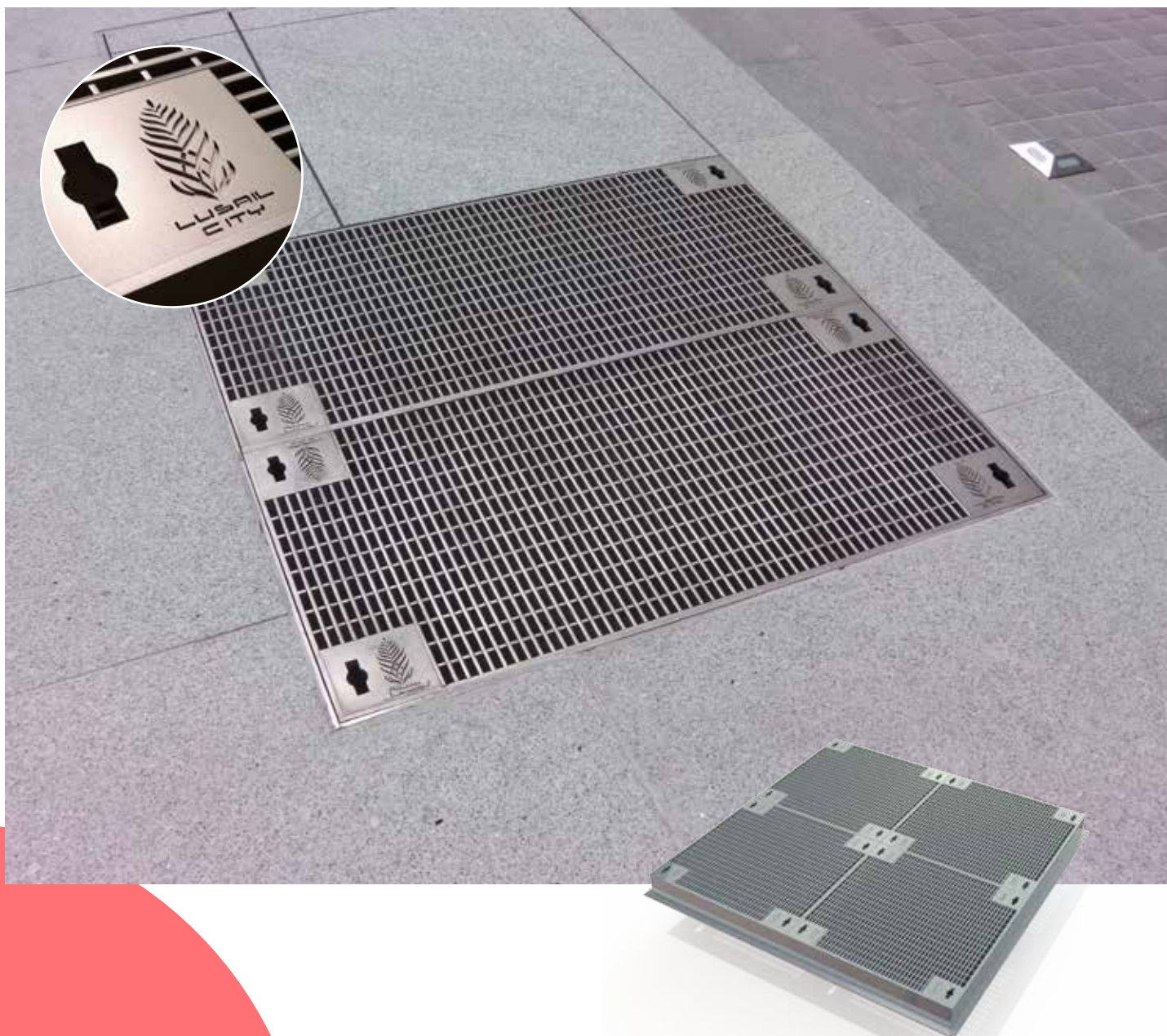
## KENT MULTI VENT GRILLE KMVG-1200/1200

The Kent Multi Vent Grille is a heavy duty heelproof grille which comes with angle frame. They are generally demanded for civil landscape projects. They are manufactured from Grade 304L or Grade 316L Stainless Steel but the material can be changed to Galvanised Mild Steel when required. They are typically manufactured with 5mm bars. They feature robust laser cut lettering which is usually used to identify the utility beneath or a project logo.

These Grilles have the load bearing bars stepped down 2mm-5mm below the surface of the transverse bars for aesthetic reasons.

### Features

- ❑ Made from Grade 316L Stainless Steel as standard with an option for Grade 304L.
- ❑ Manufactured from Mild Steel Galvanised when requested
- ❑ 4 lifting points per tray as standard.
- ❑ Most commonly ordered with a FACTA B loading
- ❑ Vertical Wall Mounted Beam Pockets or
- ❑ Recessed Beam Pockets
- ❑ Galvanised Support Beams with Neoprene barrier.



Product Code	Clear Opening	Grilles	Grille Depth	Visible Frame Size
KMSG-1200/600	1200mm x 600mm	2	50-100mm	1380mm x 780mm
KMSG-1200/1200	1200mm x 1200mm	2/4	50-100mm	1380mm x 1380mm
KMSG-1800/600	1800mm x 600mm	3	50-100mm	1980mm x 780mm
KMSG-1800/1200	1800mm x 1200mm	2	50-100mm	1980mm x 1380mm
KMSG-1800/1800	1800mm x 1800mm	2/4	50-100mm	1980mm x 1980mm
KMSG-2400/600	2400mm x 600mm	4	50-100mm	2580mm x 780mm
KMSG-2400/1200	2400mm x 1200mm	2	50-100mm	2580mm x 1380mm
KMSG-2400/1800	2400mm x 2400mm	2/4	50-100mm	2580mm x 2580mm

**Specify: Kent Multi Vent Grille KMSG-1200/1200; 1200mm x 1200mm; 2 Grilles; 100mm Grille Depth; Vertical Wall Mounted Beam Pockets; Grade 316L Stainless Steel; Loading FACTA B**  
See page 8 & 9 which shows how to create your own unique specification clause

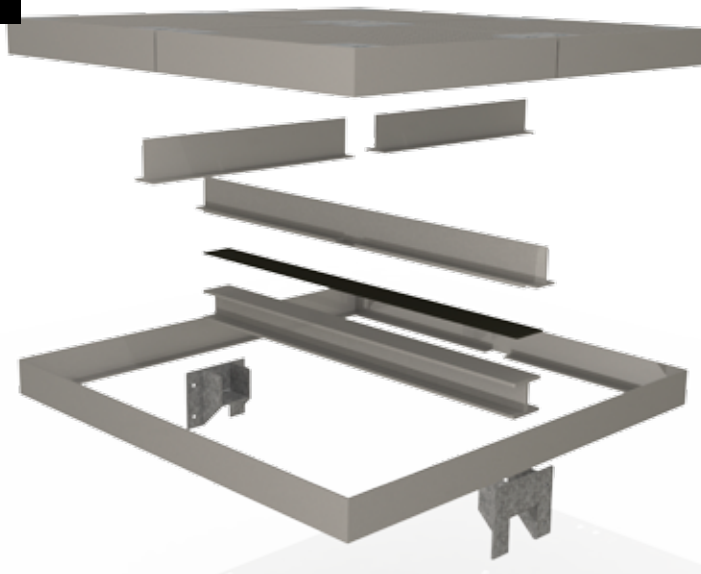
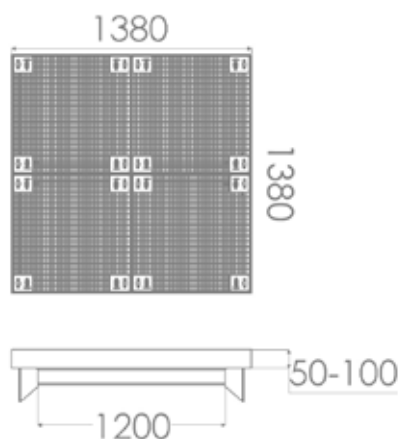
**Customised sizes to suit exact paving slab dimensions available in small production runs at no extra cost**



**Heelproof**



**Truck Loading**



## OPTIONS

Various Loadings (See FACTA and Application Load Specific tables)

Grade 304L Stainless Steel

Grade 316L Stainless Steel

Mild Steel Galvanised

Mild Steel Galvanised to 140 micron for Middle East projects.

Vertical Wall Mounted Beam Pockets

Recessed Beam Pockets

## Application Load Specific (In accordance with BS9124:2008)

1.0T
5.0T
10.0T

FACTA Class	Slow Moving Wheel Loads	Kent Safety Test (Unfilled)
A	0.6T	0.8T
AA	1.5T	3.1T
AAA	2.5T	5.2T
B	5T	10.1T
C	6.5T	13.2T
D	11T	22T



## KENT HINGED SOLO VENT GRILLE KHSV-600/600

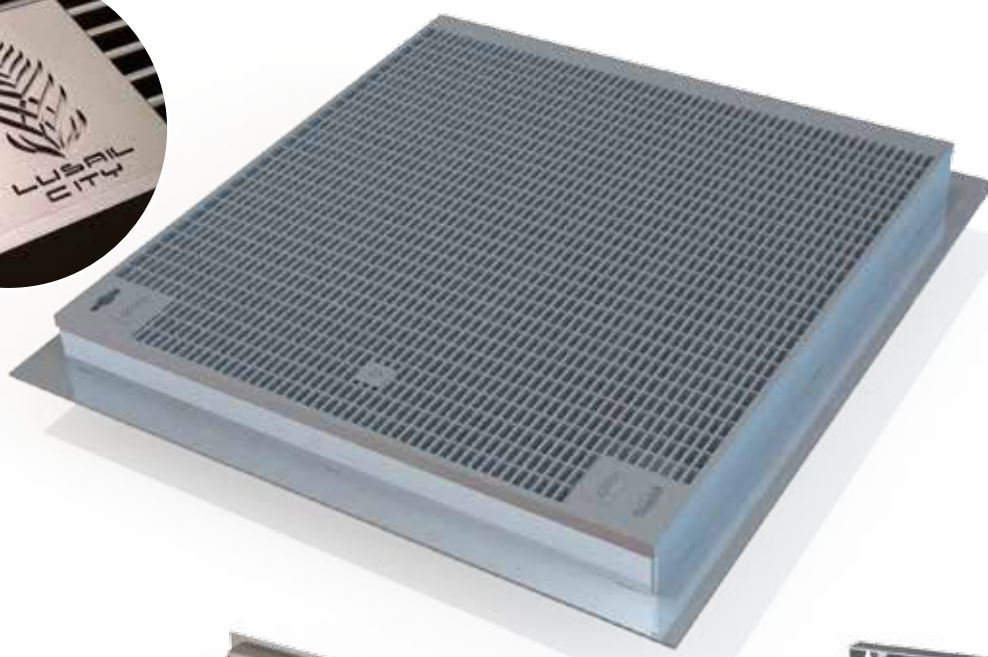
The Kent Hinged Solo Vent Grille, KHSV-600/600 is a heavy duty heelproof grille which comes with an angle frame. They are generally demanded for civil landscape projects and are typically used in areas where access is required on a regular basis or where an operator may arrive onsite on their own.

They are manufactured in Grade 304L or Grade 316L Stainless Steel, but the material can be changed to Galvanised Mild Steel when required. They are manufactured in accordance with FACTA standards and are typically supplied with 5mm thick bars. These grilles have the load bearing bars stepped down 2mm-5mm below the surface of the transverse bars for aesthetic reasons. They feature robust Laser Cut Lettering which can identify the utility beneath or a project logo.

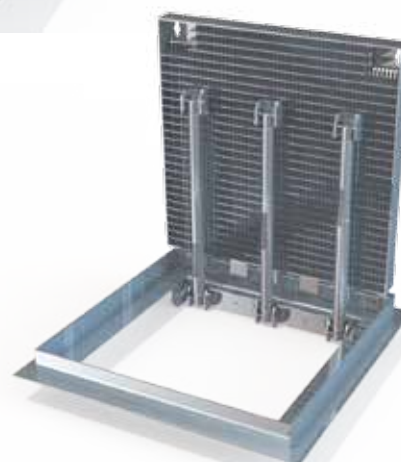
Depending on the size of the grille required, these grilles can be supplied with gas struts for smaller sizes and Kent lift assist Mechanical struts for larger sizes. An optional safety grid can also be added for additional safety.

### Features

- ❑ Made from Grade 316L Stainless Steel as standard with an option for Grade 304L
- ❑ 2 lifting eyes as standard
- ❑ Lockdown as Standard
- ❑ Gas Struts or Kent lift assist Mechanical Struts
- ❑ Safety Stay as standard
- ❑ Robust Stainless Steel Hinge
- ❑ Typically 65% free area



**Optional  
Safety Grid**

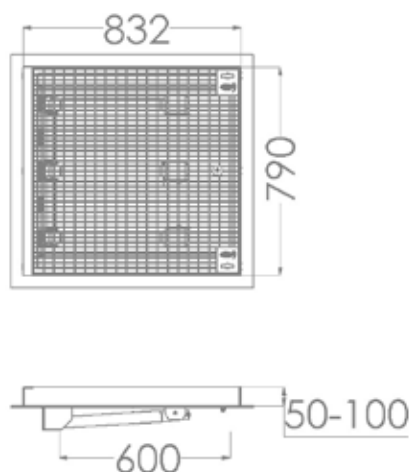
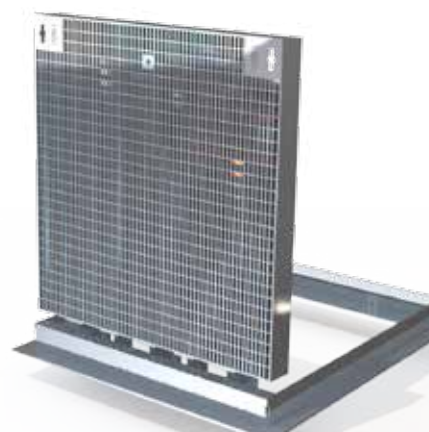


Product Code	Clear Opening	Grille Depth	Visible Frame Size
KHSVG-600/600	600mm x 600mm	50-100mm	790mm x 832mm
KHSVG-800/600	800mm x 600mm	50-100mm	990mm x 832mm
KHSVG-800/600	800mm x 800mm	50-100mm	990mm x 1032mm
KHSVG-1000/600	1000mm x 600mm	50-100mm	1190mm x 832mm
KHSVG-1000/800	1000mm x 800mm	50-100mm	1190mm x 1032mm
KHSVG-1000/1000	1000mm x 1000mm	50-100mm	1190mm x 1232mm

**Specify: Kent Hinged Solo Vent Grille KHSVG-600/600; 600mm x 600mm clear opening; 100mm Grille Depth; Grade 316L Stainless Steel; Loading FACTA B**  
**See page 8 & 9 which shows how to create your own unique specification clause**

**Customised sizes to suit exact paving slab dimensions available in small production runs at no extra cost**


**Heelproof**

**Truck Loading**

**Standard Safety Stay**


## OPTIONS

Various Loadings  
(See FACTA Table)

Grade 304L Stainless Steel

Grade 316L Stainless Steel

Mild Steel Galvanised  
(In accordance with BS EN  
ISO 1461 (1999) )

Galvanised to 140 Micron  
(minimum for Middle East  
projects)

Safety Grid

FACTA Class	Slow Moving Wheel Loads	Kent Safety Test (Unfilled)
A	0.6T	0.8T
AA	1.5T	3.1T
AAA	2.5T	5.2T
B	5T	10.1T
C	6.5T	13.2T
D	11T	22T

## KENT HINGED MULTI VENT GRILLE KHMVG-1200/1200

The Kent Hinged Multi Vent Grille KHMVG-1200/1200 is a heavy duty heelproof grille which comes with angle frame. The grille comes with Kent lift assist Mechanical struts as standard. They are used in areas where access is required on a regular basis or where an operator may arrive onsite on their own. They are often used to cover a staircase or over areas that may need equipment craned down into chambers below ground.

They are manufactured from Grade 304L or Grade 316L Stainless Steel as standard but material can be changed to Mild Steel Galvanised if required. They are typically supplied with 5mm thick bars.

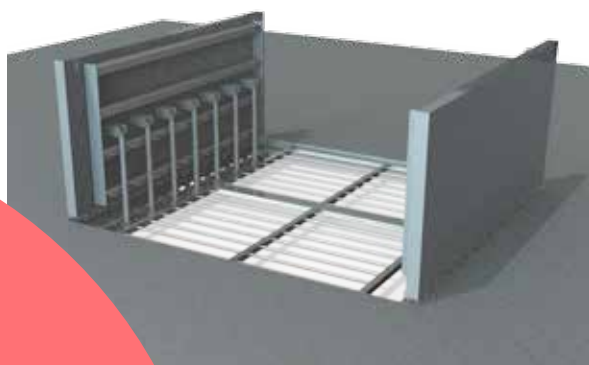
The grilles feature laser cut lettering which usually identifies the utility beneath or shows the project logo. These grilles have load bearing bars which are stepped down 2mm-5mm below the surface of the transverse bars for aesthetic reasons.

