

# GRP Composite Trench Covers



## Technical Guide

#coveringtheworld

FIBRELITE 



## Table of Contents

<b>Contents</b>	<b>Page</b>
Why Choose Fibrelite?	3
Durability / Test Reports / Accreditations / Conductive Options / Lifting Handles	4
Corrosion Resistant / Skid and Heat Resistance / Security	5
Coloured Covers / Frame or Rebate / Configurations / Custom Moulded	6
Industries Using Fibrelite Covers	7
Pre-Cast Concrete Trench Systems	8
Load Ratings from 1.5 Tonnes to 90 Tonnes	9
Frame Installation	10
Rebate Installation	11
Removable Support Beam Instructions	12
F900 (90 Tonnes) Covers	13
E600 (60 Tonnes) Covers	14
D400/H25 (40 Tonnes) Covers	15
C250 (25 Tonnes) Covers	16
US H20 (18 Tonnes, 40,000lbf) Covers	17
B125 (12.5 Tonnes) Covers	18
5 Tonne Covers	19
A15 (1.5 Tonnes) Covers	20



## Why Choose Fibrelite?

Fibrelite has been at the forefront of composite quality and innovation since 1980 when we designed the world's first GRP composite manhole cover for the retail petroleum industry. And our high-performance, lightweight and safe-to-lift composite covers – including the unique F900 load-rated trench cover – are now selected by specifiers, architects and engineers worldwide.



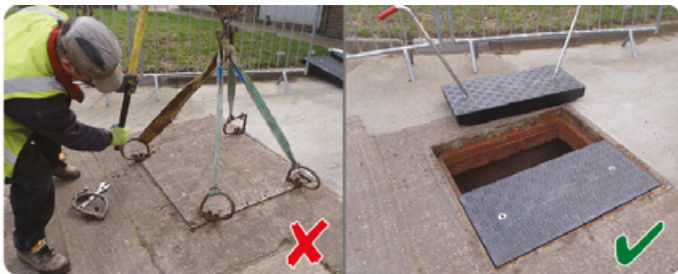
F900 Fibrelite covers installed at the UK's largest port



Fibrelite covers installed in UK's most iconic theatre

Although GRP composite covers are now increasingly preferred to the traditional metal or concrete options - not every composite cover is going to perform to the highest standards year after year.

With a Fibrelite trench cover you can be sure that you have a high performance product created via resin transfer moulding (RTM) to create a durable, monolithic cover that you can fit-and-forget. What's more, each one will have been individually engineered under the watchful eye of our technical teams in our own manufacturing facilities in the UK, USA and Malaysia.





## Durability

Designed as a 'fit-and-forget' product, our GRP composite covers are maintenance-free, durable and very strong as a matter of course.



## Our Load Test Reports

All our trench covers are independently tested in accordance with BS EN 124 criteria and not only meet but often surpass the relevant class conditions for deflection under load as demonstrated in the reports. Trench covers supplied for use in the US have also been independently tested to ensure that they meet AASHTO (American Association of State Highway & Transportation Officials) standards.

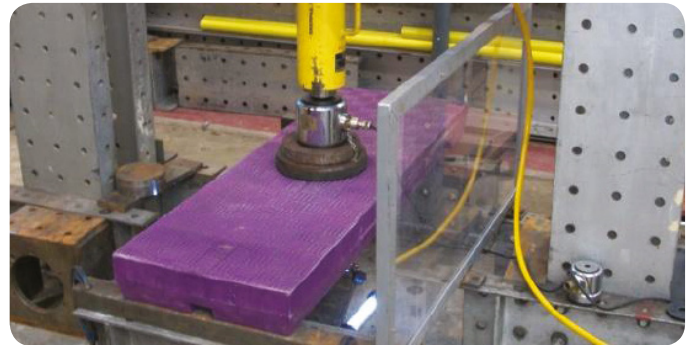


## Accreditations

Fibrelite has held accreditation to the ISO quality standard (ISO 9001:2008) and British Standards Kitemark since 1998 and this commitment to product excellence enables us to provide the most comprehensive range of high strength modular and custom-made trench covers with the very best strength to weight ratio available in the market today.

Our covers:

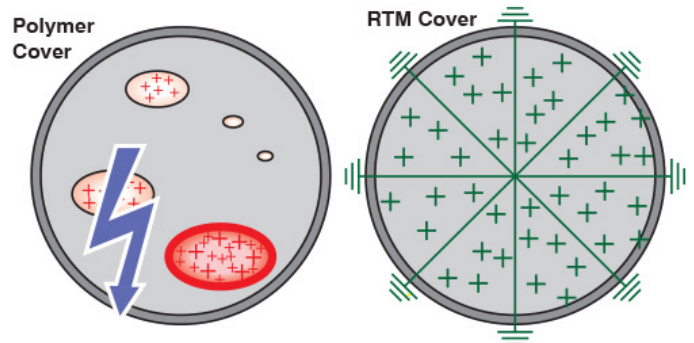
- exceed H20 and H25 load rating standards
- are BS EN 124 compliant
- are BSI Kitemark approved products



## Fully Conductive Options

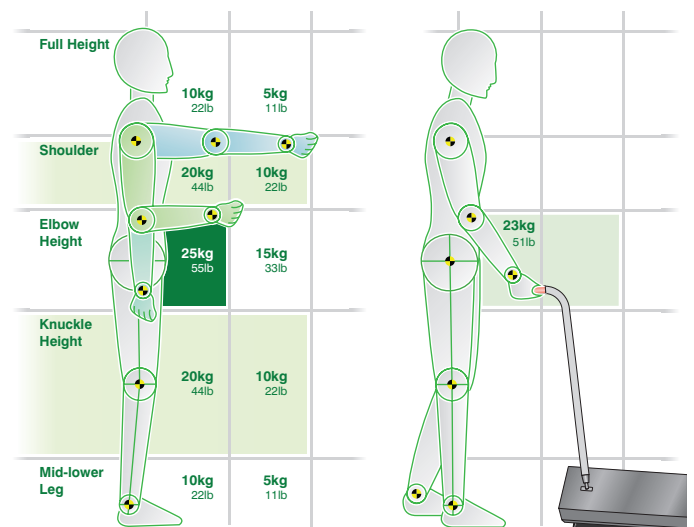
Potential electrostatic discharging can be eliminated by using the "fully conductive" Fibrelite cover which uses a Metalised fibre within the moulding process to achieve electrical continuity across the entire surface of the cover. Such covers exceed the surface resistivity requirements of PAS26.

The standard calls out for a maximum value of 1 KΩ/cm², the Fibrelite cover actually achieves a value of 0.0144 KΩ/cm².



## Ergonomically Designed Lifting Handle

As well as being lightweight – typically a third of the weight of an equivalent-size cover produced in metal or concrete - the ergonomically designed lifting aid has the added benefit of eliminating the risk of back injury and crushed fingers.



The Health & Safety Executive recommended load moving capabilities in relation to weight and position.

Fibrelite lifting method with a 1m (40") long C250 load rated trench cover. Weights are halved with a two person lift.



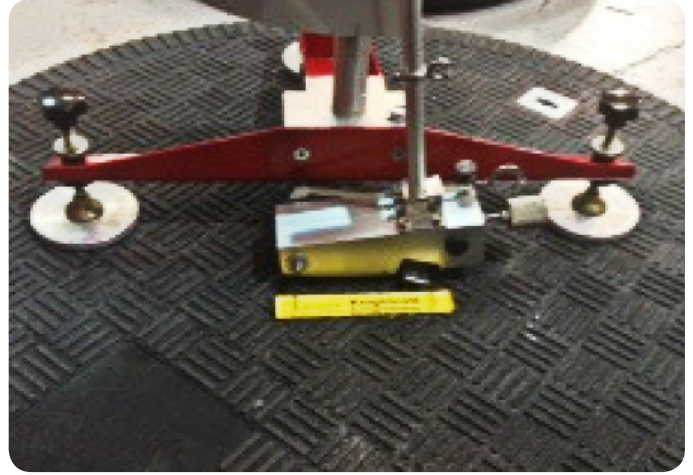
### Corrosion Resistance

A prime reason for selecting a composite cover is because of its inherent resistance to corrosion making it an obvious choice where water, wastewater or corrosive liquids are involved. They are also ideal where underground infrastructure requires protection from external corrosive compounds such as salt.