### Features

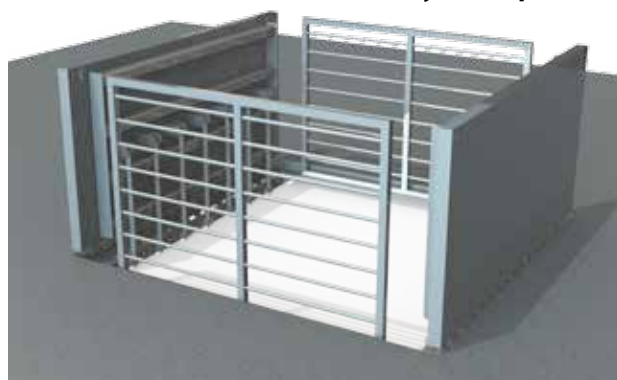
- ❑ Made from Grade 304L or Grade 316L Stainless Steel as standard
- ❑ 2 lifting eyes as standard.
- ❑ Lock-down points as standard.
- ❑ Most commonly ordered with a FACTA B loading
- ❑ Optional integrated safety grid
- ❑ Optional Drop in barrier
- ❑ Safety Stay as standard



**Safety Grid Closed**



**Safety Grid Open**



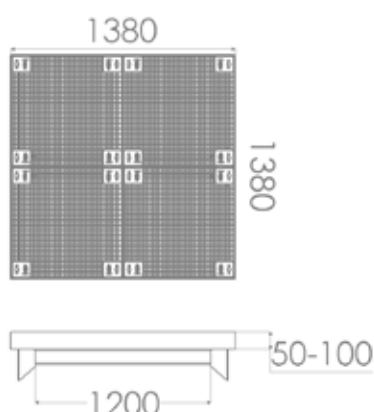


## KENT HINGED MULTI VENT GRILLE KHMVG-1200/1200 continued

Product Code	Clear Opening	Grilles	Visible Frame Size
KHMVG-1200/1200	1200mm x 1200mm	2	1400mm x 1400mm
KHMVG-1800/1200	1800mm x 1200mm	2	2400mm x 1400mm
KHMVG-1800/1800	1800mm x 1800mm	2/4	2000mm x 2000mm
KHMVG-2400/1200	2400mm x 1200mm	2	2600mm x 1400mm
KHMVG-2400/1800	2400mm x 1800mm	2/4	2600mm x 2000mm
KHMVG-2400/2400	2400mm x 2400mm	2/4	2600mm x 2600mm

**Specify: Kent Hinged Multi Vent Grilles KHMVG-1200/1200; 1200mm x 1200mm clear opening; 100mm Grilles Depth; Grade 316L Stainless Steel; Loading FACTA B**  
See page 8 & 9 which shows how to create your own unique specification clause

**Customised sizes to suit exact paving slab dimensions available in small production runs at no extra cost**

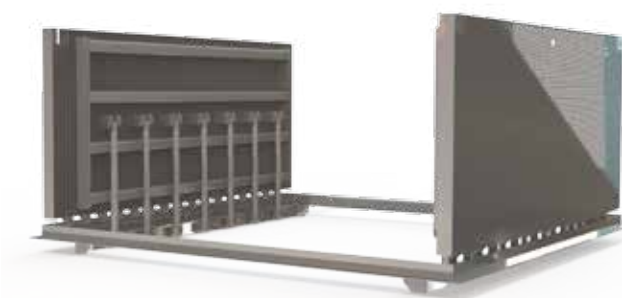


**Heelproof**



**Truck Loading**

**Safety Barrier**



### OPTIONS

Various Loadings (See FACTA and Application Load Specific Tables)

Grade 304L Stainless Steel

Grade 316L Stainless Steel

Mild Steel Galvanized (In accordance with BS EN ISO 1461 (1999))

Mild Steel Galvanized to 140 Micron (minimum for Middle East projects)

Safety Grid

Safety Barrier

### Application Load Specific (In accordance with BS9124:2008)

1.0T
5.0T
10T

### FACTA Class

FACTA Class	Slow Moving Wheel Loads	Kent Safety Test (Unfilled)
A	0.6T	0.8T
AA	1.5T	3.1T
AAA	2.5T	5.2T
B	5T	10.1T
C	6.5T	13.2T
D	11T	22T

## KENT MAN ACCESS VENT GRILLE KMAVG-1200/1200

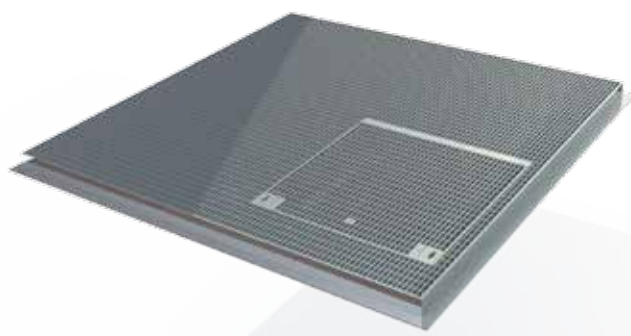
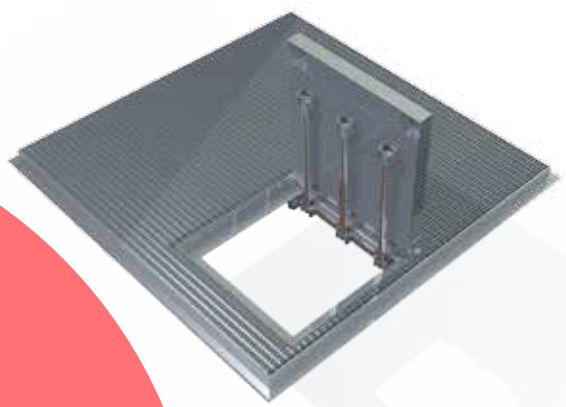
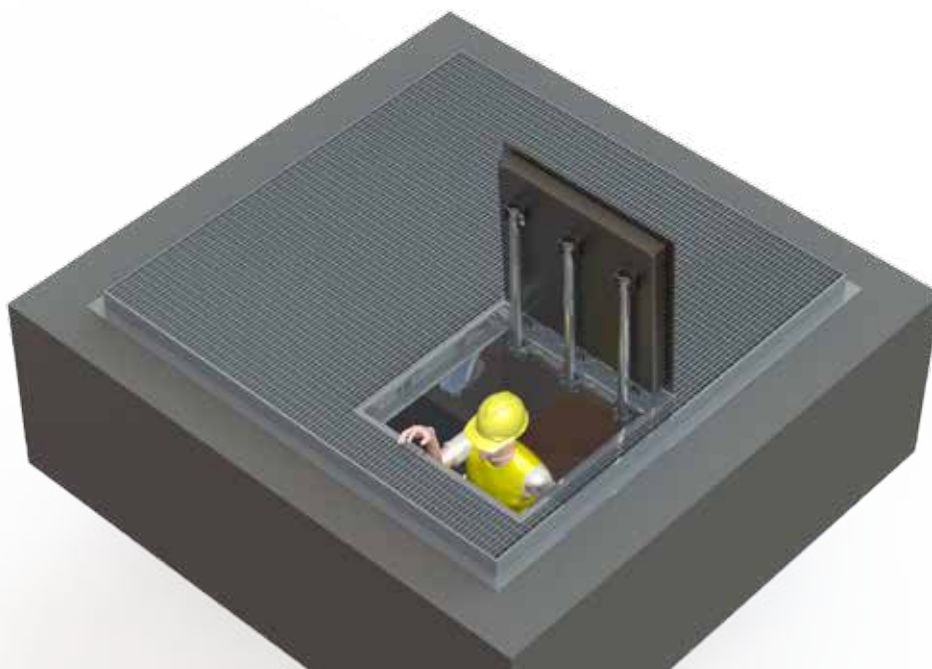
The Kent Man Access Vent Grilles, KMAVG-1200/1200 are used in areas where equipment may be inserted into a chamber at the beginning of a project and should not need to be replaced for many years. In such areas maintenance personnel may arrive on site on their own and may need frequent access to the chamber below, usually by ladder via the access hatch. In order to keep prices to a minimum, a man access hatch is sufficient, as opposed to producing the whole unit as lift assist. The man access hatch features Kent lift assist Mechanical struts, and comes with a safety stay as standard. A safety grid or safety barrier is also available as an option.

It features 3 crane hook bosses for lifting and has laser cut lettering to identify the utility beneath or to show the project logo. These grilles have the load bearing bars stepped down 2mm-5mm below the transverse bars for aesthetic reasons.

This is a heavy duty heelproof grille which comes with Angle Frame and it is manufactured from Grade 304L or Grade 316L Stainless Steel as standard. Material can be changed to Mild Steel Galvanised if required. The grille is manufactured in accordance with FACTA and BS9124:2008 Application Load Specific loading standards.

### Features

- ❑ Made from Grade 304 L Stainless or Grade 316L Stainless Steel as standard
- ❑ Lock-down points as standard
- ❑ Safety Stay as standard
- ❑ Most commonly ordered with a FACTA B loading
- ❑ Laser cut lettering to identify utility or project logo
- ❑ 3 crane hook bosses for lifting



## KENT MAN ACCESS VENT GRILLE KMAVG-1200/1200 continued

Product Code	Clear Opening	Grille Depth	Visible Frame Size
KMAVG-1800/1800	1800mm x 1800mm	80mm-100mm	1920mm x 1920mm
KMAVG-2400/1800	2400mm x 1800mm	80mm-100mm	2520mm x 1920mm
KMAVG-2400/2400	2400mm x 2400mm	80mm-100mm	2520mm x 2520mm

**Specify: Kent Man Access Vent Grille KMAVG-1800/1800; 1800mm x 1800mm clear opening; 100mm Grille Depth; Grade 316L Stainless Steel; Loading FACTA B**  
**See page 8 & 9 which shows how to create your own unique specification clause**

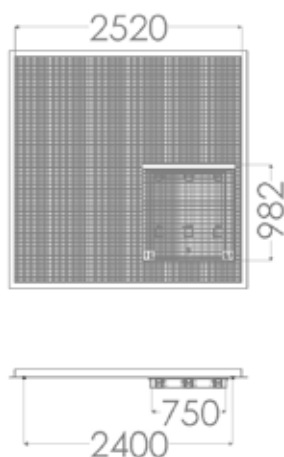
**Customised sizes to suit exact paving slab dimensions available in small production runs at no extra cost**



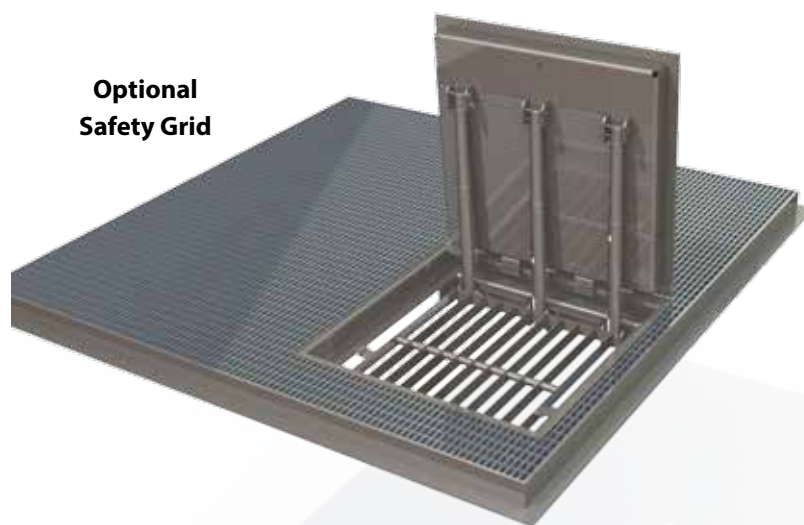
**Heelproof**



**Truck Loading**



**Optional Safety Grid**



### OPTIONS

Various Loadings (See FACTA and Application Load Specific Tables)

Grade 304L Stainless Steel

Grade 316L Stainless Steel

Mild Steel Galvanised to BS EN ISO 1461 (1999)

Galvanised to 140 Micron (minimum for Middle East projects)

Safety Grid

Application Load Specific (In accordance with BS9124:2008)
1.0T
5.0T
10.0T

FACTA Class	Slow Moving Wheel Loads	Kent Safety Test (Unfilled)
A	0.6T	0.8T
AA	1.5T	3.1T
AAA	2.5T	5.2T
B	5T	10.1T
C	6.5T	13.2T
D	11T	22T



## Regents Place

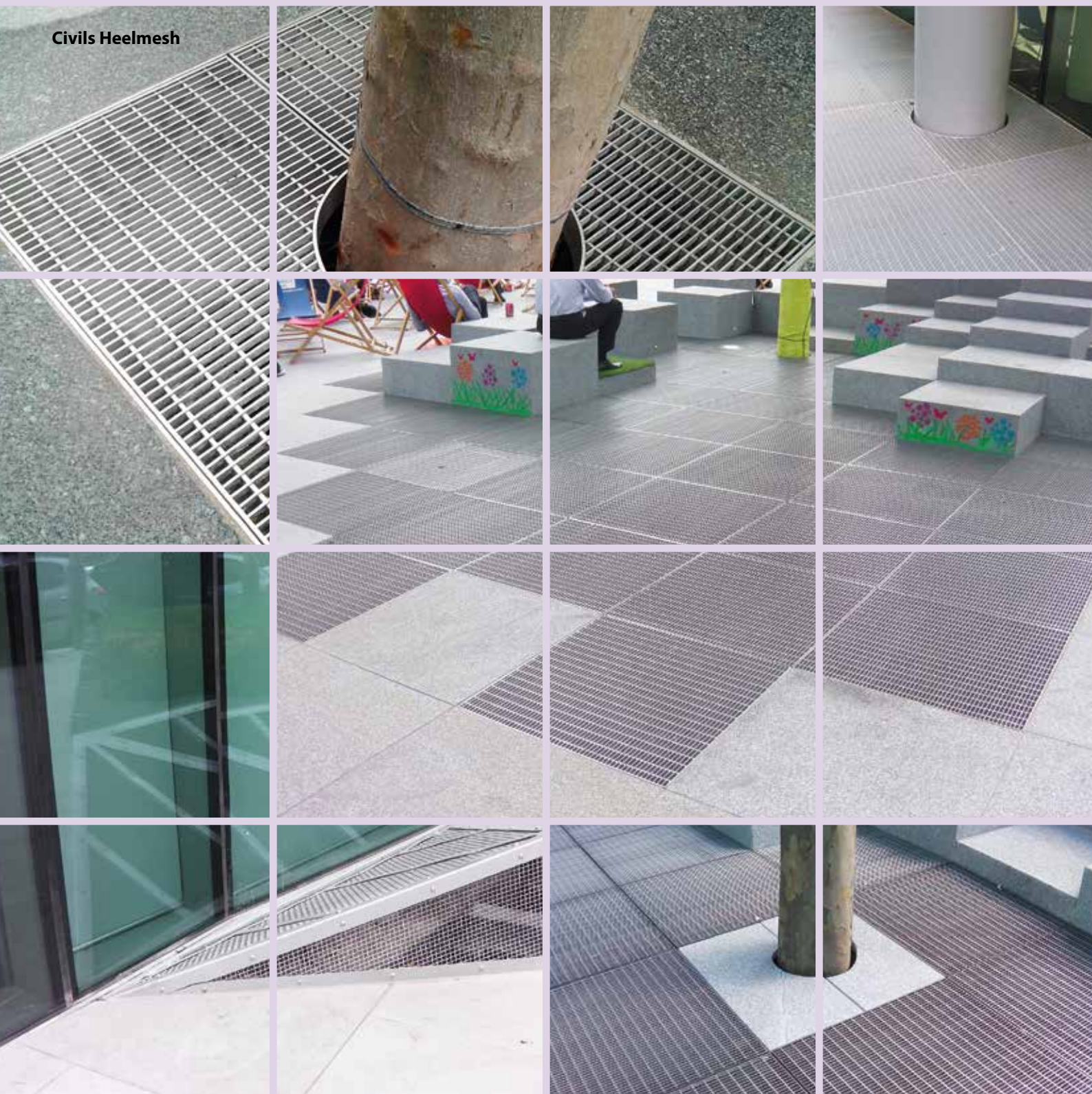
**Location:** Regents Place, London, England  
**Project:** Design, Manufacture and Supply of ventilation Grilles for street landscape  
**Clients:** PJ Carey  
Lend Lease  
British Land  
**Architect:** EDCO design London  
**Consulting Engineer:** Halcrow Yolles  
**Value:** £400,000

NEQ Regents Place was opened May 2013.

In 2012 Kent Stainless won the contract to supply Ventilation grilles and pave slot drainage in the street landscape package for NEQ Regents Place.

Kent Stainless designed a new grating which would take a wheel load of 2 tonne as it was envisaged that light telescopic boom lifts could be used in the area for cleaning windows, maintenance etc. on the surrounding buildings. We also supplied heel mesh pedestrian traffic grating between two buildings as a fire escape including the structural support steel required. There was also a road way access on one side for traffic access and this had ventilation grating, but was designed to D400 loading for Fire truck access. One of the last areas to be completed was the woven mesh architectural feature on Drummond Street. Tree grille surrounds and access gates to each end of the fire escape were also supplied by kent stainless. All these items were supplied with different finishes as per the client requirements and despite many delays and hold ups on site this contract was completed on time.

Civils Heelmesh





## Lusail City

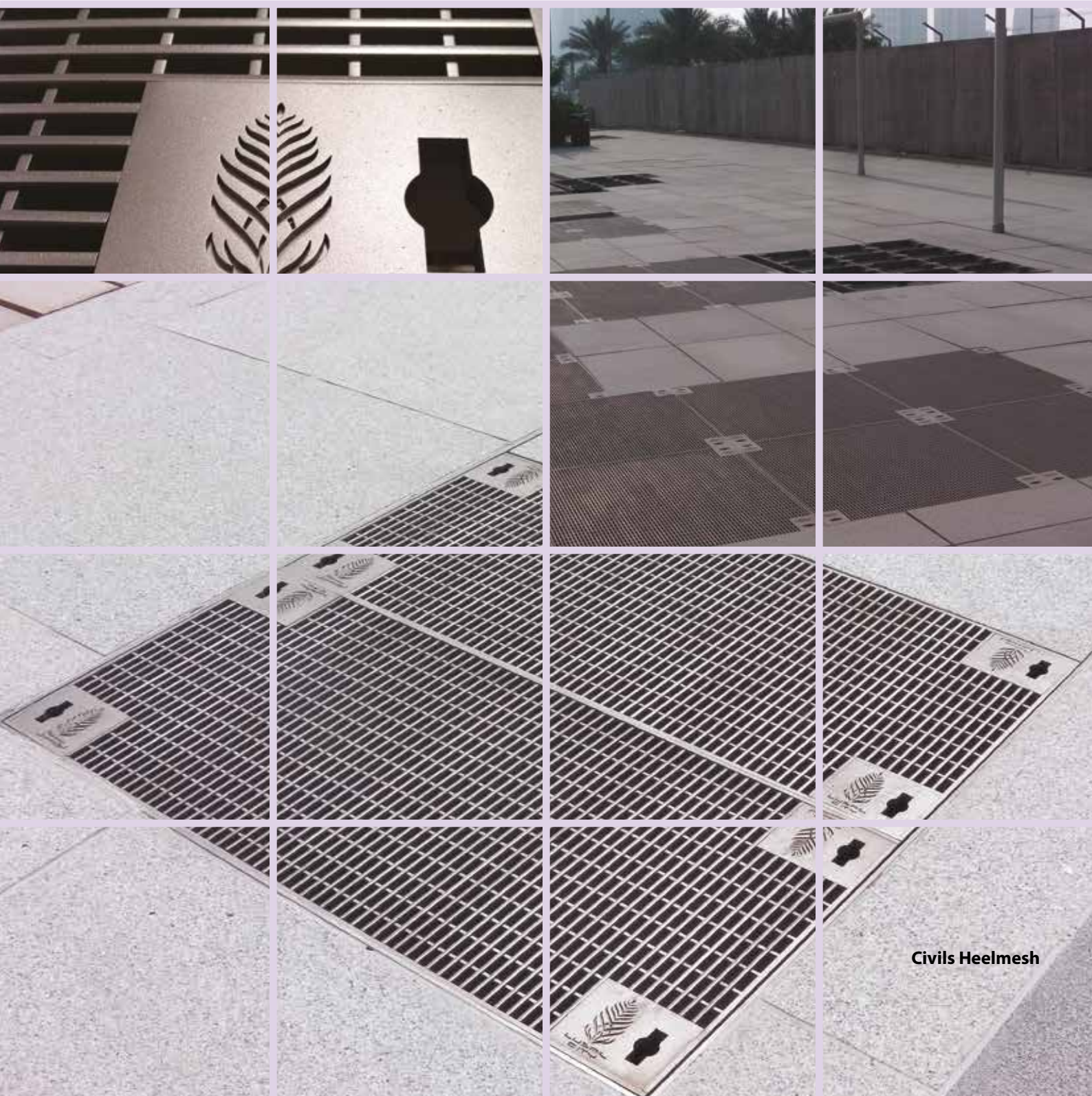
**Location:** Lusail City, Qatar  
**Project:** Design and Manufacturing of Stainless Steel Manholes and Air Vent Grilles  
**Client:** Lusail Real Estate Development Company (LREDC)  
**Contractor:** SinoHydro  
**Architect:** Cowi  
**Project Manager:** Parsons  
**Consulting Engineer:** Halcrow / CH2M Hill  
**Value:** €13,000,000