### Skid Resistance

Independent wet and dry tests carried out by Devon CC Materials Laboratory showed that Fibrelite trench covers – even when wet - had anti-slip properties equivalent to a modern high grade road surface which far exceeds health and safety advisory limits.



### Heat Resistance

The thermal gradient properties of a composite steam cover significantly reduces the heat transfer from a steam vault to the surface of the cover. Typically the surface temperature of a composite cover is only slightly above ambient temperature, even when subjected to extremely hot temperatures on the underside. In fact, the best high-quality Fibrelite steam covers maintain their cool-to-touch properties and ability to support vehicular loads even when pushed to a test temperature 400°F.



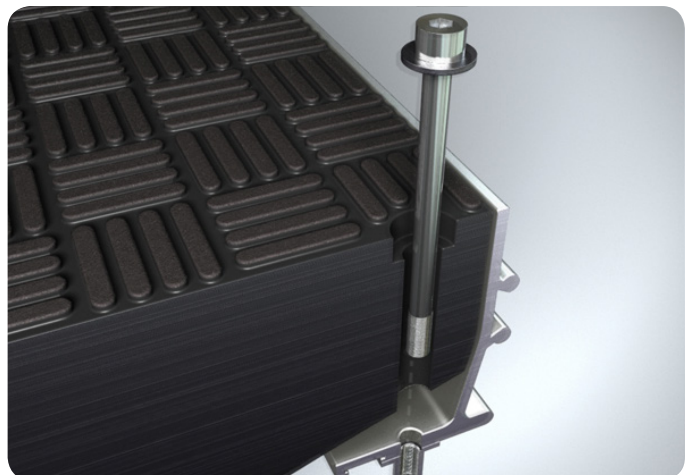
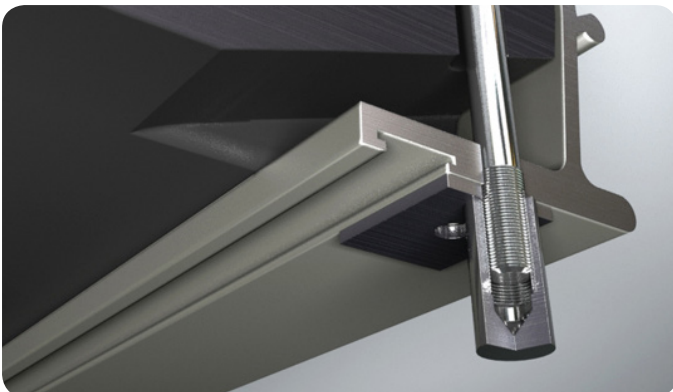
### No Risk of Theft

There is no risk of theft with a Fibrelite composite cover as composites have no resale value in the scrap market - so you won't be left with a dangerous, uncovered hole in the ground.



### Secure

Locks and restraining bolts available for added security.



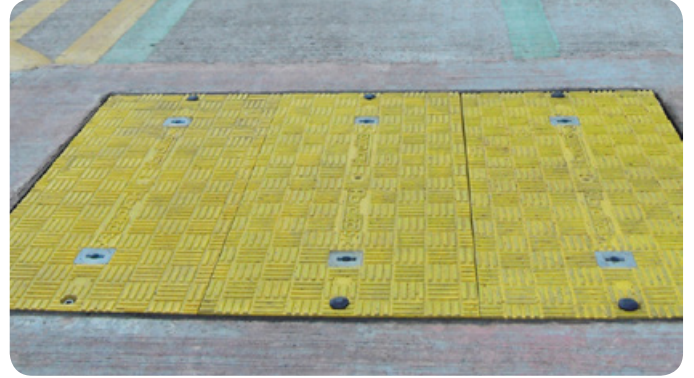


## Coloured Covers / Frame or Rebate / Custom Moulded

### Coloured Covers for Easy Identification

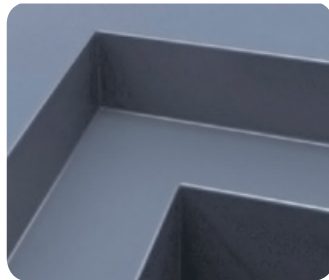
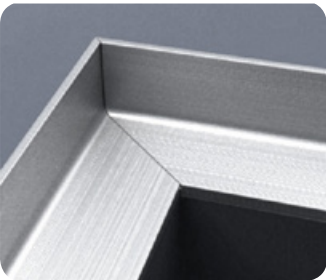
Fibrelite composite covers can also be moulded in virtually any colour or colour-combination and as the pigment is added into the resin during manufacture, there are no problems with the colour scratching or fading over time.

This means that covers can incorporate logos and/or be colour-coded to match a facility's branding or even to identify the specific underground service that can be accessed via a particular cover.



### Frame or Rebate Installation

Can be installed onto our Specialised frame or existing rebate.

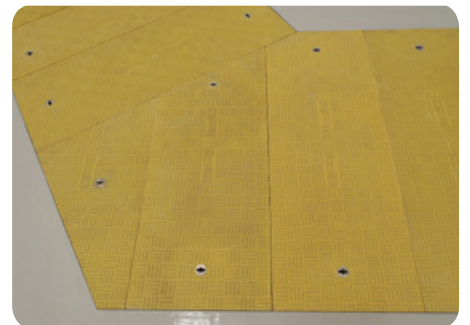
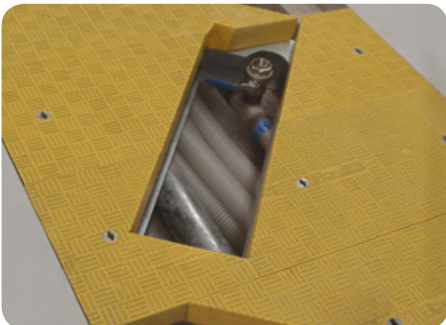


### Configurations

Covers can be custom moulded to Accommodate pipework entry, shallow depths with stepped cover profiles, steam and gas release vents, inspection ports and much more.



Fibrelite covers can be moulded and shaped to Accommodate almost any trench opening





## Industries Using Fibrelite Covers

### Commercial



Telecoms  
Data Centres  
Financial Centres  
Offices

### Education



Universities  
Schools  
Colleges  
Training Facilities

### Energy



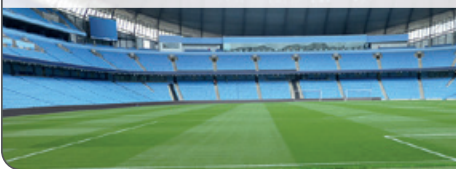
Power Stations  
Electric Sub-Stations  
Gas Sub-Stations  
Steam  
Geothermal  
Mining

### Food & Drink



Processing  
Storage  
Grease Pits  
Vineyards

### Leisure



Arenas  
Theatres  
Stadiums  
Marinas  
Restaurants  
Sport Centres  
Zoos  
Museums

### Manufacturing



Electrical  
Mechanical

### Military



### Pharmaceutical



### Public Sector



Roadways  
Hospitals  
Fire Service  
Police Stations  
Prisons  
Court Houses  
Municipalities

### Retail



Markets  
Shopping Centres  
Boutiques  
Auction Houses

### Retail Fuelling



### Space Industry



### Transportation



Docks  
Ports  
Canals  
Rail  
Airports  
Fleet Fuelling  
Bus Depots

### Water

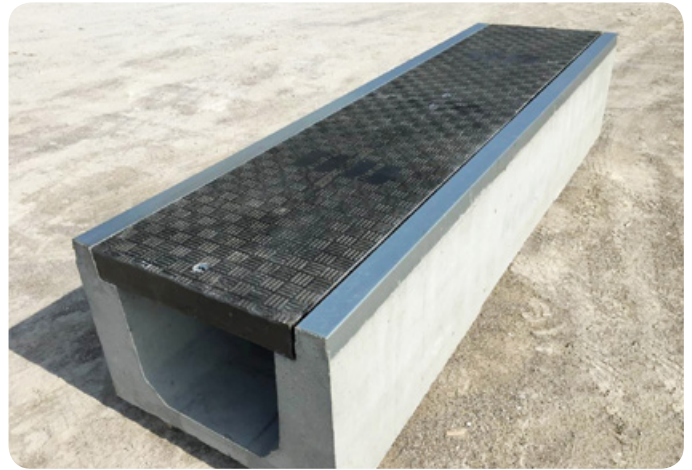
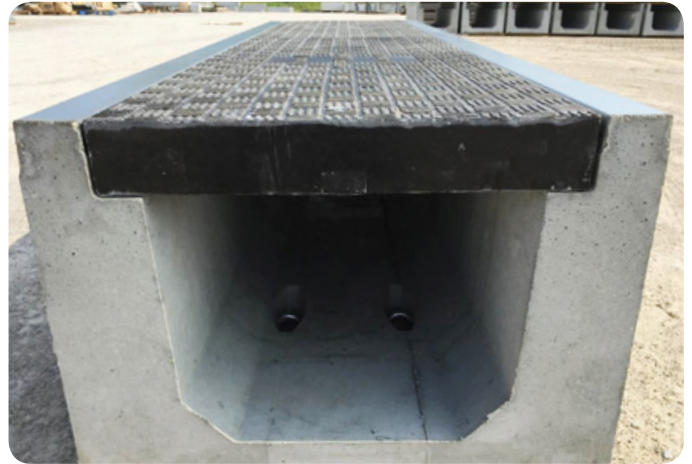
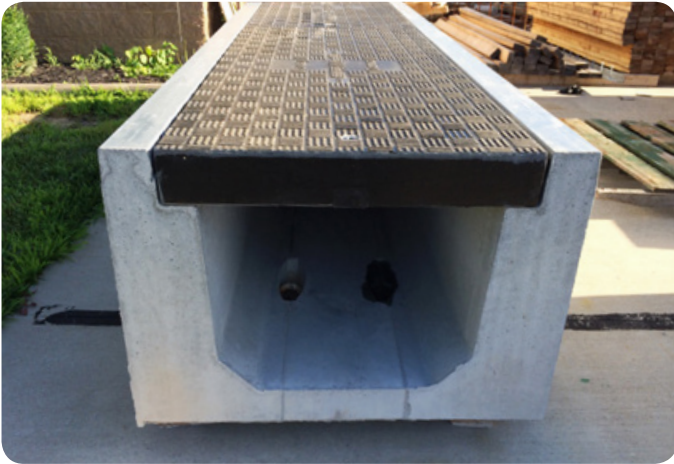


Drainage Solutions  
Treatment Plants  
Supply  
Storage  
Springs  
Flood Alleviation  
Transportation



## Pre-Cast Concrete Trenches

Due to Fibrelite's unique adjustable tooling arrangement we can provide GRP covering solutions for almost any pre-cast concrete trench layout.





# Load Ratings from 3,400lb / 1.5 Tonnes to 202,000lb / 90 Tonnes



Page 14

For loads of up to  
**135,000lb / 60 tonnes**

**Super Heavy Duty (E600)**  
For use in areas where high wheel loads are imposed such as loading areas



Page 16

For loads of up to  
**56,000lb / 25 tonnes**

**Standard Duty (C250)**  
For use in car parking lots, gas stations, industrial sites and areas with slow moving traffic



Page 18

For loads of up to  
**28,000lb / 12.5 tonnes**

**Light Duty (B125)**  
For use in car parking lots and pedestrian areas where only occasional vehicular access is likely



Page 20

For loads of up to  
**3,400lb / 1.5 tonnes**

**Super Light Duty (A15)**  
For use in areas where only pedestrians have access

For loads of up to  
**202,000lb / 90 tonnes**

**Extreme Heavy Dty (F900)**  
For use in areas where extremely high wheel loads are imposed such as docks



Page 13

For loads of up to  
**90,000lb / 40 tonnes**

**Heavy Duty (HS25/D400)**  
For use in areas with frequent bus or heavy truck traffic, including carriage ways, hard shoulders and pedestrian areas



Page 15

For loads of up to  
**40,000lb / 18 tonnes**

**Standard Duty US (HS20)**  
for use in traffic service areas as per AASHTO standard



Page 17

For loads of up to  
**11,200lb / 5 tonnes**

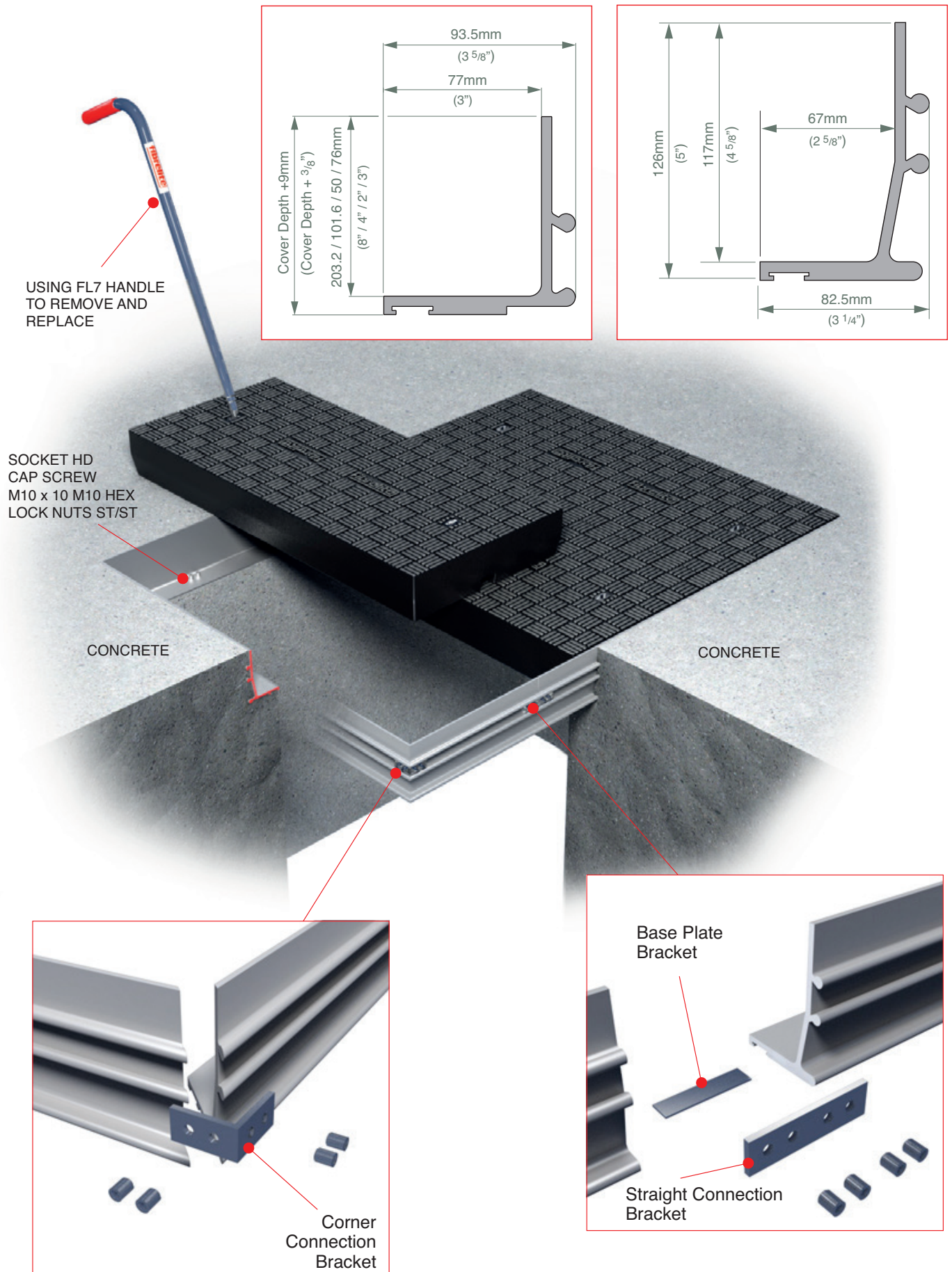
**Medium Light Duty**  
For use in raised curb locations where light vehicular access is a possibility