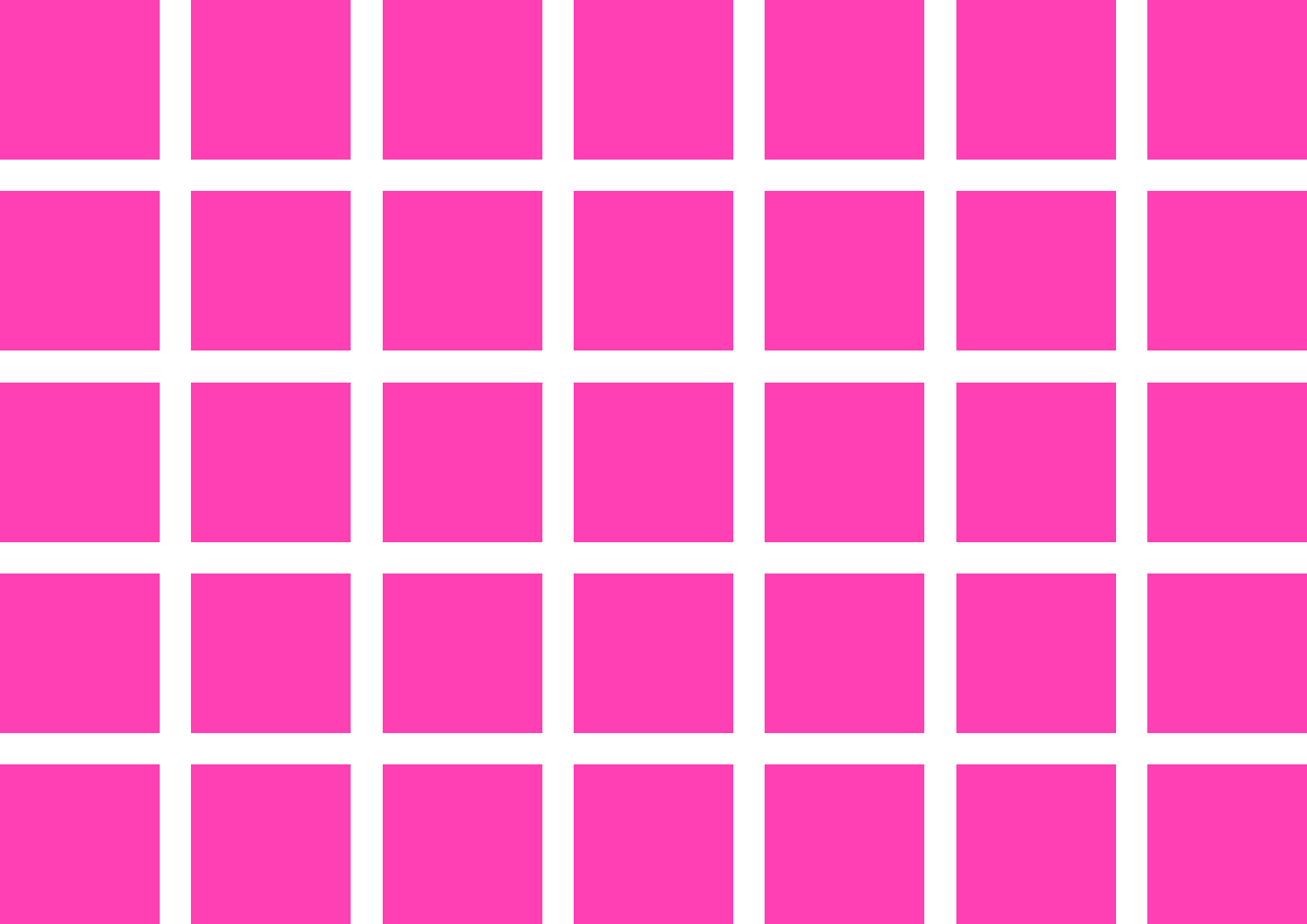
In February 2011 Kent Stainless received approval from LREDC for the design, manufacture and supply of stainless steel recessed manholes and Ventilation Grilles. The Kent Solo Paver and Kent MultiPaver were supplied in stainless steel throughout the most prestigious parts of the new city. By interfacing directly with

Ooredoo, Ashgal, Kahramaa and QDVC when required, Kent were able to tailor supply to suit all end users of the product. Arabic text inscriptions were used for the first time on stainless steel manholes, and Kent were able to introduce a laser cut Kent Multi Vent Grilles – both lift-out and hinged versions were very widely used. Grilles were made to be heelproof, Grade 316L Stainless Steel and compliant with loadings for 44 ton trucks. In particular, on the tunnel covers above the substations staircases, lift assist grilles were installed allowing a 300kg cover be opened by one operative with a 10kg force.

Similar requirements were made for Recessed Manholes above the ventilation chambers.

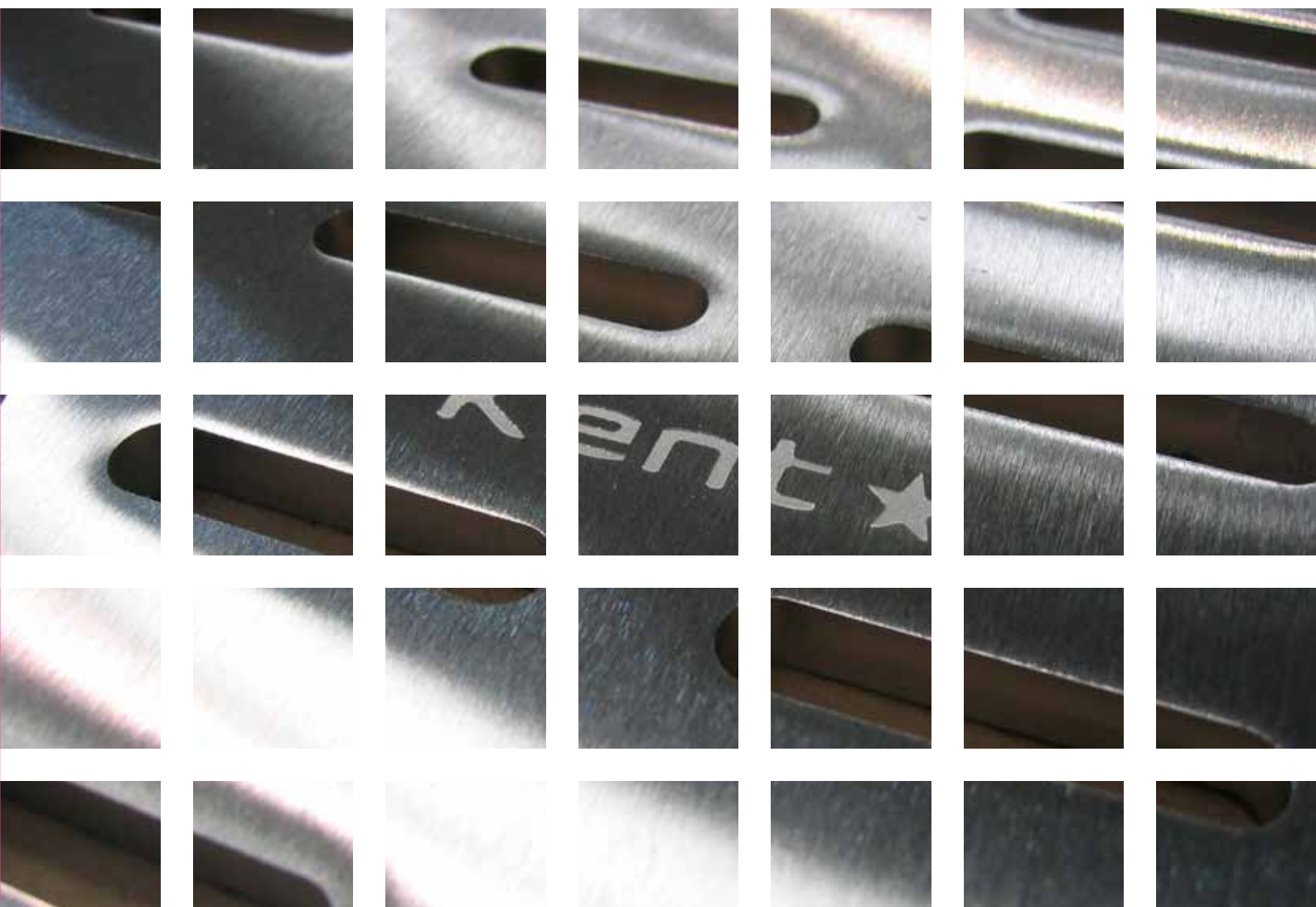
Limitations of gas spring lift assist covers were quickly realised and Kent introduced new Mechanical Strut Lift Assist Manholes which operated perfectly at infrequent intervals and equally well at ambient temperatures of +18°C and +49°C without adjustment.







# GRATINGS



## KENT CIVILS HEELMESH GRATING

Kent Civils Heelmesh Grating is made from up to 10mm thick bars with gaps at 10mm and 100mm and it is up to 100mm deep. They differ in appearance to Kent Pedestrian Heel Mesh Grating as the load bearing bars are stepped down 2.5mm from the top of the cross bars.

They are particularly suitable on civil landscaping projects where 44 ton vehicles may occasionally pass over, but heelproof gratings are needed due to a high level of pedestrian activity.

They are suitable for all Kent KSBC channels and are used also on our larger lift out grilles. They can be made up to D400 load Class. Also a thicker stainless bar gives more support underfoot to give a more comfortable feeling in barefoot areas.

**Specify: Kent Civils Heel Mesh Grating KCHMG150; 150mm wide x 1000mm long x 25mm deep; Grade 316L Stainless Steel; Load Class B**

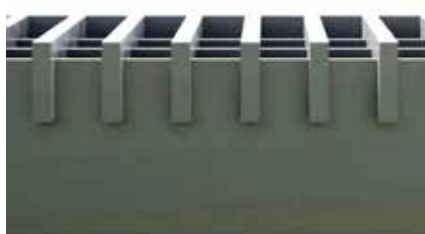
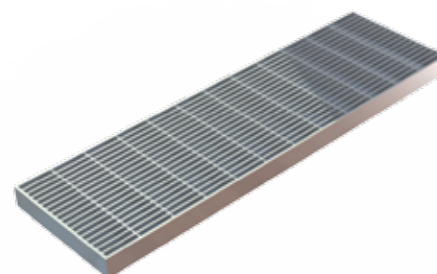
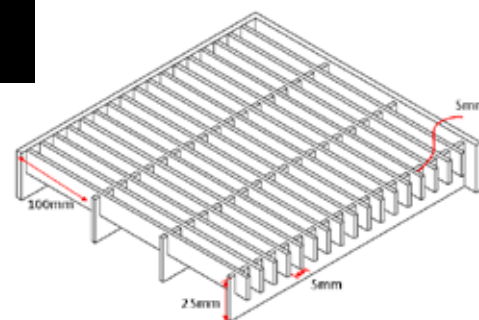
**See page 8 & 9 which shows how to create your own unique specification clause**



**Heelproof**



**Truck Loading**



**Typical Dimensions**

Name	Depth	Bar	Gap	Free Area
KCHMG150	25	5	5	48%
	50	3	10	67%
	80	5	10	63%

## KENT WEDGE HEELMESH GRATING

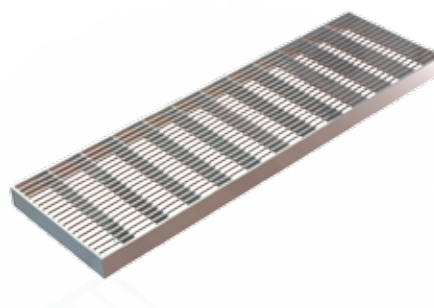
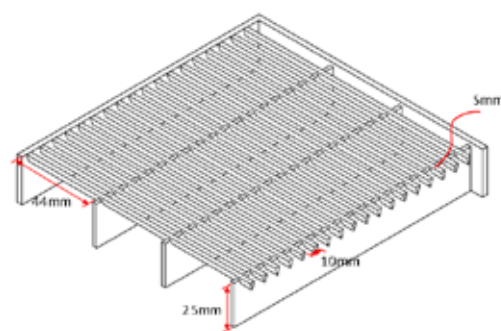
Kent Wedge Heelmesh Grating triangular profile or wedge type top bars are used here to give the top panel a smoother appearance. The triangular profile means the underside of the bars are slightly less visible from ground level and can be preferred in sites where a prestigious look is to be achieved.

They are suitable for pedestrian and barefoot loadings only. They can also be used with a shallower depth down to 15mm if requested.



**Heelproof**

**Specify: Kent Wedge Heel Mesh Grating KWHMG150; 150mm wide x 1000mm long x 25mm deep;  
Grade 316L Stainless Steel; Load Class A  
See page 8 & 9 which shows how to create your own unique specification clause**



**Typical Dimensions**

Name	Depth	Bar	Gap	Free Area
KWHMG150	25	3	5	48%
	25	5	5	40%



## KENT PEDESTRIAN HEELMESH GRATING

Kent Pedestrian Heel Mesh Grating is made from 2mm or 3mm thick bars with centres at 8mm and 44mm, it is 25mm deep.

They are a cost effective alternative to Wedge type Heelmesh

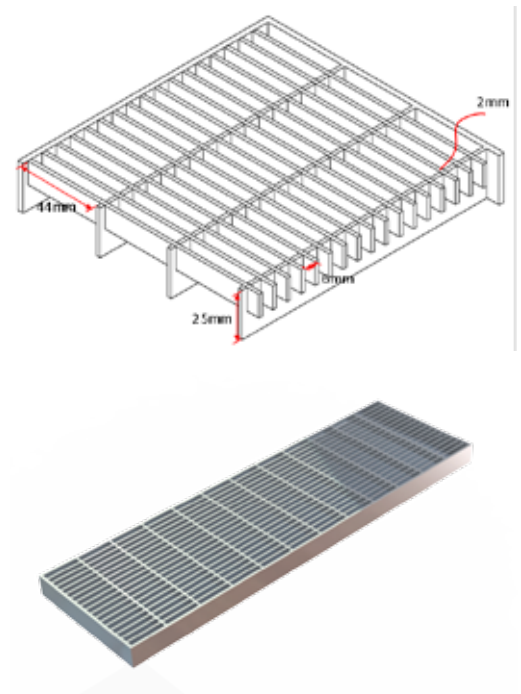
They are suitable for all Kent KSBC channels and are best suited to pedestrian area, barefoot areas and the 3mm version for areas up to 1 ton.



**Heelproof**

**Specify: Kent Heel Mesh Grating KHPMG150; 150mm wide x 1000mm long x 25mm deep; Grade 304L Stainless Steel; Load Class A**

**See page 8 & 9 which shows how to create your own unique specification clause**



**Typical Dimensions**

Name	Depth	Bar	Gap	Free Area
KPHMG150	25	2	6	67%
	25	3	6	59%
	25	5	5	40%

## KENT HEELPROOF LADDER GRATING

Kent Heelproof Ladder Grating is made up of a visible series of cross bars running across the width of the channel - as opposed to the length of the channel on most of our Heelmesh gratings. It is typically supplied with the KAF Angle Frame and very often just forms a gully cover at street level. 10mm spaces between bars ensure Heelproof compliance. Thickness of bars and depth of bars is determined by the free span and the required loading - but typical dimensions are 6mm bar with 10mm gap - but this can be raised to 8mm or 10mm bars.

It is typically ordered with a B 125 loading for pedestrian areas with occasional access by a slow moving 44 ton truck.

This type of grating is very regularly specified for Pedestrianisation schemes, Plazas and various Urban Regeneration Schemes.



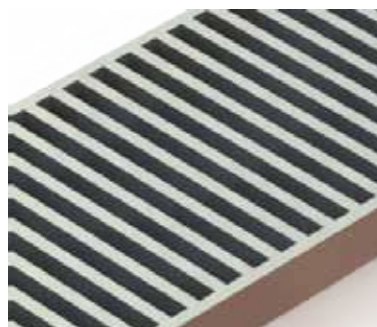
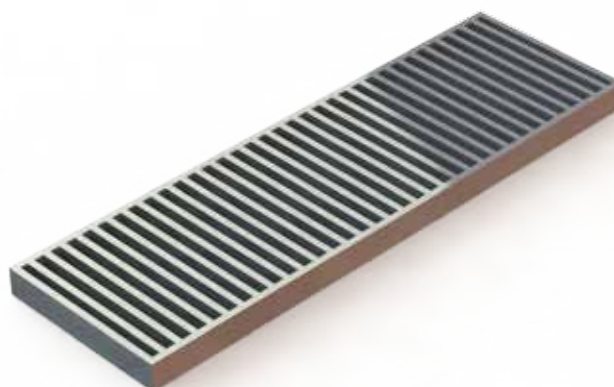
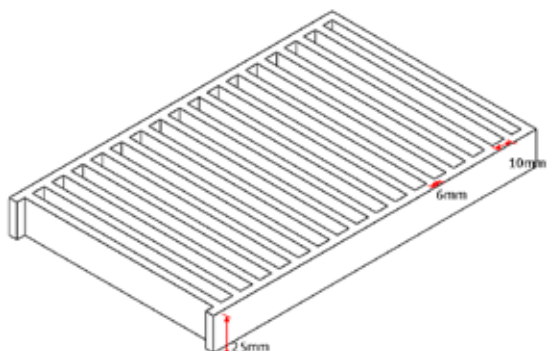
**Heelproof**



**Truck Loading**

**Specify: Kent Heelproof Ladder Grating KHLG150; 150mm wide x 1000mm long x 25mm deep; Grade 316L Stainless Steel; Load Class B**

**See page 8 & 9 which shows how to create your own unique specification clause**



### Typical Dimensions

Name	Depth	Bar	Gap	Free Area
KHLG150	25	6	10	70%
	50	8	10	59%
	80	10	10	54%

## KENT HEELPROOF SLOTTED GRATING

Kent Heelproof Slotted Gratings have laser cut patterns which are usually oblong slots which typically provide heelproof slots but can also have decorative laser cut patterns allowing a high flow rate. These are customised to suit other light duty or heavy duty traffic areas. For light areas, with narrow width channels the gratings are 3mm or 4mm thick. For heavy areas or wider channels the grating is 6mm – 8mm thick. This grating suits all of the KSBC range of drainage channels, the Kent Industrial Gully range and often is supplied just with Angle Frame(KAFG200). It is an excellent choice for areas which have regular heavy traffic.

Complies with EN1433.