Page 19



## Frame Installations



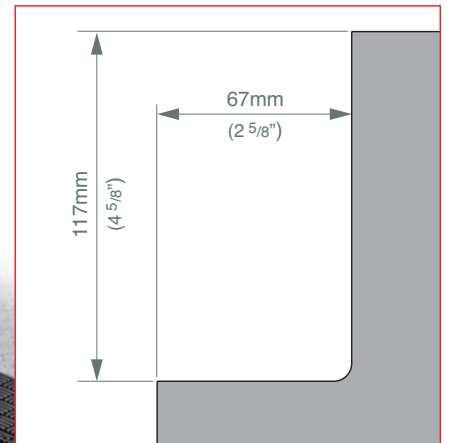


## Rebate Installations

USING FL7 HANDLE  
TO REMOVE AND  
REPLACE

CONCRETE

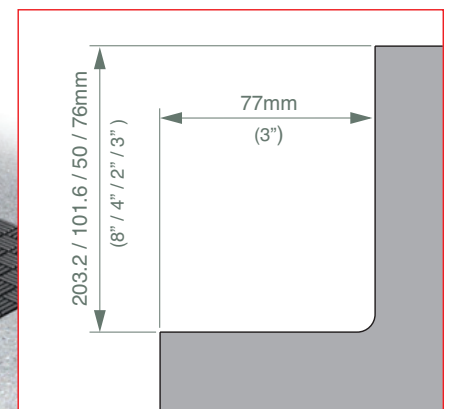
CONCRETE



USING FL7 HANDLE  
TO REMOVE AND  
REPLACE

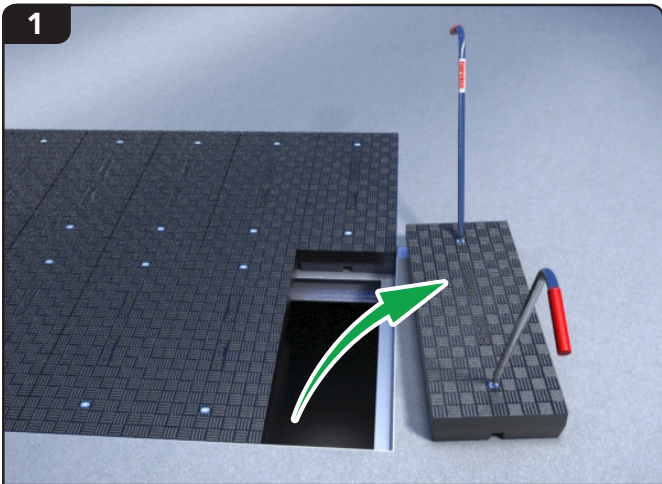
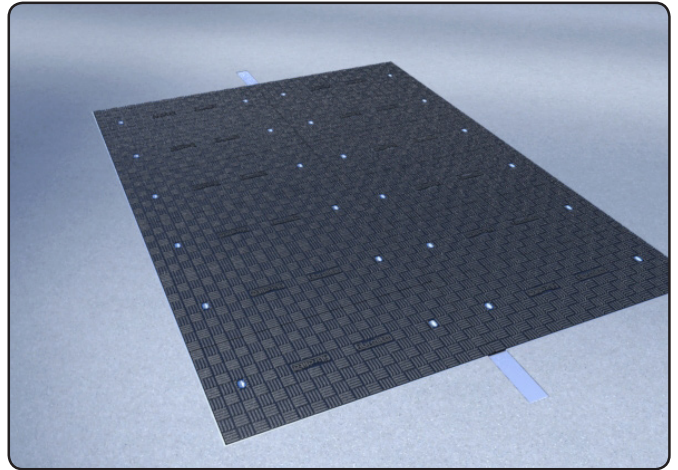
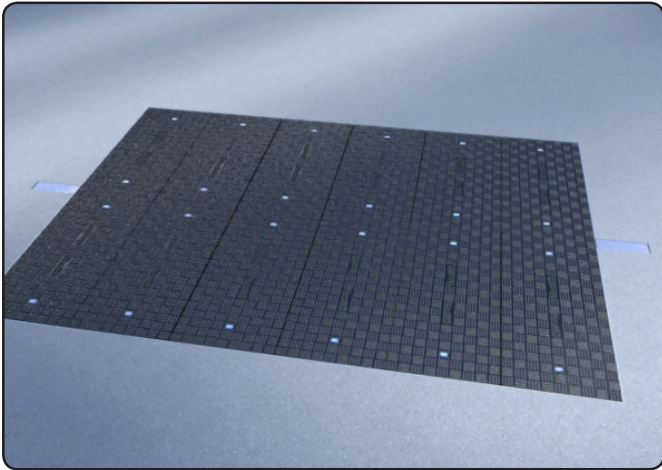
CONCRETE

CONCRETE

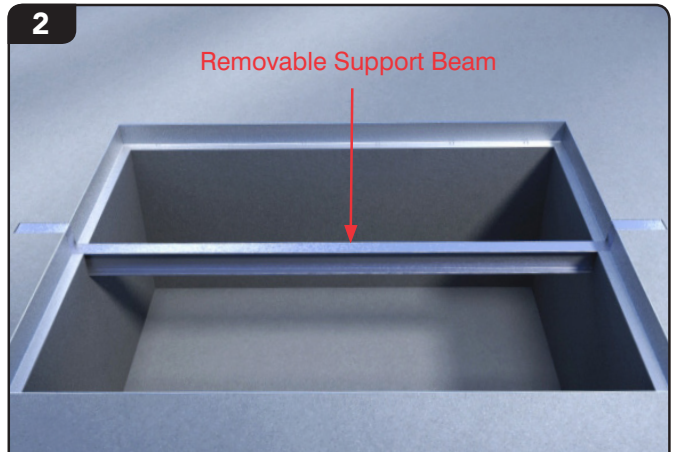




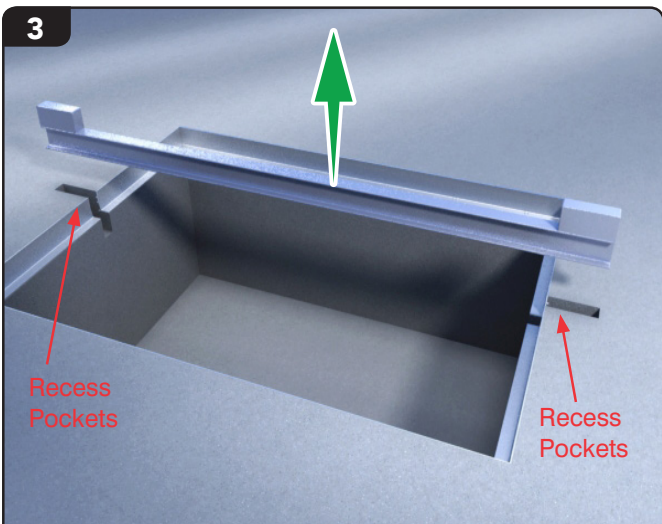
## Removable Support Beam Instructions



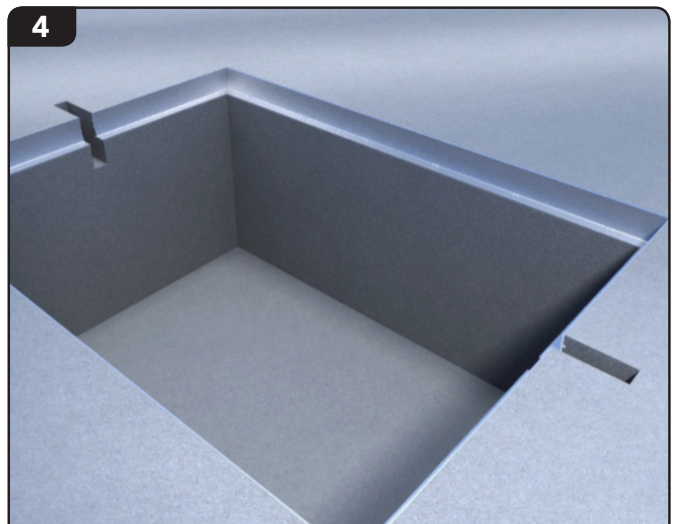
Remove covers.



Remove all covers to expose the removable support beam(s).