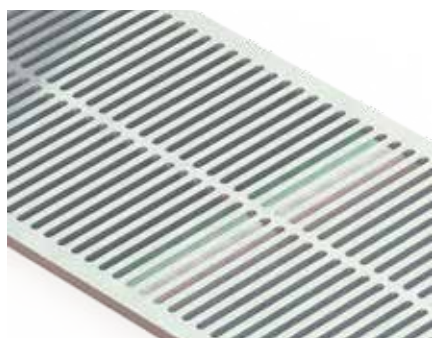
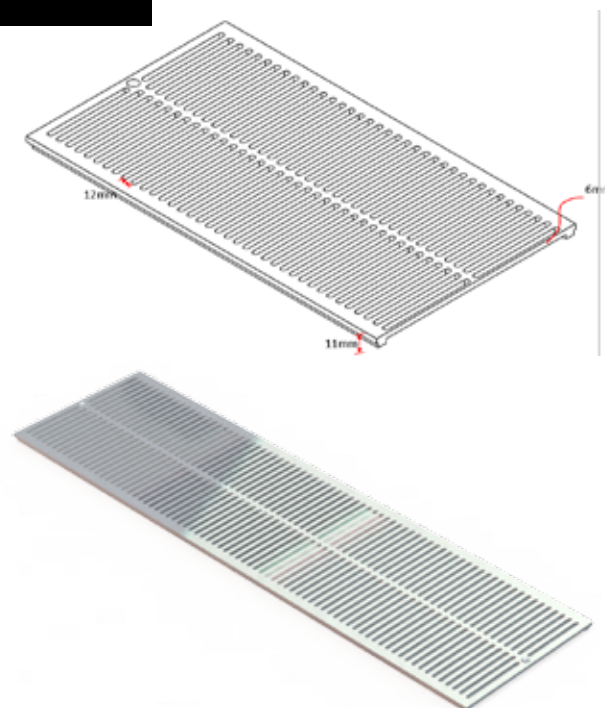


**Heelproof**

**Specify: Kent Heelproof Slotted Grating KHP5G150; 150mm wide x 1000mm long x 4mm thick; Grade 304L Stainless Steel; Satin Finished; Load Class B**  
**See page 8 & 9 which shows how to create your own unique specification clause**



**Standard is  
6mm and 12mm  
centres**



**Variation can be  
6mm and 18mm  
centres**



**Typical Dimensions**

Name	Thickness	Bar	Gap	Free Area
KHP5G150	3	6	3	60%
	4	6	6	43%



The Kent Perforated Grating is laser cut perforated grating normally used to suit the KSBC range of drainage channels or the KAF Angle Frame range. It is available ex stock normally in 150mm and 200mm widths, each 10mm deep. A 3mm perforated sheet is turned down 10mm on either side for Pedestrian areas. In areas which require a heavier duty grating, it is regularly ordered as 10mm thick steel plate which is laser cut, with no turndown. A riser can be tacked below to fit onto 25mm deep Angle Frame. A lockdown version is optional. It is very regularly specified 'Heavy Duty 10mm Thick' for Meat, Dairy, Beverage, Pharmaceutical factories. The Pedestrian version is also specified for Walkways or for barefoot areas in Swimming Pool Change rooms.

**Specify: Kent Perforated Grating KPG150; 150mm wide x 1000mm long x 10mm thick; Grade 304L Stainless Steel; Load Class A**

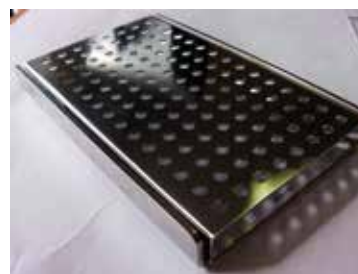
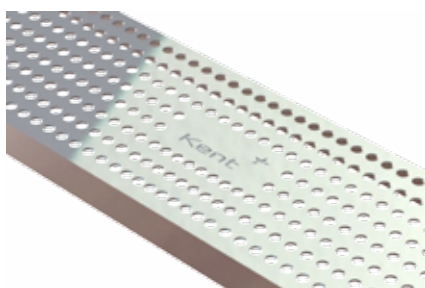
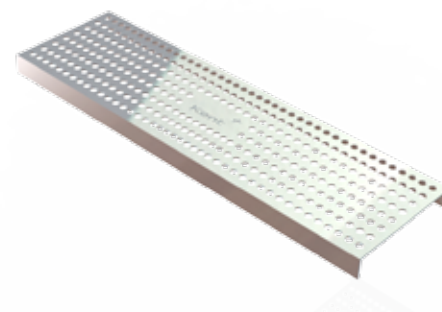
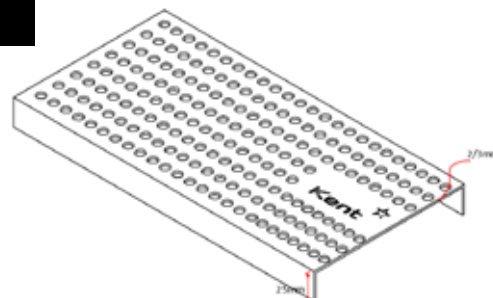
**See page 8 & 9 which shows how to create your own unique specification clause**



**Barefoot**



**Truck Loading**



### Typical Dimensions

Name	Thickness	Bar	Gap	Free Area
KPG150	3	8	16	15%
	10	12	25	15%

## KENT FACTORY SLOTTED GRATING

Kent Factory Slotted Grating is normally used to suit the KSBC range of drainage channels or the KAF Angle Frame. It is available typically in 150mm and 200mm widths, each 25mm deep with 5mm thick load bars plus a 4mm thick top plate. This is a heavy duty grating, but in areas which require an even heavier duty grating, it is regularly ordered as 25mm deep with 8mm bars or sometimes 30mm or 40mm deep with 8mm bars.

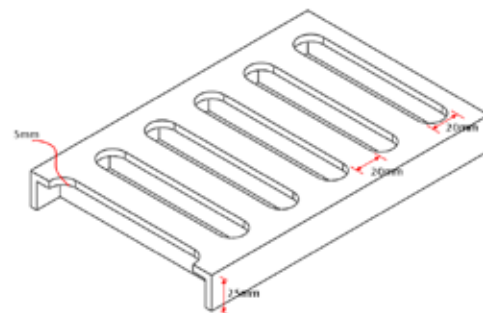
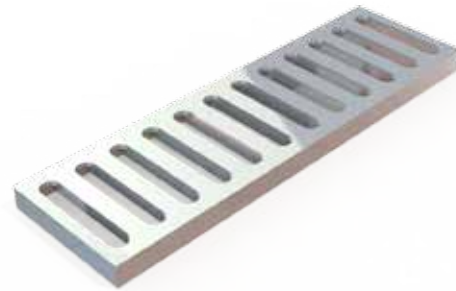
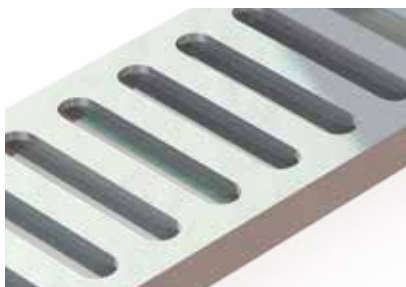
20mm slot openings are separated by 20mm steel plate. This lessens the amount of ingress from a rubber pneumatic tyre. In areas where forklifts can turn frequently this grating can be a better option than ladder grating.

It is ideal for factories with heavy forklift traffic, with frequent, high intensity wash down. Lockdown version is optional. This type of grating is very regularly specified for Meat, Dairy, Beverage, Pharmaceutical factories.



**White Welly Traffic**

**Kent Factory Slotted Grating KFSG150; 150mm wide x 1000mm long x 25mm deep; grade 304 Stainless Steel; Satin Finish; Load Class B**  
 See page 8 & 9 which shows how to create your own unique specification clause



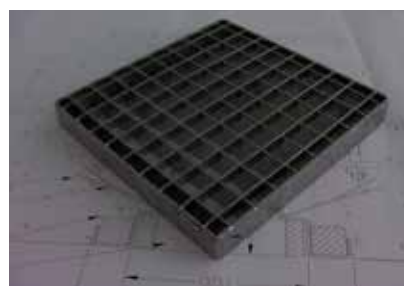
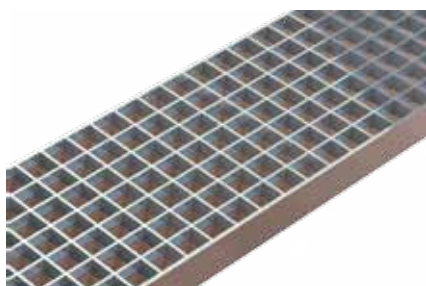
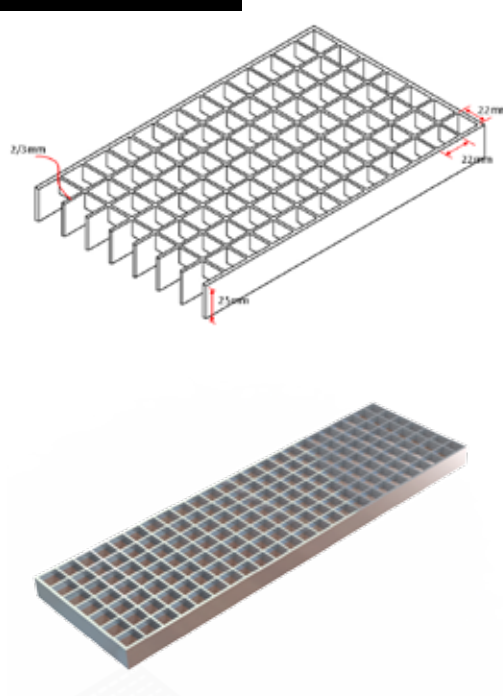
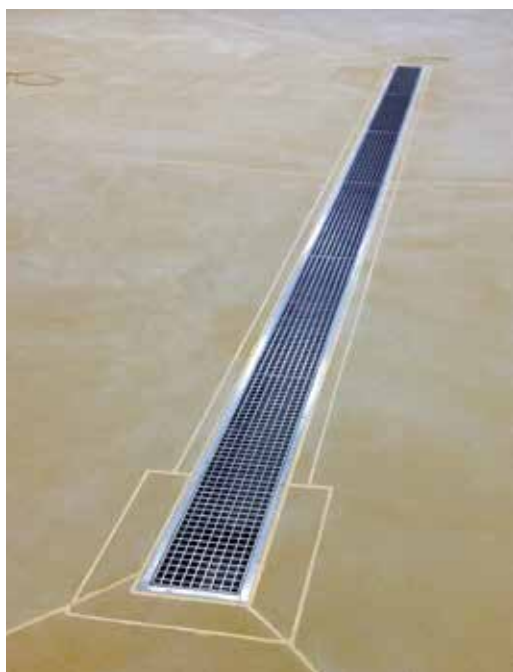
### Typical Dimensions

Name	Depth	Bar	Gap	Free Area
KFSG150	10	2	6	67%
	25(4mm on ladder)	3	6	59%

Kent Plain Mesh Grating is normally used to suit the KSBC range of drainage channels or KAF Angle Frame range. It is available ex stock normally in 150mm and 200mm widths, each 25mm deep with 2mm load bars. In areas which require a heavier duty grating, it is regularly ordered as 25mm deep with 3mm load bars or sometimes it can be ordered as 30mm or 40mm deep with 3mm load bars. A spacing of 20mm between bars gives this a large free area. It is therefore ideal for factories with pedestrian or medium duty traffic, with frequent, high intensity washdown. Lockdown version is optional. This type of grating is very regularly specified for Meat, Dairy, Beverage and Pharmaceutical factories.


**White Welly Traffic**

**Specify: Kent Plain Mesh Grating KPMG150; 150mm wide x 1000mm long x 25mm deep; Grade 304L Stainless Steel; Load Class A**  
See page 8 & 9 which shows how to create your own unique specification clause



### Typical Dimensions

Name	Depth	Bar	Gap	Free Area
KPMG150	25	2	22	80%
	25	3	22	73%



## KENT ANTI SLIP MESH GRATING

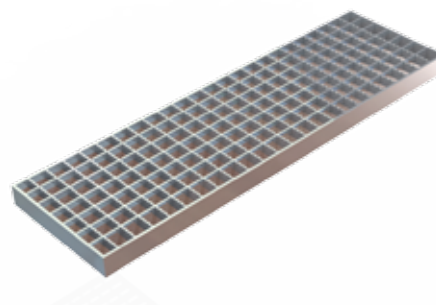
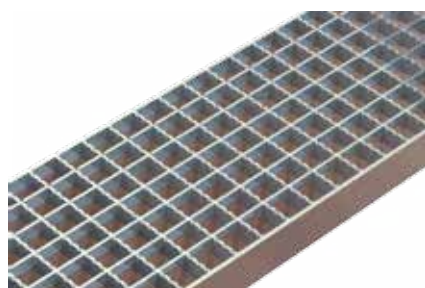
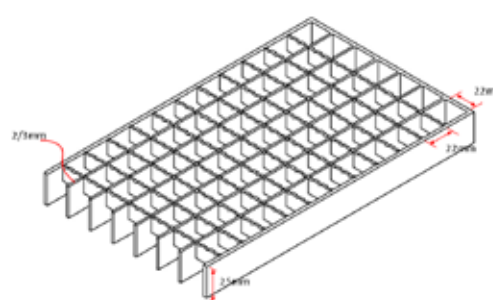
Kent Anti Slip Mesh Grating normally used to suit drainage channels KSBC range or the KAF Angle Frame range. It is available ex stock normally in 150mm and 200mm widths, each 25mm deep with 2mm thick load bars. For heavier duty areas regularly ordered as 25mm deep with 3mm bars or sometimes 30mm or 40mm deep with 3mm bars. It has a 20mm spacing between bars which gives this grating a large free area. It is therefore ideal for factories with pedestrian or medium duty traffic, with frequent, high intensity washdown. Lockdown version is optional. It is very regularly specified for Meat, Dairy, Beverage, Pharmaceutical factories. We recommend this for areas which predominantly have pedestrian traffic and no forklift or rubber wheel traffic.



**White Welly Traffic**

**Specify: Kent Anti Slip Mesh Grating KAMG150; 150mm wide x 1000mm long x 25mm deep; Grade 304L Stainless Steel; Load Class A**

**See page 8 & 9 which shows how to create your own unique specification clause**

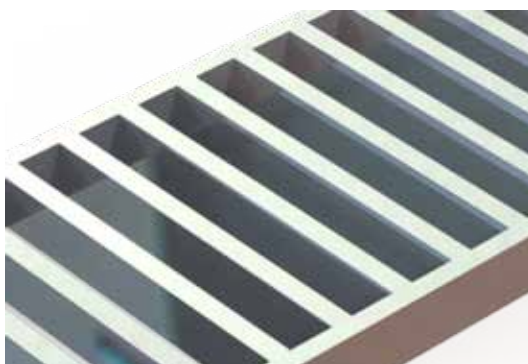
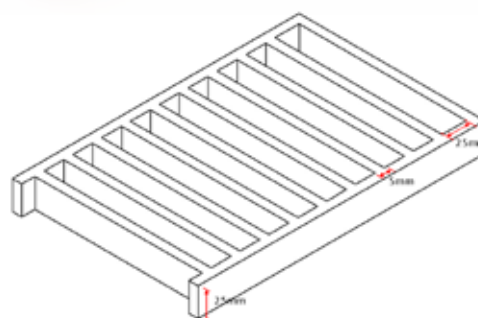
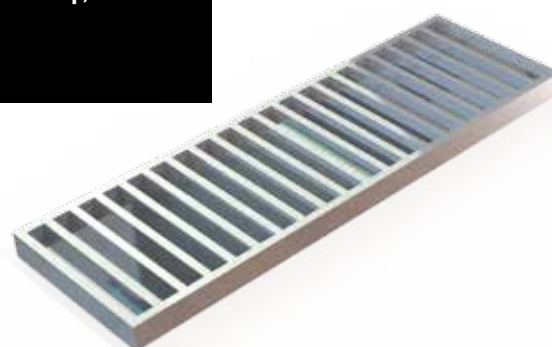


**Typical Dimensions**

Name	Depth	Bar	Gap	Free Area
KAMG150	25	2	22	80%
	25	3	22	73%

Kent Factory Ladder Grating is normally used to suit the KSBC range of drainage channels or the KAF Angle Frame. It is available ex stock normally in 150mm and 200mm widths, each 25mm deep with 5mm thick load bars. In areas which require a heavier duty grating, it is regularly ordered as 25mm deep with 8mm bars or sometimes 30mm or 40mm deep with 8mm bars. A spacing of 20mm between bars gives this a large free area. It is therefore ideal for factories with pedestrian or heavy forklift traffic, with frequent, high intensity washdown. Lockdown version is optional. This type of grating is very regularly specified for Meat, Dairy, Beverage, Pharmaceutical factories.

**Specify: Kent Factory Ladder Grating KFLG150; 150mm wide x 1000mm long x 25mm deep; Grade 304L Stainless Steel; Load Class A**  
See page 8 & 9 which shows how to create your own unique specification clause


**White Welly Traffic**


### Typical Dimensions

Name	Depth	Bar	Gap	Free Area
KFLG150	25	5	20	70%
	30	8	20	59%
	40	10	20	53%

## KENT ANTI SLIP FACTORY LADDER GRATING

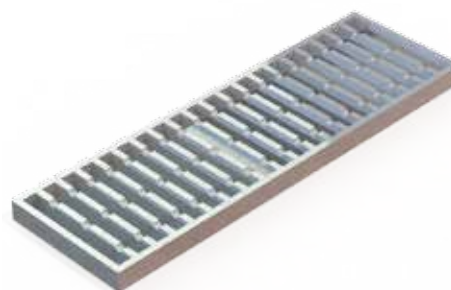
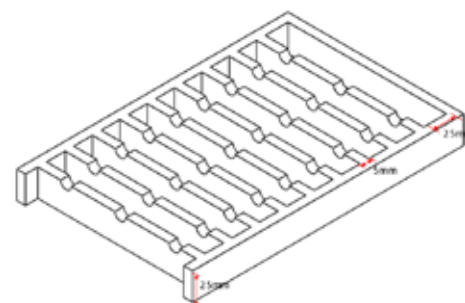
This is the slip resistant version of our Kent Factory Ladder Grating which offers added user safety in particularly wet areas. It features a Large Free Area. It is normally available ex stock in 150mm and 200mm widths, 25mm deep with 5mm thick bars. It suits the KSBC range of drainage channels and the Kent Industrial Gully range. It is an excellent choice for areas which have regular heavy traffic, with white welly pedestrians combined with forklift rubber wheels.

Complies with EN1433.