Remove the removable support beam(s) from the recess pockets in the concrete. This must be performed using appropriate lifting equipment.

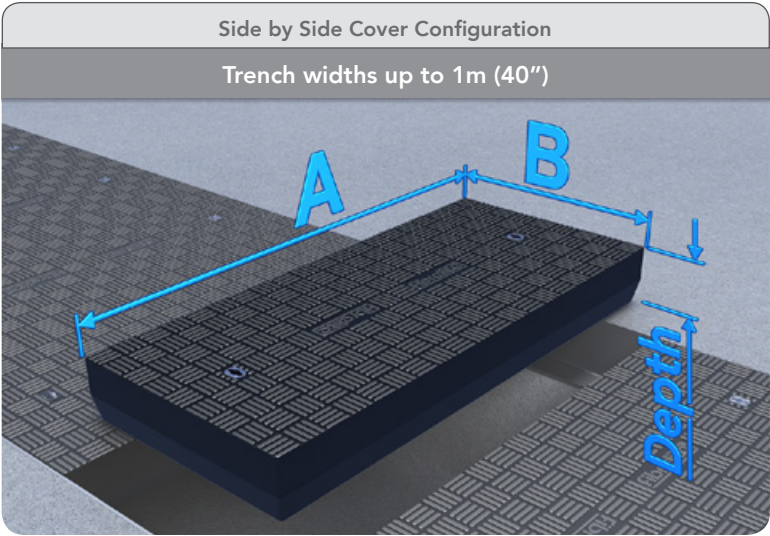


Once the removable support beam(s) is removed full working access to the pit/trench is gained.

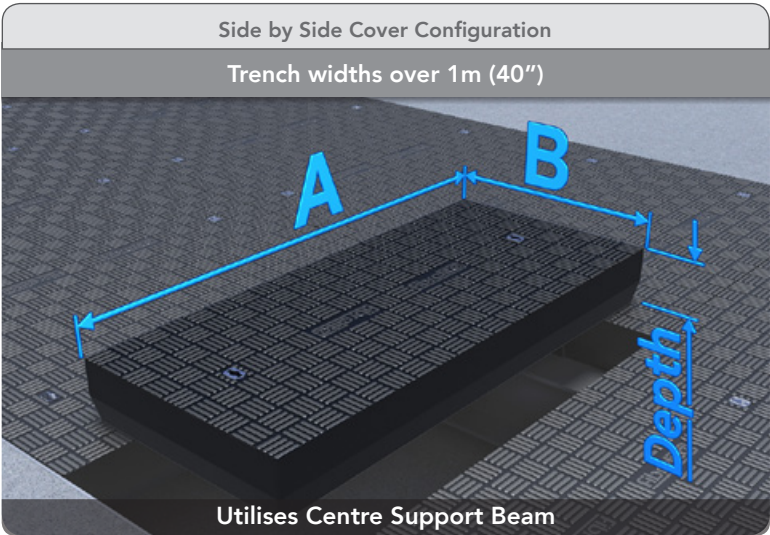


Extreme Heavy Duty F900 Trench Covers

202,000lb / 90 Tonnes



Dim 'A'	Dim 'B'	Depth	Weight
300 -1000mm (12" - 40")	450mm (18")	117mm (4 5/8")	160 kg/M² (33 lbs/ft²)



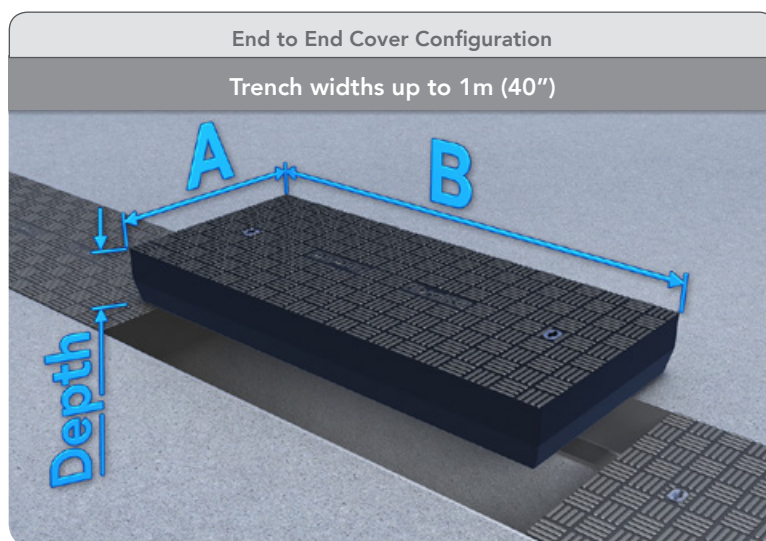
Dim 'A'	Dim 'B'	Depth	Weight
300 -1000mm (12" - 40")	450mm (18")	117mm (4 5/8")	160 kg/M² (33 lbs/ft²)

Note: For trench widths over 2m (80"), please contact Fibrelite

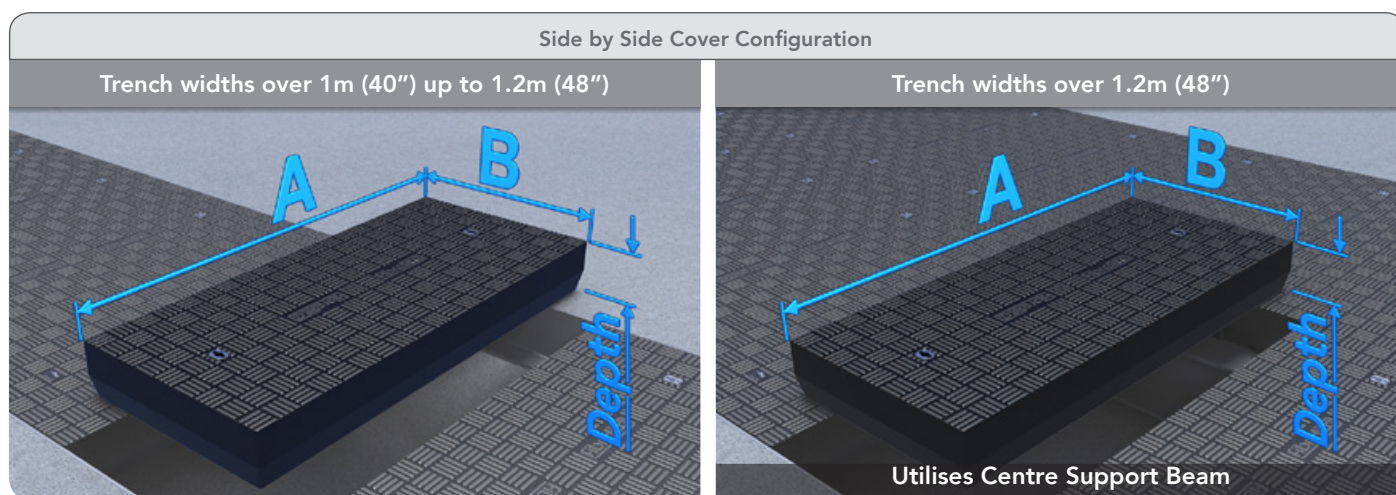


## Super Heavy Duty E600 Trench Covers

135,000lb / 60 Tonnes



Dim 'A'	Dim 'B'	Depth	Weight
300 - 600mm (12" - 24")	450 - 1200mm (18" - 48")	117mm (4 <sup>5</sup> / <sub>8</sub> " )	88 kg/M <sup>2</sup> (18 lbs/ft <sup>2</sup> )
650 - 1000mm (14" - 40")	450 - 700mm (18" - 28")	117mm (4 <sup>5</sup> / <sub>8</sub> " )	95 kg/M <sup>2</sup> (19 lbs/ft <sup>2</sup> )
300 - 1000mm (12" - 40")	450 - 500mm (18" - 20")	203.2mm (8")	121 kg/M <sup>2</sup> (25 lbs/ft <sup>2</sup> )