**White Welly Traffic**

**Specify: Kent Antislip Ladder Grating KAFLG150; 150mm wide x 1000mm long x 25mm deep; unlocked; Grade 304L Stainless Steel; Load Class B**  
 See page 8 & 9 which shows how to create your own unique specification clause



**Typical Dimensions**

Name	Depth	Bar	Gap	Free Area
KAFLG150	25	5	20	70%
	30	8	20	59%
	40	10	20	53%



## Greenwich, Creekside

**Location:** Greenwich, Creekside  
**Project:** Civil Highways Package  
**Clients:** Telford Homes  
**Architect:** Squire & Partners  
**Value:** €200,000 over both phases

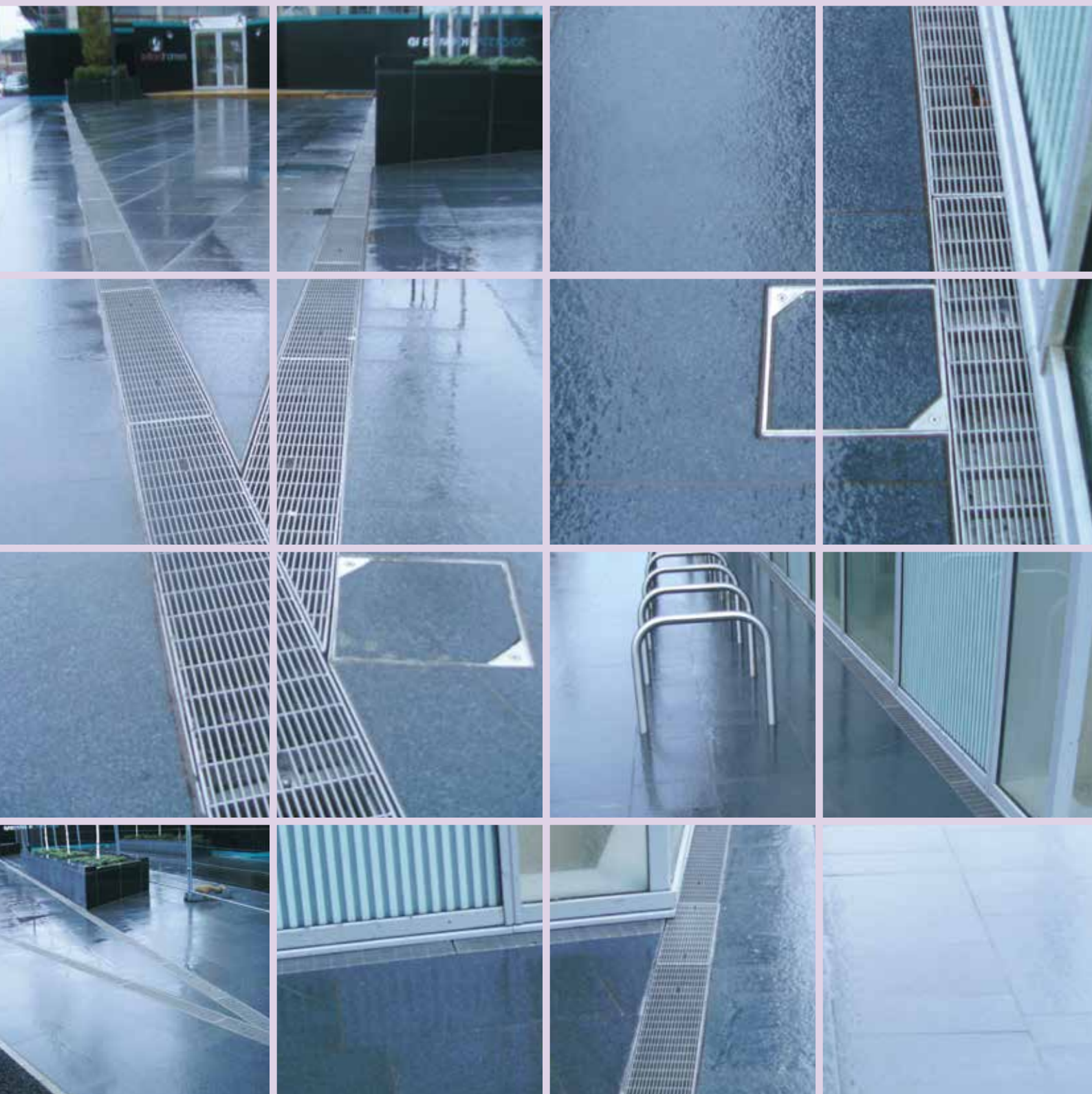
Greenwich Creekside: Having successfully delivered a number of projects with Maylim Ltd., Kent Stainless were asked to team up again for their "Greenwich Creekside" project. Kent Stainless designed and manufactured a range of custom sized drainage, access points and recessed manholes for the project. The distinctive stone and exacting requirements of architect Squire & Partners ensured Kent Stainless designed and manufactured a wide variety of frame sizes to B125, C250 and D400 load capabilities. The covers were also supplied with various badges and laser cut text to

identify the services underneath each cover.

Kent Stainless also designed a range of stainless steel channel and heelmesh grating for the project. Specifically designed to deal with high slab levels on site (the max depth of the channel is 60mm), Kent Stainless were able to design the channel and grating to take the required flow rates. The flow rates were calculated by Kent Stainless design team using our in house software. Due to the predicted high levels of pedestrians in the area, all the heelmesh grating was lock down and heel proof. Kent Stainless also reduced its standard channel width of 150mm to 126mm overall, to match the design specifications requested by Squire & Partners.

Having successfully completed phase one in 2009, Kent Stainless were contracted again for phase two in late 2011.

We also supplied bollards, anti skateboard studs and cycle racks.





# Dublin Airport

**Location:** Dublin, Ireland  
**Project:** Design, Manufacture and Supply of Recessed Manholes, Ventilation grilles, Street Furniture and Shelters  
**Clients:** Laing O'Rourke  
John Paul Construction  
PJ Hegarty  
Martifer  
Paschall & Watson  
**Architect:**  
**Consulting Engineer:** Arup  
**Value:** €1.5m

Terminal 2 was opened on 19th November 2010.

In 2009 Kent Stainless won the contract to supply PJ Hegarty with Kent Multi Internal Manholes for the Internal Concourses at the check in areas of T2. These were designed and modified to cover the cables ducts, using a shallow 50mm deep tray to take 40mm polished granite tiles. Height adjustable support feet were added to help the contractor bed in the manholes. Later, the contract was extended to include manholes on the

Link Bridges, set over a metal deck all were made with B125 loading. In 2010 Kent were approved by Martifer for the supply of all ventilations grilles at the walkway link bridges to the car park area. Kent Heelmesh Type 1 gratings were used, fitting into KAF150 Angle Frame and modified to take blue spot uplighters and surrounding column supports. Later the link bridge from T1 to T2 was added to the contract and each panel was custom made to take up the contour of the edge of this structure, and cutouts to surround the handrail uprights.

Also in 2010 Kent won the large contract for street furniture externally at T2 and Kent Solo Paver and Kent Multi Paver Manholes with a B125 Loading were used throughout the area. Newgrange paving flags were supplied by Kilsaran and Kent Manholes were made to 100mm deep to take the 80mm deep slabs.

The contract also included the full range of Kent Street Furniture – Flag Poles, Litter Bins, Bollards, Bus Shelters, Balustrades, Trolley Bays and Tactile Warning Studs which we pre-studded onto the paving slabs.

- ★ Balustrades
- ★ Trolley Bays
- ★ Bollards
- ★ Litter Bins
- ★ Recessed Access Covers
- ★ Camera Poles (CCTV)
- ★ Sign Poles
- ★ Tactile Warning Studs
- ★ Flag Poles
- ★ Internal Air Ventilation Grilles

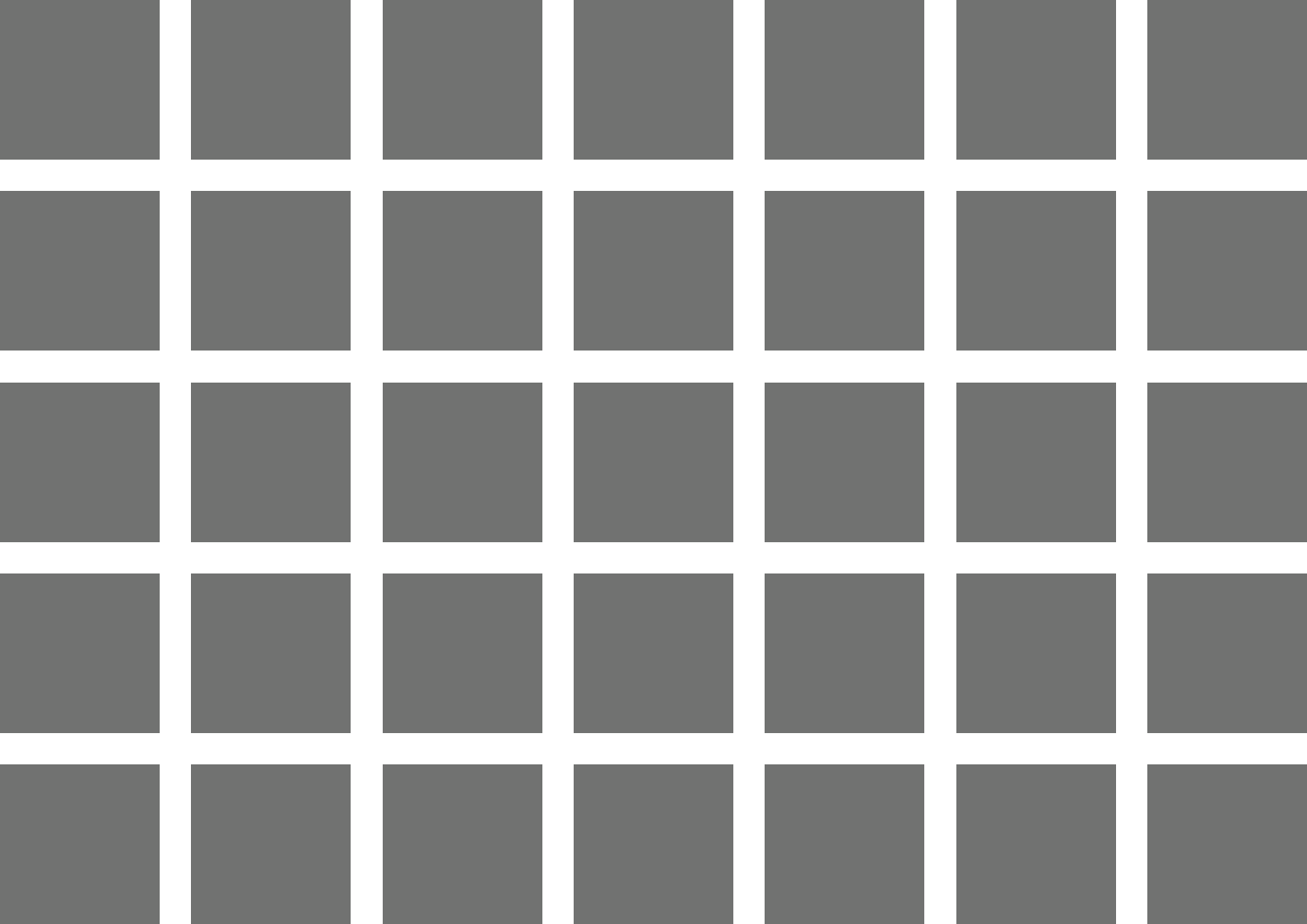




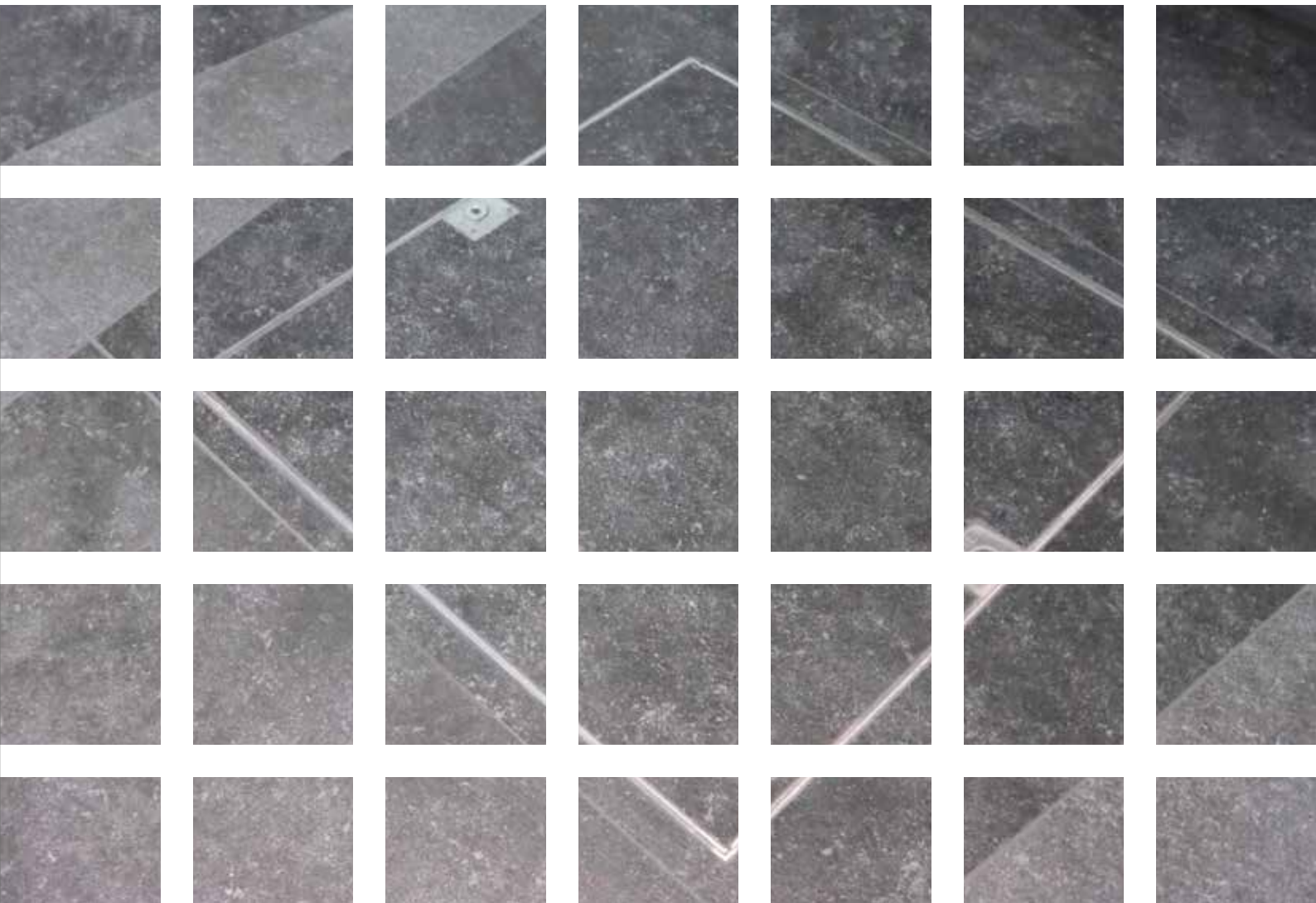


**Pedestrian  
Heelmesh**





# INTERNAL



## Internal Access Covers

Our Standard Internal Manholes are fitted easily to all hard floor finished areas (tiled, concrete or resin) and allow manholes to blend in discreetly with the surrounding floor.

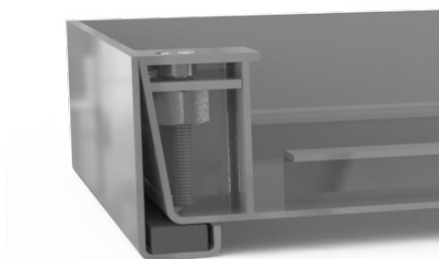
The trays are tapered slightly to allow easier removal and covers are available with a Single Seal, Double Seal or Triple seal – note the difference between clear opening size and frame size for double and triple seal covers.

Internal manholes have 2 lifting points centrally located on the trays. These lifting points can also be modified in the factory to become locking points when required.

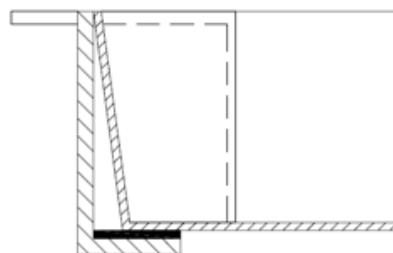
Small batches of non-standard sizes can be made.

Single Seal Covers use a Silicone Seal. Double Seal Covers have Neoprene Seal and a cavity for a Grease Seal (Grease to be applied by contractor/operator). They are used over areas with potential foul odours. Double Sealed are the standard for use indoors. Triple Seal Covers have a Silicone Seal, a Gortex Seal and a cavity for a Grease Seal (Grease to be applied by contractor/operator).

### Single Seal Access Covers



Single Seal Access Covers are used on internal applications and where no foul odours are present. Kent Single Seal Manholes are full stainless access covers with 2 lifting points as standard. At time of order the lifting points can be converted to locking points. They contain concrete retaining angles as standard and when filled with concrete the manholes take over a C250 loading.



Single Seal Covers use a Silicone Seal and this is often upgraded to a Double Seal. The seals have an influence on the frame size – a single seal adds 30mm each side or 60mm overall to the clear ope size.



Tray depths are typically 50mm for the 300mm and 450mm clear ope sizes, but can be increased where necessary.

### Double Seal Access Covers

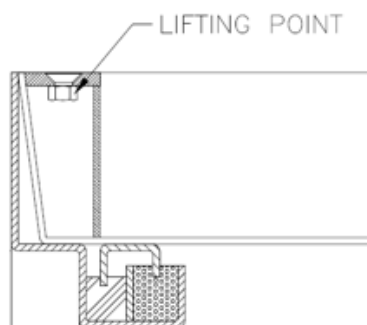


Double Seal is used on internal applications and where foul odours are present.

Kent Double Seal Manholes are full stainless steel access covers which come with 2 lifting points as standard. Double Sealed manholes are used on internal applications where foul odours are present. At time of order the lifting points can be converted to Locking Points.

They contain concrete retaining angles as standard and when filled with concrete the manholes take a C250 loading.





All our Internal manholes come with a double seal as standard. Double Seal Covers have Neoprene Seal and a cavity for a Grease Seal (Grease to be applied by contractor/operator). They are used over areas with potential foul odours.

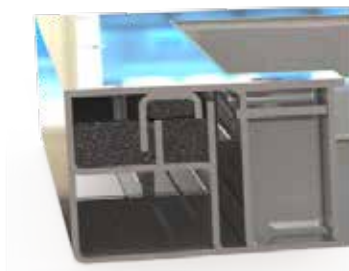
The seals have an influence on the frame size – a double seal adds 170mm overall to the clear ope size.



Tray depths are typically 50mm for the 300mm and 450mm clear ope sizes, but can be increased where necessary.

For Vinyl Floors a vinyl clamping flange is used.

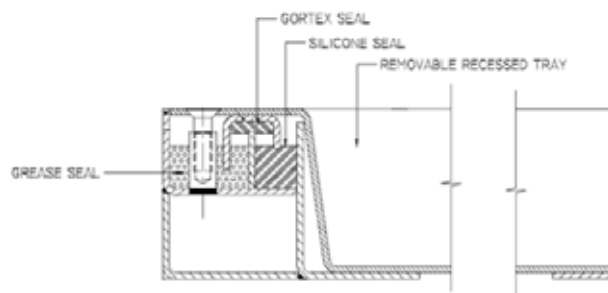
### Triple Seal Access Covers



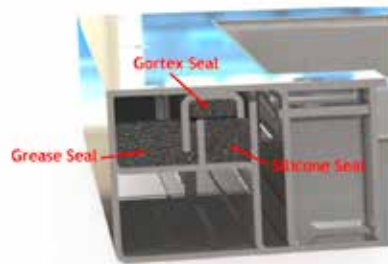
Triple Seal is used on internal applications where foul odours are present.

Kent Triple Seal Manholes are full stainless steel access covers which come with 2 lifting points as standard. At time of order the lifting points can be converted to Locking Points. They

contain concrete retaining angles as standard and when filled with concrete the manholes take over 10 ton load.



The triple seal shown here is for use where particularly hazardous chemicals are present and is often used above the chlorine store in a swimming pool. Triple Seals use a Silicone Seal, a Gortex Seal and a Grease Seal (Seal to be applied by the contractor).



Tray depths are typically 50mm for the 300mm and 450mm clear ope sizes and 75mm for 600mm, but can be increased where necessary.

For Vinyl Floors a vinyl clamping flange is used.

Triple Seal manholes typically required in two environments:

1. To prevent smells coming up
2. To prevent liquid going down

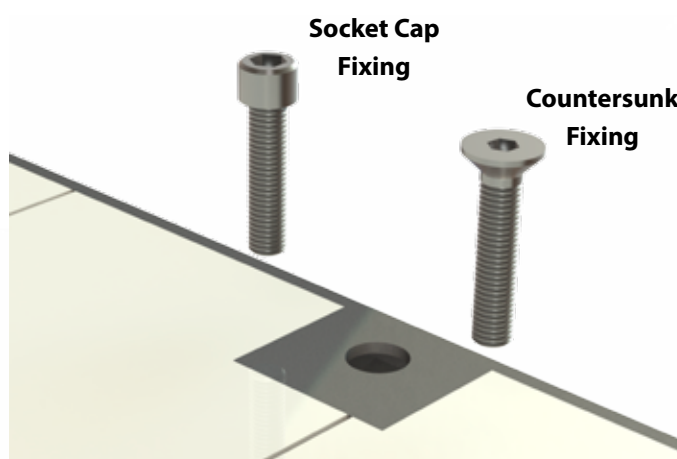
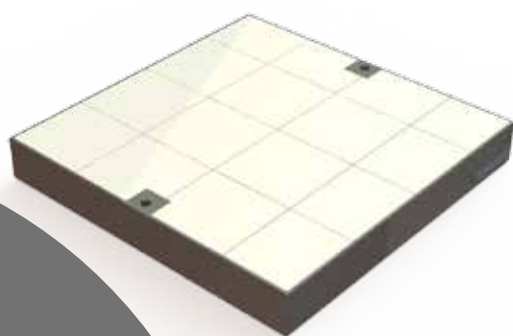


## KENT SOLO INTERNAL MANHOLE KMHD-600/600

Kent Solo Internal Manhole Covers, KMHD-600/600 are ex stock in 3 sizes, but can be fabricated to any dimension. They are designed to be filled with material to match the surrounding floor finish – Concrete, Resin or Tiles. They come with a Double Seal as standard but are also available with a single seal, or a triple seal. They have 2 lifting points and these can be modified to also become locking points. They can be supplied with enclosed fire-rated insulated panels if requested.

### Features

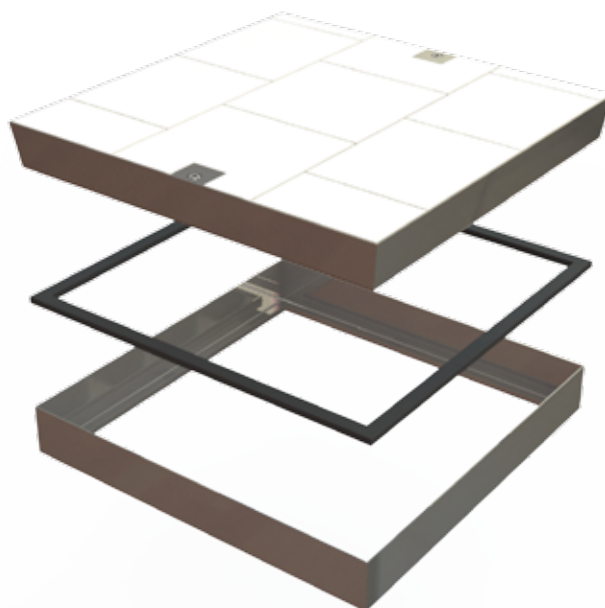
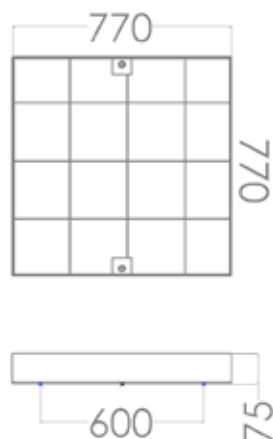
- ❑ Manufactured from Grade 304L as standard, with an option for Grade 316L.
- ❑ 2 Lifting points as standard, these can be modified to become locking points as an option.
- ❑ Normally ex-stock with a lockable version taking 1 days lead time for modification of the lifting points
- ❑ Most commonly ordered as Double Seal
- ❑ Frames have concrete retaining sprags



## KENT SOLO INTERNAL MANHOLE KMHD-600/600 continued

Product Code	Clear Opening	Tray Depth	Visible Frame Size (Double Seal)	Visible Frame Size (Single Seal)	Visible Frame Size (Triple Seal)
KMHD-300/300	300mm x 300mm	75mm	470mm x 470mm	372mm x 372mm	555mm x 555mm
KMHD-450/450	450mm x 450mm	75mm	620mm x 620mm	522mm x 522mm	705mm x 705mm
KMHD-600/600	600mm x 600mm	92mm	770mm x 770mm	672mm x 672mm	855mm x 855mm
KMHD-750/750	750mm x 750mm	92mm	920mm x 920mm	822mm x 822mm	1005mm x 1005mm
KMHD-900/900	900mm x 900mm	92mm	1070mm x 1070mm	972mm x 972mm	1155mm x 1155mm

**Specify: Kent Solo Internal Manhole KMHD-600/600; 600mm x 600mm clear opening; 75mm Tray Depth; Double Seal; Grade 304L Stainless Steel; Loading FACTA A**  
**See page 8 & 9 which shows how to create your own unique specification clause**



### OPTIONS

Various Loadings (See FACTA table)  
 Grade 304L Stainless Steel  
 Grade 316L Stainless Steel  
 Single Seal  
 Double Seal  
 Triple Seal  
 Lockdown  
 Fire panels

FACTA Class	Slow Moving Wheel Loads	Kent Safety Test (Unfilled)
A	0.6T	0.8T
AA	1.5T	3.1T
AAA	2.5T	5.2T
B	5T	10.1T
C	6.5T	13.2T
D	11T	22T



**KENT COMMERCIAL MANHOLE-KCRM 600/600**

A low cost Stainless Steel Recessed Manhole for a variety of finishes. High specification (double seal, lockdown). In grade 304 stainless as standard. Stock items or short lead time on standard sizes.

**Features**

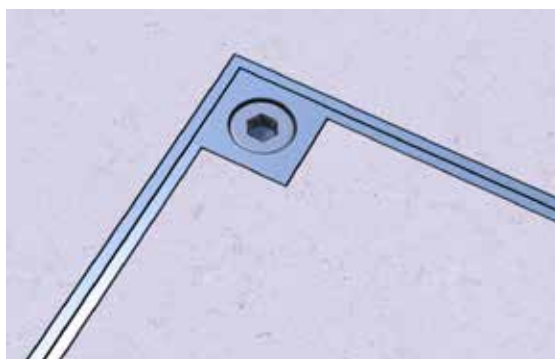
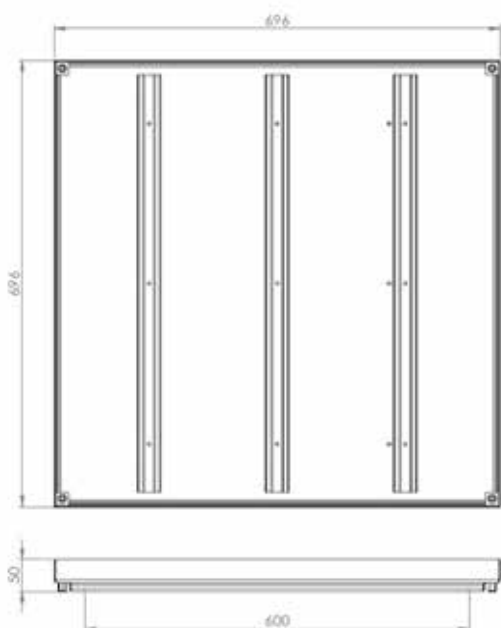
- ☐ Lockdown as standard
- ☐ Double Seal as standard
- ☐ 4 hex head lockdown points
- ☐ Shallow profile
- ☐ Discrete polished top edge
- ☐ Screed grip mesh as standard
- ☐ Available for next day delivery



## KENT COMMERCIAL MANHOLE-KCRM 600/600 continued

Product Code	Clear Opening	Frame Size	Tray depth
KCRM300/300	300mm x 300mm	396mm x 396mm	50mm
KCRM450/450	450mm x 450mm	546mm x 546mm	50mm
KCRM600/600	600mm x 600mm	696mm x 696mm	50mm

**Specify: Kent Commercial Range Manhole KCRM600/600; 600mm x 600mm clear opening; 50mm Tray depth; Double Seal; Grade 304L Stainless Steel; Loading FACTA A**  
**See page 8 & 9 which shows how to create your own unique specification clause**



### OPTIONS

Grade 304L Stainless Steel

Grade 316L Stainless Steel

Double Seal

FACTA Class	Slow Moving Wheel Loads	Kent Safety Test (Unfilled)
A	0.6T	0.8T
AA	1.5T	3.1T
AAA	2.5T	5.2T

## KENT MULTI INTERNAL MANHOLE KMHD-1200/1200

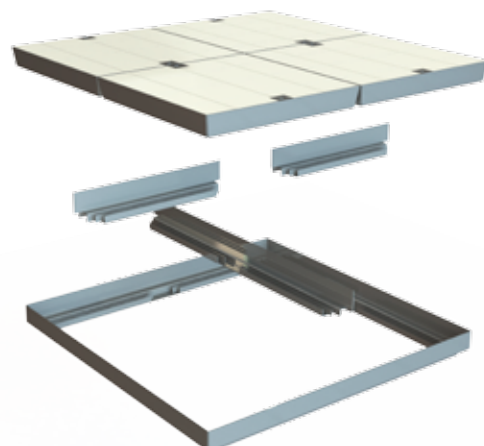
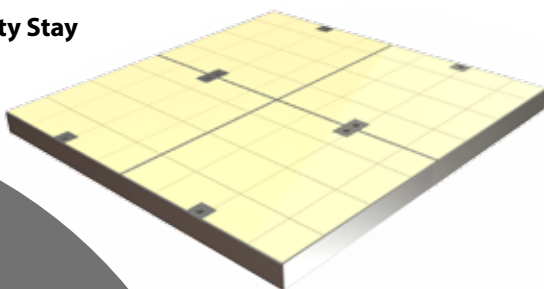
Kent Multi Internal Manholes can be fabricated to any dimension. They are designed to be filled with material to match the surrounding floor finish – Concrete, Resin or Tiles. They come with a Double Seal as standard but they are also available with a Single Seal or a Triple Seal. They are suitable for all areas which have pedestrian traffic but they can be modified to take loading of 20ton forklifts. They can be supplied with enclosed fire-rated insulated panels if requested. Each tray comes with 2 lifting points as standard and these can be modified to also be used as locking points to make the manholes lockdown.

### Features

- ❑ Manufactured from Grade 304L as standard, with an option for Grade 316L.
- ❑ 2 Lifting points per tray as standard, these can be modified to become locking points as an option.
- ❑ Most commonly ordered as Double Seal
- ❑ Safety Stay as standard



**Standard  
Safety Stay**

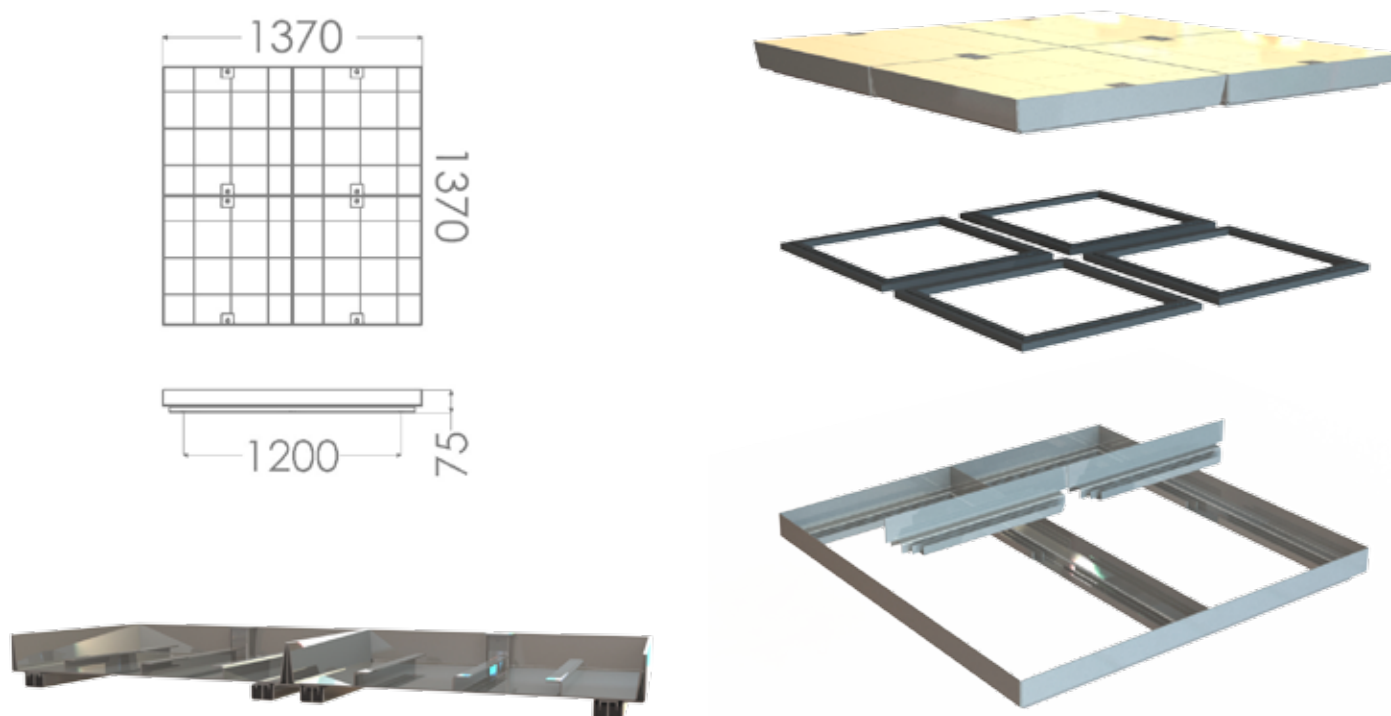




## KENT MULTI INTERNAL MANHOLE KMHD-1200/1200 continued

Product Code	Clear Opening	No. of Trays	Tray Depth	Visible Frame Size (Double Seal)	Visible Frame Size (Single Seal)	Visible Frame Size (Triple Seal)
KMHD-1200/600	1200mm x 600mm	2	75mm	1370mm x 770mm	1272mm x 672mm	1455mm x 855mm
KMHD-1200/1200	1200mm x 1200mm	4	75mm	1370mm x 1370mm	1272mm x 1272mm	1455mm x 1455mm
KMHD-1800/1200	1800mm x 1200mm	6	75mm	1970mm x 1370mm	1872mm x 1272mm	2055mm x 1455mm
KMHD-1800/1800	1800mm x 1800mm	4	75mm	1970mm x 1970mm	1872mm x 1872mm	2055mm x 2055mm
KMHD-2400/1200	2400mm x 1200mm	8	75mm	2570mm x 1370mm	2472mm x 1272mm	2655mm x 1455mm
KMHD2400/1800	2400mm x 1800mm	8	75mm	2570mm x 1970mm	2472mm x 1872mm	2655mm x 2055mm
KMHD-2400/2400	2400mm x 2400mm	8	75mm	2570mm x 2570mm	2472mm x 2472mm	2655mm x 2655mm

**Specify: Kent Multi Internal Manhole KMHD1200/1200; 1200mm x 1200mm clear opening; 75mm Tray Depth; Double Seal; Grade 304L Stainless Steel; Loading FACTA AA**  
**See page 8 & 9 which shows how to create your own unique specification clause**



### OPTIONS

Various Loadings (See FACTA table)
Grade 304L Stainless Steel
Grade 316L Stainless Steel
Single Seal
Double Seal
Triple Seal
Lockdown
Fire panels
Safety Grid

FACTA Class	Slow Moving Wheel Loads	Kent Safety Test (Unfilled)
A	0.6T	0.8T
AA	1.5T	3.1T
AAA	2.5T	5.2T
B	5T	10.1T
C	6.5T	13.2T
D	11T	22T

## KENT HINGED INTERNAL MANHOLE KMHD-600/600HLA

Kent Hinged Internal Manholes can be fabricated to any dimension. They are designed to be filled with material to match the surrounding floor finish – Concrete, Tile, Resin. They come with a Double Seal as standard but they are also available with a Single Seal or a Triple Seal.

They feature Gas struts on the smaller sizes or Kent Lift Assist Mechanical Struts on larger sizes.

They are suitable for all areas which have pedestrian traffic but they can be modified to take loading of 20ton forklifts. They can be supplied with enclosed fire-rated insulated panels if requested.

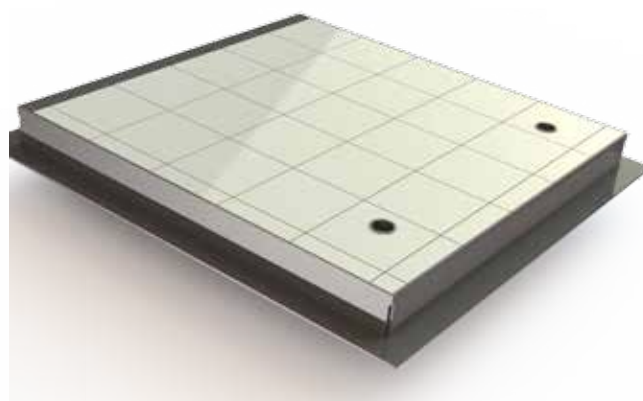
They come with 2 lockable lifting points as standard.