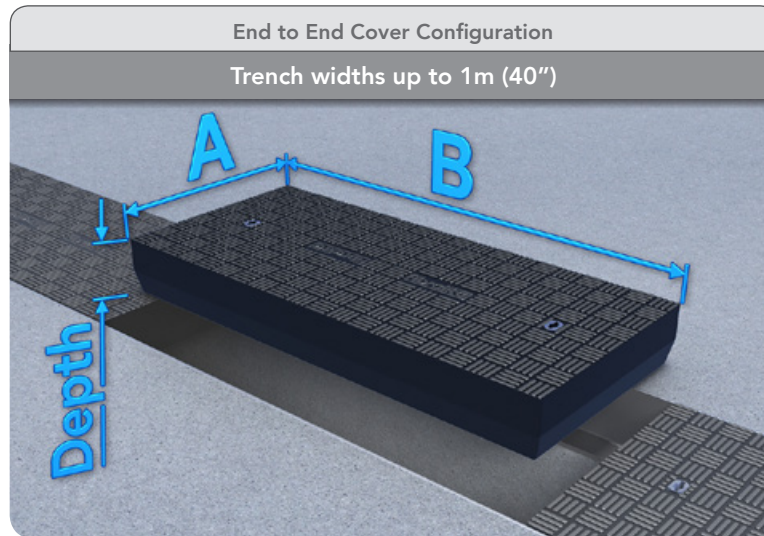


Dim 'A'	Dim 'B'	Depth	Weight
1000 - 1200mm (40" - 48")	450mm (18")	117mm (4 <sup>5</sup> / <sub>8</sub> " )	133 kg/M <sup>2</sup> (27 lbs/ft <sup>2</sup> )

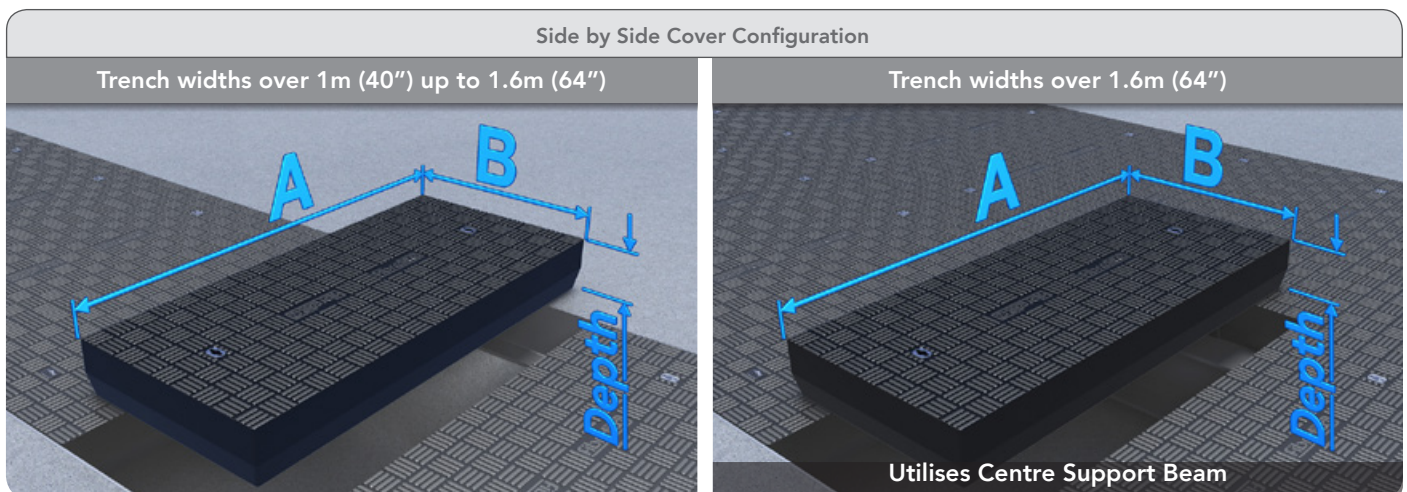


## Heavy Duty D400/H25 Trench Covers

90,000lb / 40 Tonnes



Dim 'A'	Dim 'B'	Depth	Weight
300 - 600mm (12" - 24")	450 - 1600mm (18" - 64")	117mm (4 <sup>5</sup> / <sub>8</sub> ")	65 kg/M <sup>2</sup> (13 lbs/ft <sup>2</sup> )
650 - 1000mm (26" - 40")	450 - 1000mm (18" - 40")	117mm (4 <sup>5</sup> / <sub>8</sub> ")	65 kg/M <sup>2</sup> (13 lbs/ft <sup>2</sup> )
300 - 1000mm (12" - 40")	450 - 600mm (18" - 24")	203.2 mm (8")	96 kg/M <sup>2</sup> (20 lbs/ft <sup>2</sup> )

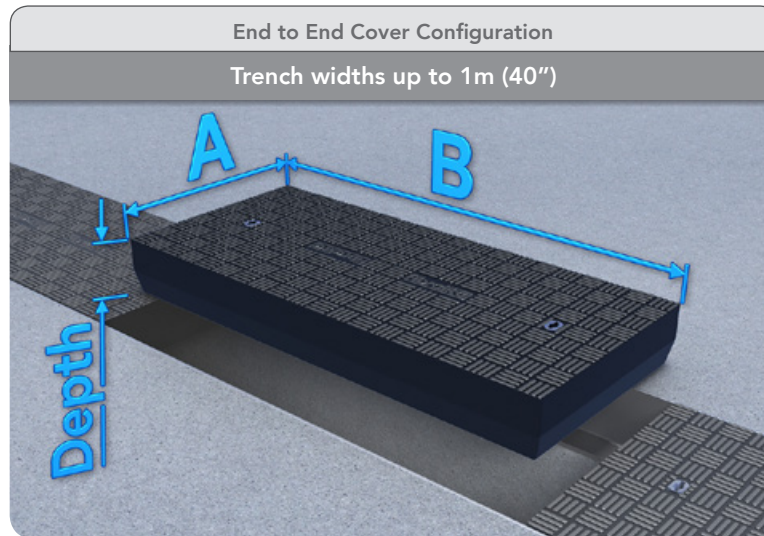


Dim 'A'	Dim 'B'	Depth	Weight
1000 - 1200mm (40" - 48")	450 - 600mm (18" - 24")	117mm (4 <sup>5</sup> / <sub>8</sub> ")	85 kg/M <sup>2</sup> (17 lbs/ft <sup>2</sup> )
1250 - 1350mm (50" - 54")	450mm (18")	117mm (4 <sup>5</sup> / <sub>8</sub> ")	100 kg/M <sup>2</sup> (20 lbs/ft <sup>2</sup> )
1400 - 1600mm (56" - 64")	450mm (18")	117mm (4 <sup>5</sup> / <sub>8</sub> ")	133 kg/M <sup>2</sup> (27 lbs/ft <sup>2</sup> )

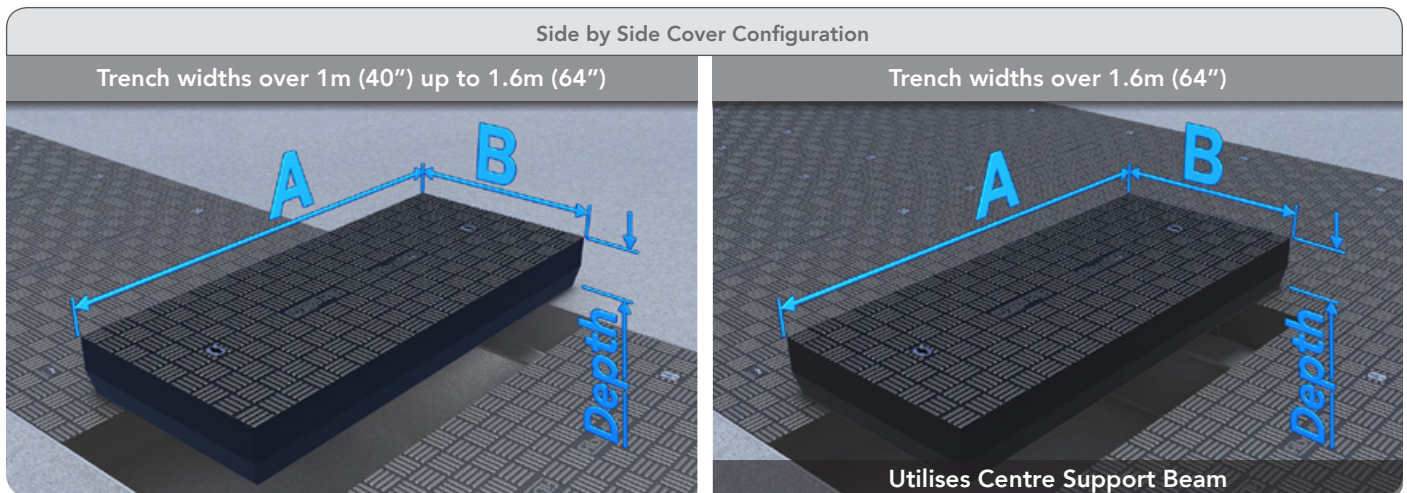


## Standard Duty C250 Trench Covers

56,000lb / 25 Tonnes



Dim 'A'	Dim 'B'	Depth	Weight
300 - 700mm (12" - 28")	450 - 1800mm (18" - 72")	76mm (3")	48 kg/M <sup>2</sup> (10 lbs/ft <sup>2</sup> )
700 - 1000mm (28" - 40")	900 - 1200mm (36" - 48")	76mm (3")	48 kg/M <sup>2</sup> (10 lbs/ft <sup>2</sup> )
300 - 1000mm (12" - 40")	600 - 1200mm (24" - 48")	101.6mm (4")	46 kg/M <sup>2</sup> (9 lbs/ft <sup>2</sup> )
300 - 500mm (12" - 20")	450 - 1800mm (18" - 72")	117mm (4 5/8")	60 kg/M <sup>2</sup> (12 lbs/ft <sup>2</sup> )
500 - 1000mm (20" - 40")	450 - 1000mm (18" - 40")	117mm (4 5/8")	60 kg/M <sup>2</sup> (12 lbs/ft <sup>2</sup> )
300 - 1000mm (12" - 40")	450 - 700mm (18" - 28")	203.2mm (8")	83 kg/M <sup>2</sup> (17 lbs/ft <sup>2</sup> )

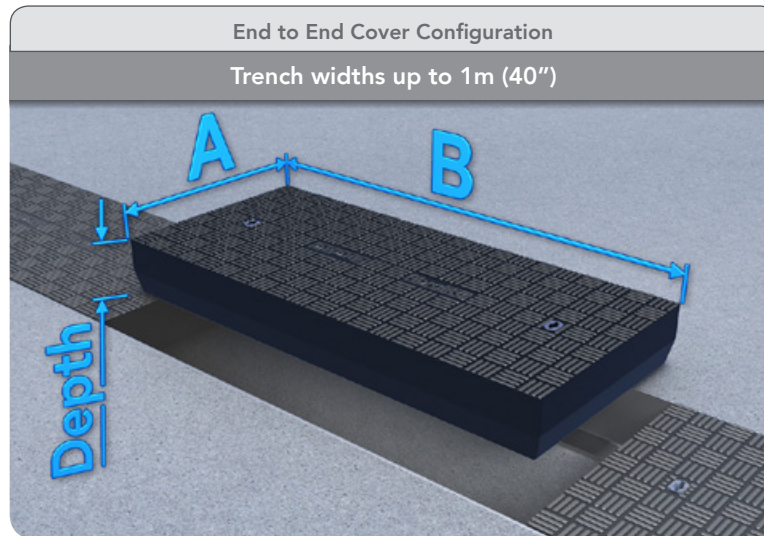


Dim 'A'	Dim 'B'	Depth	Weight
1000 - 1200mm (40" - 48")	450 - 800mm (18" - 32")	117mm (4 5/8")	60 kg/M <sup>2</sup> (12 lbs/ft <sup>2</sup> )
1200 - 1400mm (48" - 56")	450 - 700mm (18" - 28")	117mm (4 5/8")	67 kg/M <sup>2</sup> (14 lbs/ft <sup>2</sup> )
1400 - 1600mm (56" - 64")	450 - 500mm (18" - 20")	117mm (4 5/8")	75 kg/M <sup>2</sup> (15 lbs/ft <sup>2</sup> )
1000 - 1200mm (40" - 48")	450 - 600mm (18" - 24")	203.2mm (8")	83 kg/M <sup>2</sup> (17 lbs/ft <sup>2</sup> )
1200 - 1400mm (48" - 56")	450 - 500mm (18" - 20")	203.2mm (8")	83 kg/M <sup>2</sup> (17 lbs/ft <sup>2</sup> )

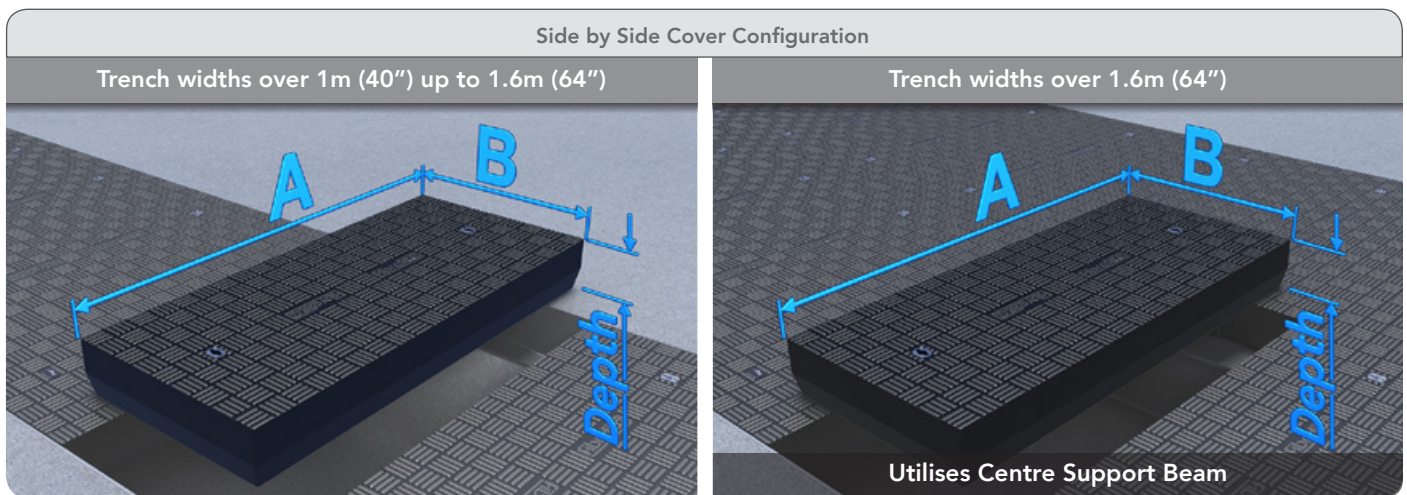


## Standard Duty US H20 Trench Covers

40,000lb / 18 Tonnes (40,000lbf)



Dim 'A'	Dim 'B'	Depth	Weight
300 - 800mm (12" - 32")	450 - 1800mm (18" - 72")	76mm (3")	44 kg/M <sup>2</sup> (9 lbs/ft <sup>2</sup> )
300 - 1000mm (12" - 40")	450 - 1800mm (18" - 72")	101.6mm (4")	40 kg/M <sup>2</sup> (8 lbs/ft <sup>2</sup> )
300 - 1000mm (12" - 40")	450 - 1800mm (18" - 72")	117mm (4 5/8")	44 kg/M <sup>2</sup> (9 lbs/ft <sup>2</sup> )
300 - 1000mm (12" - 40")	450 - 900mm (18" - 36")	203.2mm (8")	61 kg/M <sup>2</sup> (12 lbs/ft <sup>2</sup> )
300 - 800mm (12" - 32")	450 - 1200mm (18" - 48")	203.2mm (8")	61 kg/M <sup>2</sup> (12 lbs/ft <sup>2</sup> )
300 - 600mm (12" - 24")	450 - 1600mm (18" - 64")	203.2mm (8")	61 kg/M <sup>2</sup> (12 lbs/ft <sup>2</sup> )