### Features

- ❑ Made from Grade 304L Stainless Steel as standard with an option for Grade 316L Stainless Steel
- ❑ Robust continuous piano hinge as standard
- ❑ 2 lifting points with locks as standard
- ❑ Gas Struts or Kent lift assist Mechanical Struts
- ❑ Most commonly ordered as Double Sealed



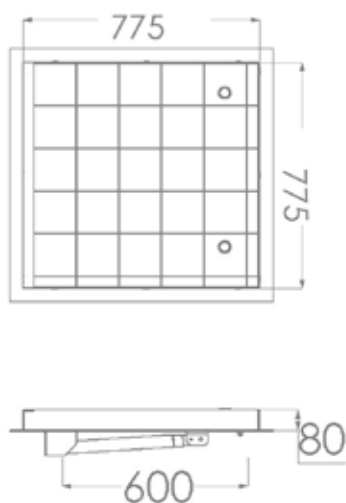
**Standard  
Safety Stay**



## KENT HINGED INTERNAL MANHOLE KMHD-600/600HLA continued

Product Code	Clear Opening	Tray Depth	Visible Frame Size (Double Seal)	Visible Frame Size (Single Seal)	Visible Frame Size (Triple Seal)
KMHD-600/600HLA	600mm x 600mm	75mm	775mm x 775mm	690mm x 690mm	875mm x 875mm
KMHD-750/750HLA	750mm x 750mm	75mm	925mm x 925mm	840mm x 840mm	1025mm x 1025mm
KMHD-900/900HLA	900mm x 900mm	75mm	1075mm x 1075mm	990mm x 990mm	1175mm x 1175mm

**Specify: Kent Hinged Internal Manhole KMHD 600/600HLA; 600mm x 600mm clear opening; 75mm Tray Depth; Double Seal; Grade 304L Stainless Steel; Loading FACTA AA**  
**See page 8 & 9 which shows how to create your own unique specification clause**



### OPTIONS

Various Loadings (See FACTA table)  
 Grade 304L Stainless Steel  
 Grade 316L Stainless Steel  
 Single Seal  
 2 lifting points which can be modified to become locking points when required

FACTA Class	Slow Moving Wheel Loads	Kent Safety Test (Unfilled)
A	0.6T	0.8T
AA	1.5T	3.1T
AAA	2.5T	5.2T
B	5T	10.1T
C	6.5T	13.2T
D	11T	22T



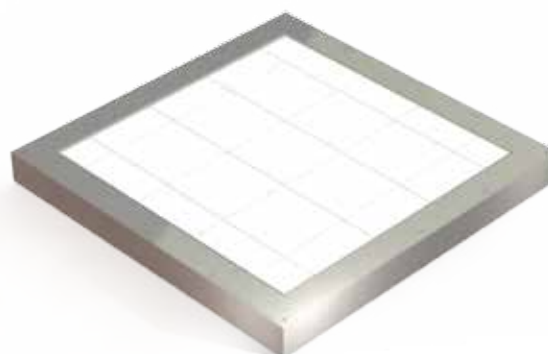
## KENT TRIPLE SEAL WATER TIGHT MANHOLE KMHT(W)-600/600

The Kent Triple Seal Water Tight Manhole is both odour and water tight. It contains 3 seals – a Gortex Seal, A Neoprene Seal and a Silicone Seal. All 3 seals make a positive connection and the manhole has locking points surrounding the perimeter to retain this positive seal. It is generally requested as grade 316L stainless steel for pharmaceutical factories, but 304L stainless is also available.

Note the large perimeter band on the frame giving a large visible frame.

### Features

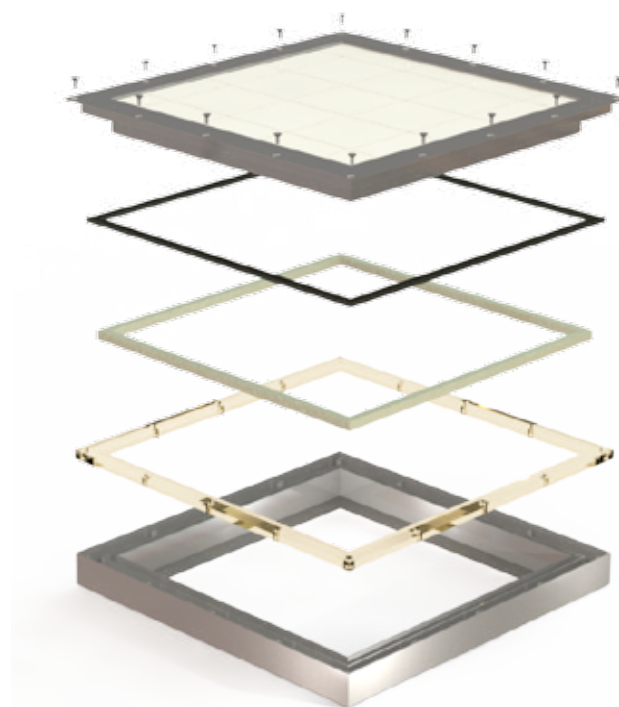
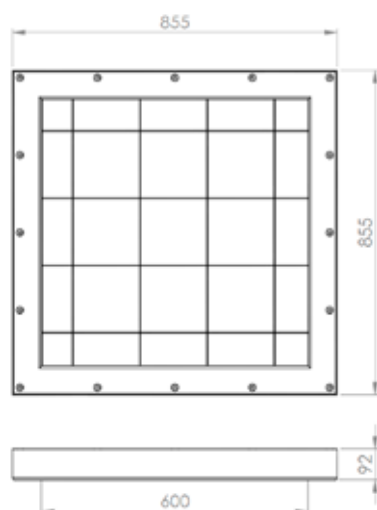
- ❑ Guaranteed water tight
- ❑ 3 standard sizes – but custom sizes are available
- ❑ Standard Loading FACTA B – A/B/C/D loadings available



## KENT TRIPLE SEAL WATER TIGHT MANHOLE KMHT(W)-600/600 continued

Product Code	Clear Opening	Internal Tray Depth	Visible Frame Size (Unsealed)
KMHT(W)-300/300	300mm x 300mm	75mm	555mm x 555mm
KMHT(W)-450/450	450mm x 450mm	75mm	705mm x 705mm
KMHT(W)-600/600	600mm x 600mm	92mm	855mm x 855mm
KMHT(W)-750/750	750mm x 750mm	92mm	1005mm x 1005mm
KMHT(W)-900/900	900mm x 900mm	92mm	1155mm x 1155mm

**Specify: Kent Triple Seal Water Tight Manhole KMHT(W) 600/600; 600mm x 600mm clear opening; 75mm Tray Depth; Grade 304L Stainless Steel; Loading FACTA B**  
See page 8 & 9 which shows how to create your own unique specification clause



### OPTIONS

Unsealed or Double Sealed  
Grade 304L Stainless Steel  
Grade 316L Stainless Steel  
Mild Steel Galvanised to BS EN ISO 1461 (1999)  
Mild steel galvanised to 140 Micron minimum for Middle East projects

BSEN124	Slow Moving Wheel Loads	Kent Safety Test (Unfilled)
A15	0.6T	1.5T
B125	5.0T	12.5T
C250	6.5T	25.0T
D400	11.0T	40.0T

FACTA Class	Slow Moving Wheel Loads	Kent Safety Test (Unfilled)
A	0.6T	0.8T
AA	1.5T	3.1T
AAA	2.5T	5.2T
B	5T	10.1T
C	6.5T	13.2T
D	11T	22T

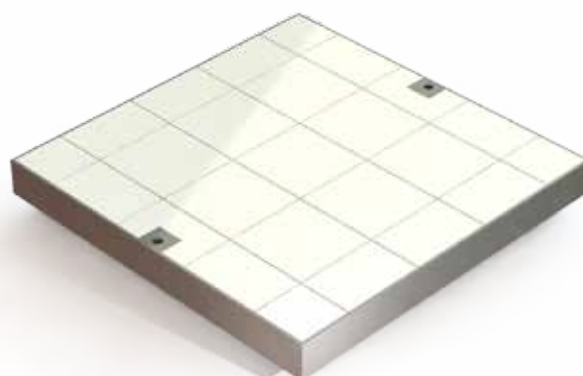
## KENT TRIPLE SEAL ODOUR TIGHT MANHOLE KMHT(O)-600/600

The Kent Triple Seal Odour Tight Manhole contains 3 seals – A Gortex Seal, A Silicone Seal and a cavity for the application of a Grease Seal. Care should be taken by the contractor at installation stage and by the maintenance crew to re-apply the grease seal after opening and closing the cover.

While containing three seals, this is a neat manhole with a narrow visible frame. It contains 2 lockdown points as standard which double up as lifting eyes.

### Features

- ❑ Available in G304 or G316 Stainless Steel
- ❑ 3 standard sizes, but custom sizes are available
- ❑ Standard loading FACTA B – A/B/C/D loadings available

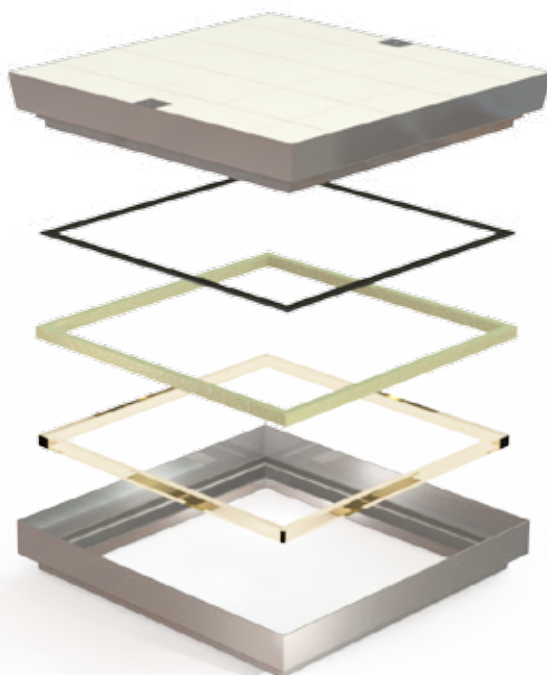
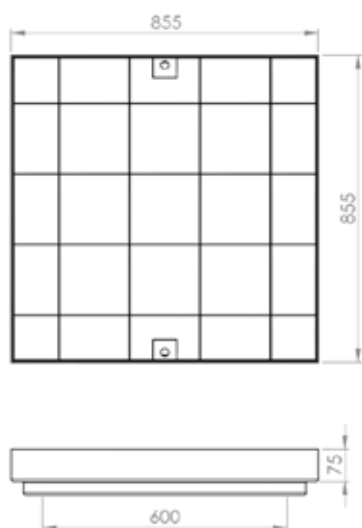




## KENT TRIPLE SEAL ODOUR TIGHT MANHOLE KMHT(O)-600/600 continued

Product Code	Clear Opening	Internal Tray Depth	Visible Frame Size (Unsealed)
KMHT(O)-300/300	300mm x 300mm	75mm	555mm x 555mm
KMHT(O)-450/450	450mm x 450mm	75mm	705mm x 705mm
KMHT(O)-600/600	600mm x 600mm	92mm	855mm x 855mm
KMHT(O)-750/750	750mm x 750mm	92mm	1005mm x 1005mm
KMHT(O)-900/900	900mm x 900mm	92mm	1155mm x 1155mm

**Specify: Kent Triple Seal Odour Tight Manhole KMHT(O) 600/600; 600mm x 600mm clear opening; 75mm Tray Depth; Grade 304L Stainless Steel; Loading FACTA B**  
See page 8 & 9 which shows how to create your own unique specification clause



### OPTIONS

Unsealed or Double Sealed  
Grade 304L Stainless Steel  
Grade 316L Stainless Steel  
Mild Steel Galvanised to BS EN ISO 1461 (1999)  
Mild steel galvanised to 140 Micron minimum for Middle East projects

BSEN124	Slow Moving Wheel Loads	Kent Safety Test (Unfilled)
A15	0.6T	1.5T
B125	5.0T	12.5T
C250	6.5T	25.0T
D400	11.0T	40.0T

FACTA Class	Slow Moving Wheel Loads	Kent Safety Test (Unfilled)
A	0.6T	0.8T
AA	1.5T	3.1T
AAA	2.5T	5.2T
B	5T	10.1T
C	6.5T	13.2T
D	11T	22T

## KENT VINYL MANHOLE KMHD-600/600V

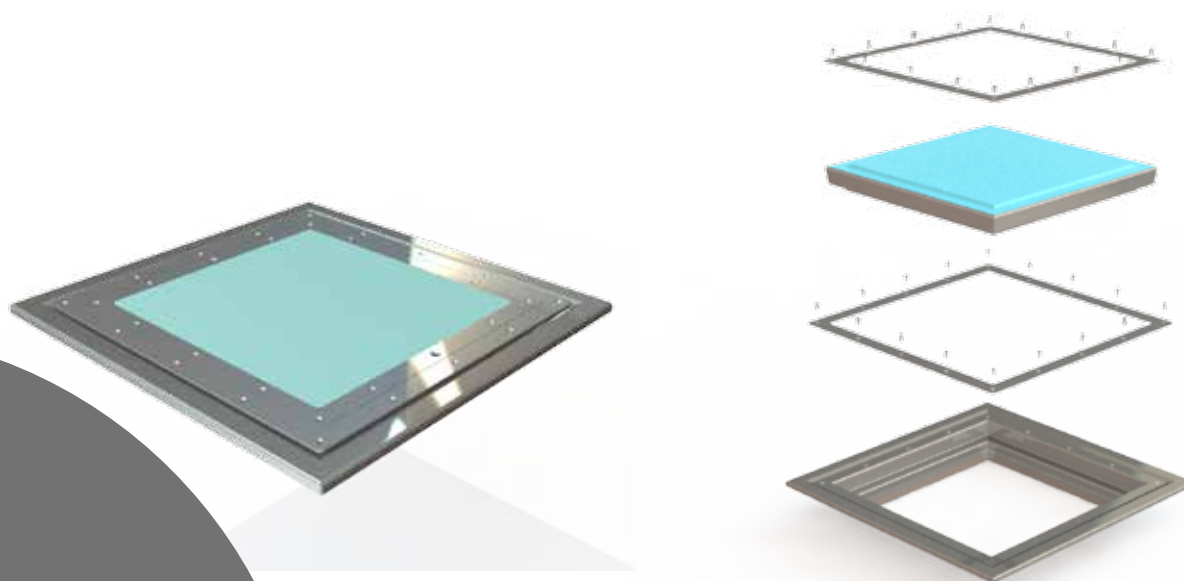
Kent Vinyl Manholes can be fabricated to any dimension. They are designed to be filled with material to match the surrounding floor finish – Vinyl, Altro, Mipilan. They come with a Double Seal as standard but they are also available with a Single Seal or a Triple Seal. A vinyl clamping perimeter flange is used.

They are suitable for all areas which have pedestrian traffic but they can be modified to take loading of 20ton forklifts. They can be supplied with enclosed fire-rated insulated panels if requested.

They come with 2 lifting points as standard which can also be modified to also act as locking points.

### Features

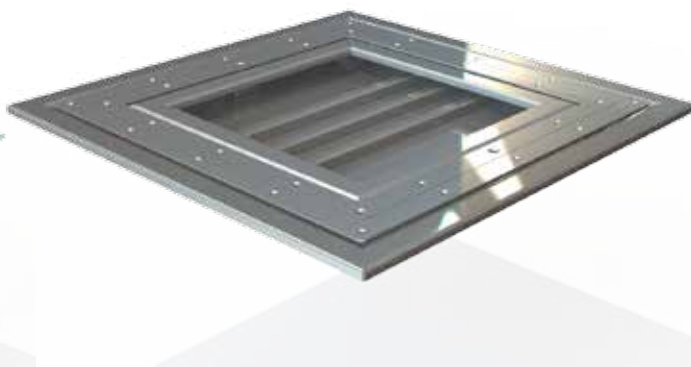
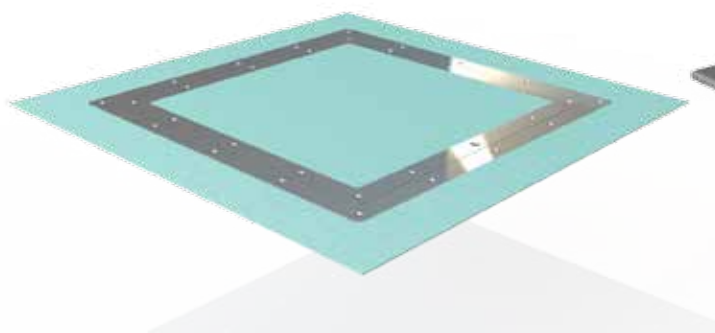
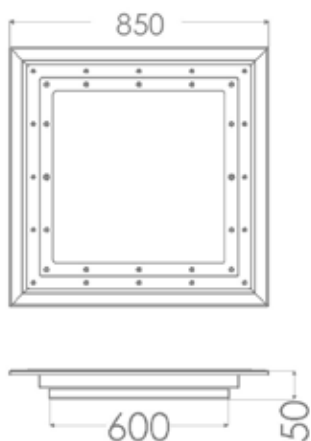
- ❑ Made from Grade 304L Stainless Steel as standard with an option for Grade 316L Stainless Steel
- ❑ Robust continuous piano hinge as standard
- ❑ 2 lifting points with locks as standard
- ❑ Most commonly ordered as Double Sealed



## KENT VINYL MANHOLE KMHD-600/600V continued

Product Code	Clear Opening	Tray Depth	Visible Frame Size (Double Seal)	Visible Frame Size (Single Seal)	Visible Frame Size (Triple Seal)
KMHD-300/300V	300mm x 300mm	50mm	550mm x 550mm	460mm x 460mm	643mm x 643mm
KMHD-450/450V	450mm x 450mm	75mm	700mm x 700mm	610mm x 610mm	793mm x 793mm
KMHD-600/600V	600mm x 600mm	75mm	850mm x 850mm	760mm x 760mm	1033mm x 1033mm
KMHD-750/750V	750mm x 750mm	75mm	1000mm x 1000mm	910mm x 910mm	1093mm x 1093mm
KMHD-900/900V	900mm x 900mm	75mm	1150mm x 1150mm	1060mm x 1060mm	1243mm x 1243mm

**Specify: Kent Vinyl Manhole KHMD 600/600V; 600mm x 600mm clear opening; 75mm Tray Depth; Double Seal; Grade 304L Stainless Steel; Loading FACTA AA**  
**See page 8 & 9 which shows how to create your own unique specification clause**



### OPTIONS

Grade 304L Stainless Steel
Grade 316L Stainless Steel
Various Loadings (See FACTA table)
Single Seal
Double Seal
Triple Seal
Fire Panels

FACTA Class	Slow Moving Wheel Loads	Kent Safety Test (Unfilled)
A	0.6T	0.8T
AA	1.5T	3.1T
AAA	2.5T	5.2T
B	5T	10.1T
C	6.5T	13.2T
D	11T	22T



## KENT HINGED VINYL MANHOLE KMHD-600/600VHLA

Kent Hinged Vinyl Manholes can be fabricated to any dimension. They are designed to be filled with material to match the surrounding floor finish – Vinyl, Altro, Mipilan. They come with a Double Seal as standard but they are also available with a Single Seal or a Triple Seal. A vinyl clamping perimeter flange is used.

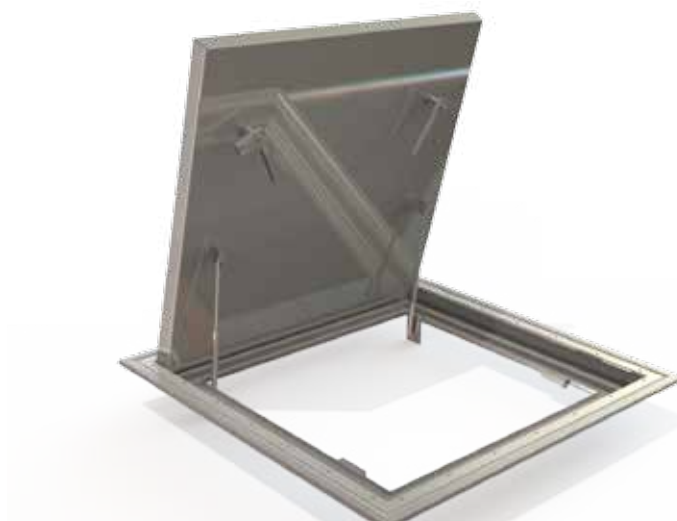
They feature Gas struts on the smaller sizes and Kent Lift Assist Mechanical Struts on larger size.

They are suitable for all areas which have pedestrian traffic but they can be modified to take loading of 20ton forklifts. They can be supplied with enclosed fire-rated insulated panels if requested.

It comes with 2 lockable lifting points as standard

### Features

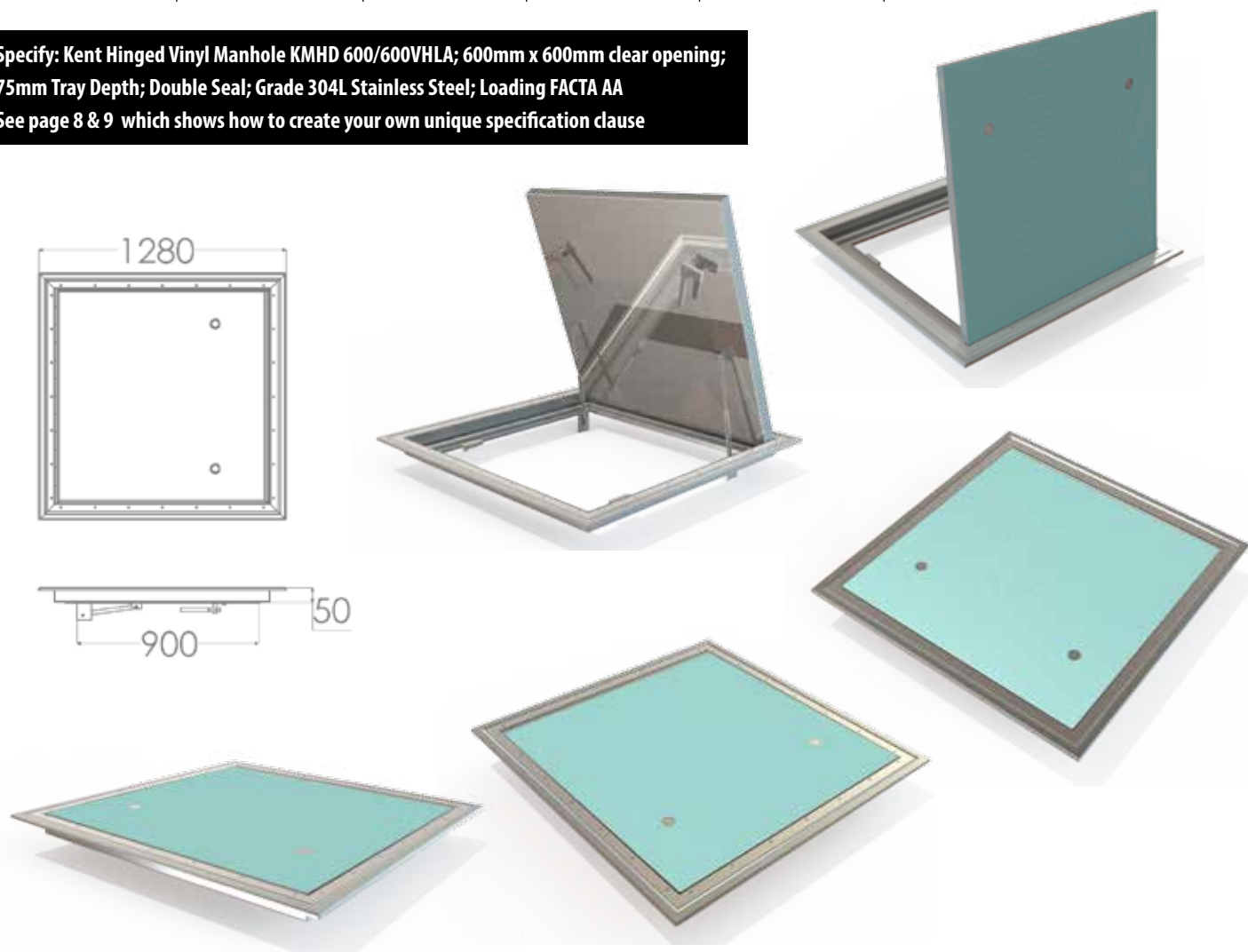
- ❑ Made from Grade 304L Stainless Steel as standard with an option for Grade 316
- ❑ Robust continuous piano hinge as standard
- ❑ 2 lifting points with locks as standard
- ❑ Most commonly ordered as Double Sealed



## KENT HINGED VINYL MANHOLE KMHD-600/600VHLA continued

Product Code	Clear Opening	Tray Depth	Visible Frame Size (Double Seal)	Visible Frame Size (Single Seal)	Visible Frame Size (Triple Seal)
KMHD-300/300VHLA	300mm x 300mm	50mm	550mm x 565mm	460mm x 475mm	643mm x 658mm
KMHD-450/450VHLA	450mm x 450mm	75mm	700mm x 715mm	610mm x 625mm	793mm x 808mm
KMHD-600/600VHLA	600mm x 600mm	75mm	850mm x 865mm	760mm x 775mm	943mm x 958mm
KMHD-750/750VHLA	750mm x 750mm	75mm	1000mm x 1015mm	910mm x 925mm	1093mm x 1108mm
KMHD-900/900VHLA	900mm x 900mm	75mm	1150mm x 1165mm	1060mm x 1075mm	1243mm x 1258mm

**Specify: Kent Hinged Vinyl Manhole KMHD 600/600VHLA; 600mm x 600mm clear opening; 75mm Tray Depth; Double Seal; Grade 304L Stainless Steel; Loading FACTA AA**  
See page 8 & 9 which shows how to create your own unique specification clause



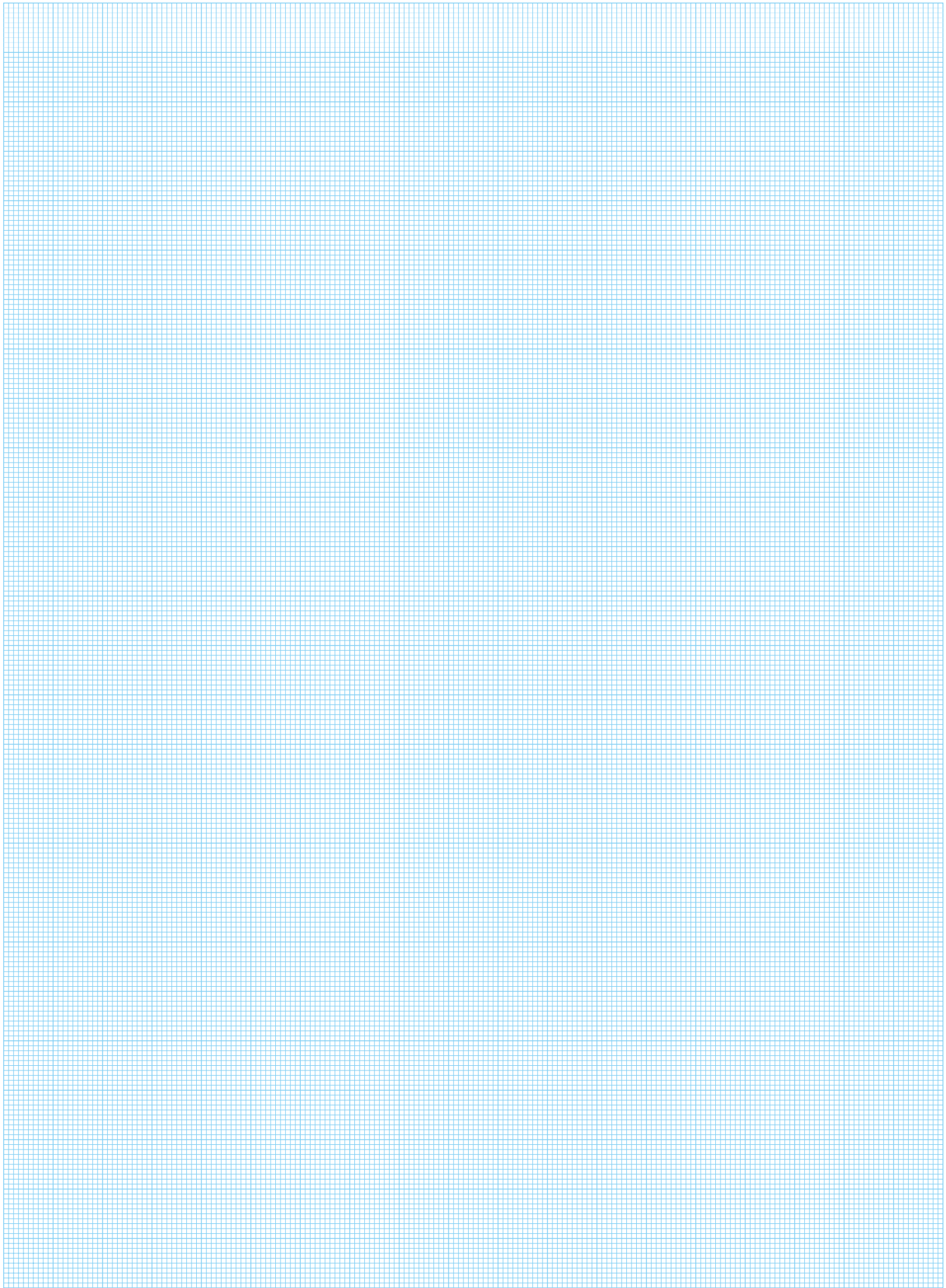
### OPTIONS

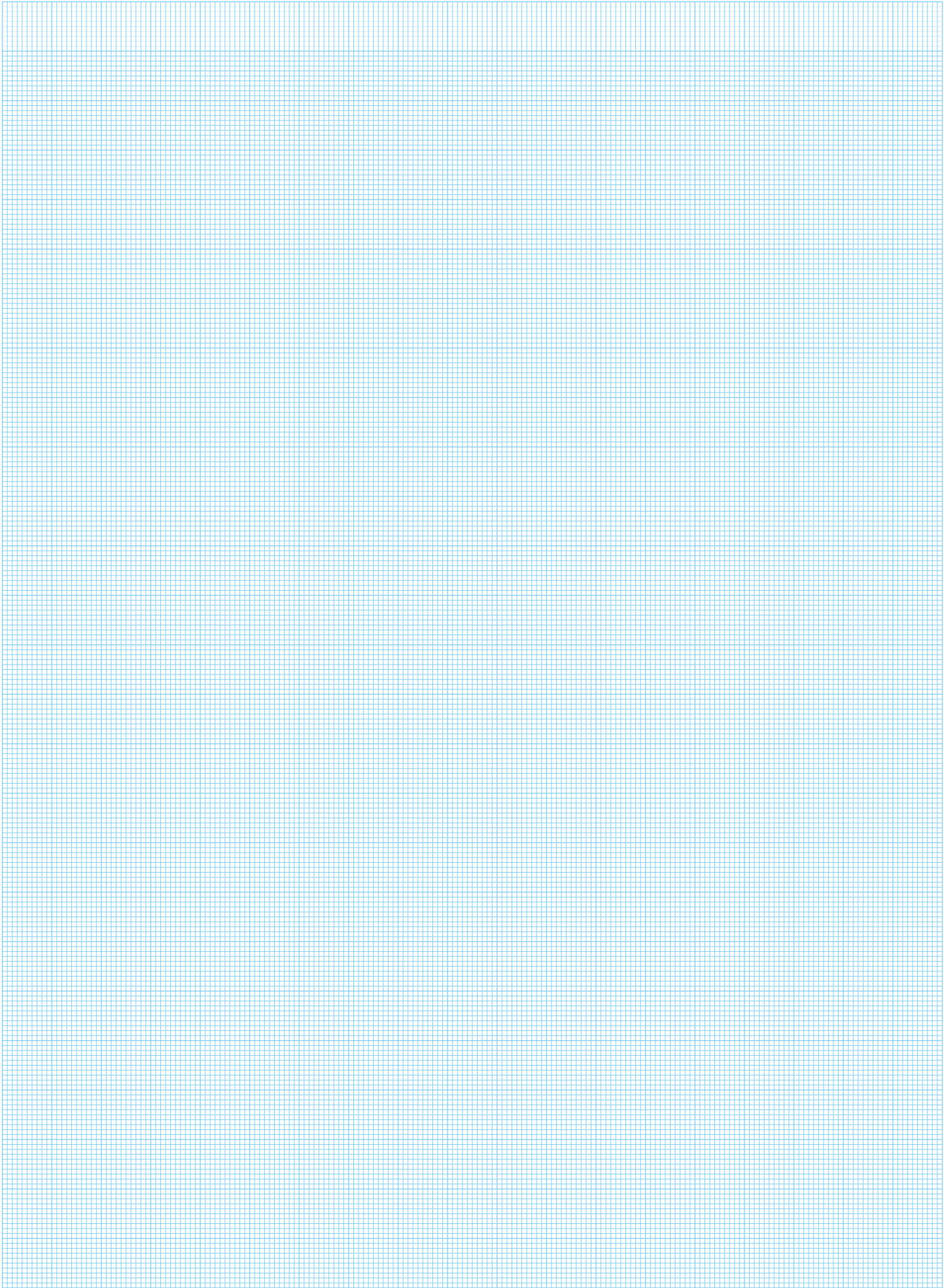
Grade 304L or Grade 316L Stainless Steel  
Various Loadings (See FACTA table)  
Single Seal  
Double Seal  
Triple Seal  
Fire Panels

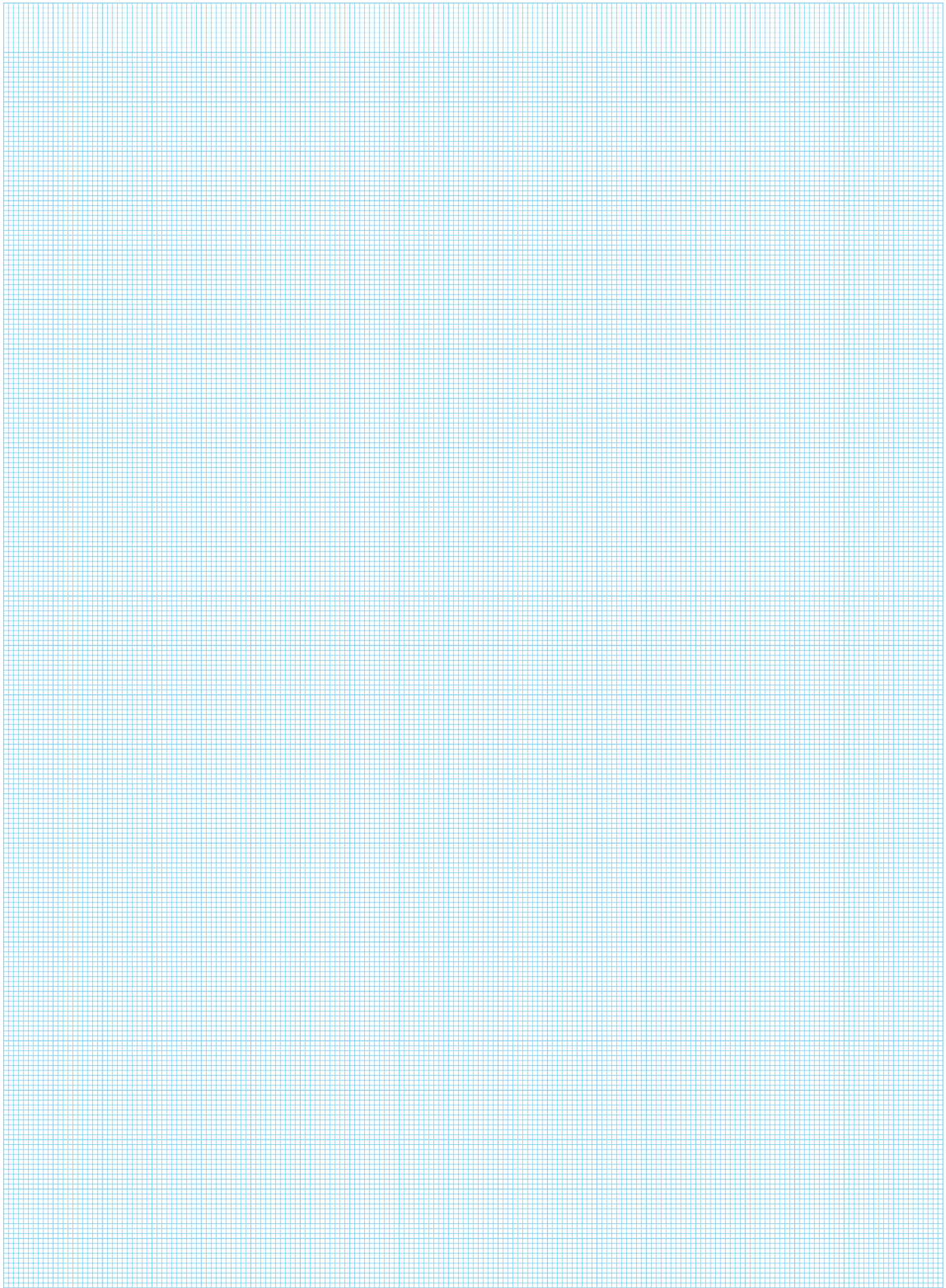
FACTA Class	Slow Moving Wheel Loads	Kent Safety Test (Unfilled)
A	0.6T	0.8T
AA	1.5T	3.1T
AAA	2.5T	5.2T
B	5T	10.1T
C	6.5T	13.2T
D	11T	22T















# Testimonials



. . . The in-house engineering completed by Kent Stainless and the knowledge and advice given to finalise the design was outstanding . . .

**Parsons**



. . . Because of the engineering know-how you provided and flexibility in design, we will certainly return to Kents for further work . . .

**Wexford County Council**



. . . The client and the main contractor both were delighted with the quality of the work supplied by Kent Stainless . . .

**Skanska**



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