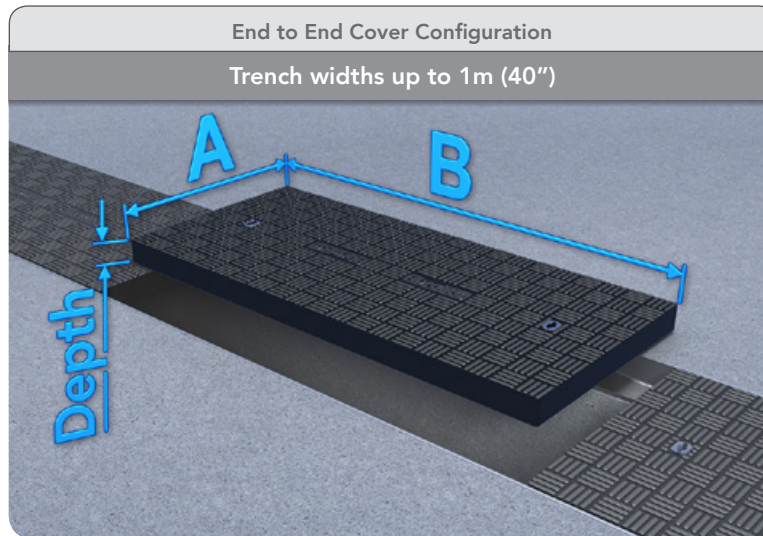


Dim 'A'	Dim 'B'	Depth	Weight
1000 - 1200mm (40" - 48")	450 - 900mm (18" - 36")	101.6mm (4")	55 kg/M <sup>2</sup> (11 lbs/ft <sup>2</sup> )
1000 - 1400mm (40" - 56")	450 - 1000mm (18" - 40")	117mm (4 5/8")	52 kg/M <sup>2</sup> (11 lbs/ft <sup>2</sup> )
1400 - 1600mm (56" - 64")	700 - 1000mm (28" - 40")	117mm (4 5/8")	52 kg/M <sup>2</sup> (11 lbs/ft <sup>2</sup> )
1000 - 1200mm (40" - 48")	450 - 600mm (18" - 24")	203.2mm (8")	61 kg/M <sup>2</sup> (12 lbs/ft <sup>2</sup> )
1200 - 1600mm (48" - 64")	450 - 800mm (18" - 32")	203.2mm (8")	61 kg/M <sup>2</sup> (12 lbs/ft <sup>2</sup> )

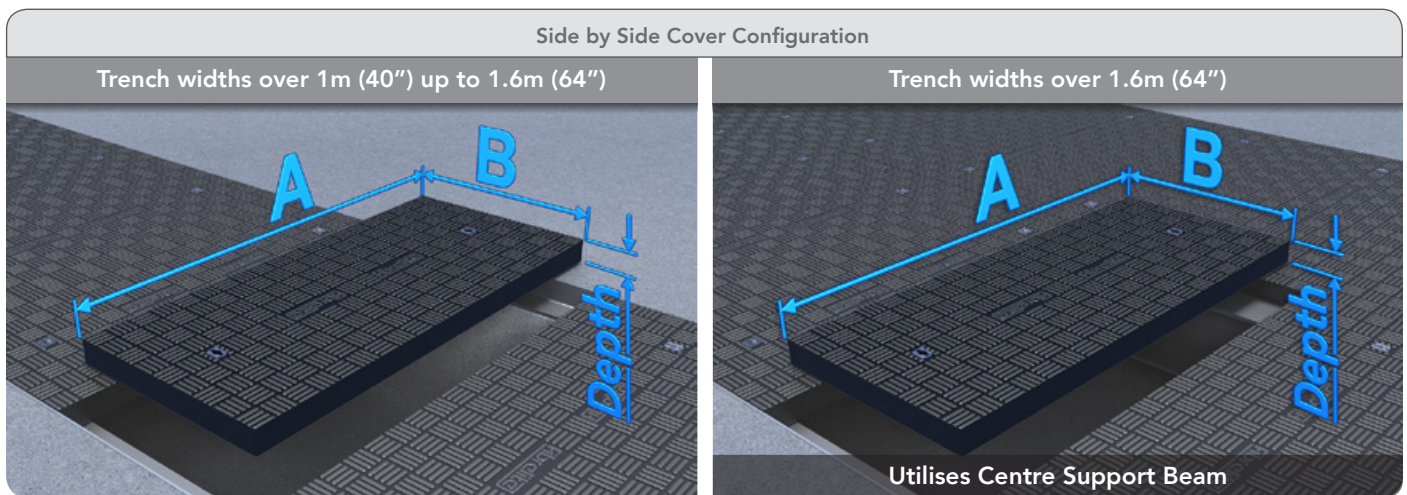


## Light Duty B125 Trench Covers

28,000lb / 12.5 Tonnes



Dim 'A'	Dim 'B'	Depth	Weight
300 - 800mm (12" - 32")	450 - 1800mm (18" - 72")	50mm (2")	35 kg/M <sup>2</sup> (7 lbs/ft <sup>2</sup> )
300 - 1000mm (12" - 40")	450 - 1800mm (18" - 72")	76mm (3")	42 kg/M <sup>2</sup> (9 lbs/ft <sup>2</sup> )
300 - 1000mm (12" - 40")	450 - 1600mm (18" - 64")	101.6mm (4")	42 kg/M <sup>2</sup> (9 lbs/ft <sup>2</sup> )
300 - 800mm (12" - 32")	450 - 1600mm (18" - 64")	117mm (4 5/8")	43 kg/M <sup>2</sup> (9 lbs/ft <sup>2</sup> )
800 - 1000mm (32" - 40")	450 - 1400mm (18" - 56")	117mm (4 5/8")	43 kg/M <sup>2</sup> (9 lbs/ft <sup>2</sup> )
300 - 1000mm (12" - 40")	450 - 900mm (18" - 36")	203.2mm (8")	61 kg/M <sup>2</sup> (12 lbs/ft <sup>2</sup> )

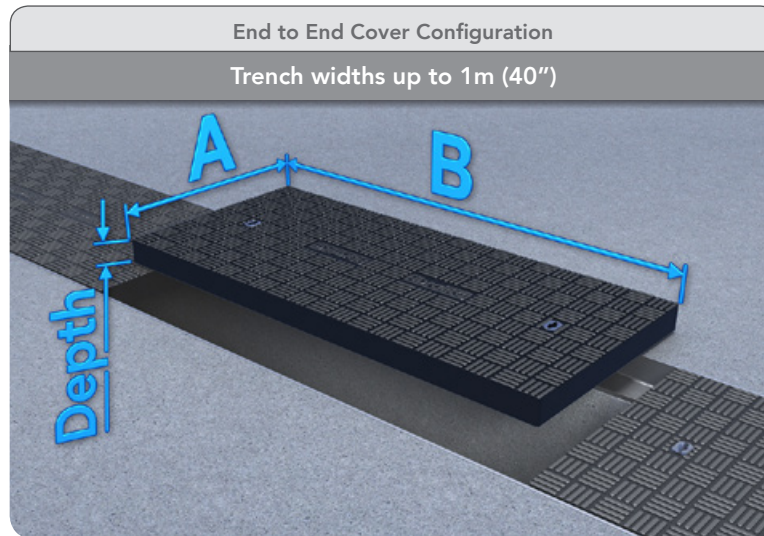


Dim 'A'	Dim 'B'	Depth	Weight
1000 - 1200mm (40" - 48")	450 - 800mm (18" - 32")	76mm (3")	52 kg/M <sup>2</sup> (11 lbs/ft <sup>2</sup> )
1000 - 1500mm (40" - 60")	450 - 800mm (18" - 32")	101.6mm (4")	48 kg/M <sup>2</sup> (10 lbs/ft <sup>2</sup> )
1000 - 1600mm (40" - 64")	450 - 700mm (18" - 28")	117mm (4 5/8")	53 kg/M <sup>2</sup> (11 lbs/ft <sup>2</sup> )
1600 - 1800mm (40" - 72")	450 - 600mm (18" - 24")	117mm (4 5/8")	53 kg/M <sup>2</sup> (11 lbs/ft <sup>2</sup> )
1000 - 1600mm (40" - 64")	450 - 600mm (18" - 24")	203.2mm (8")	61 kg/M <sup>2</sup> (12 lbs/ft <sup>2</sup> )

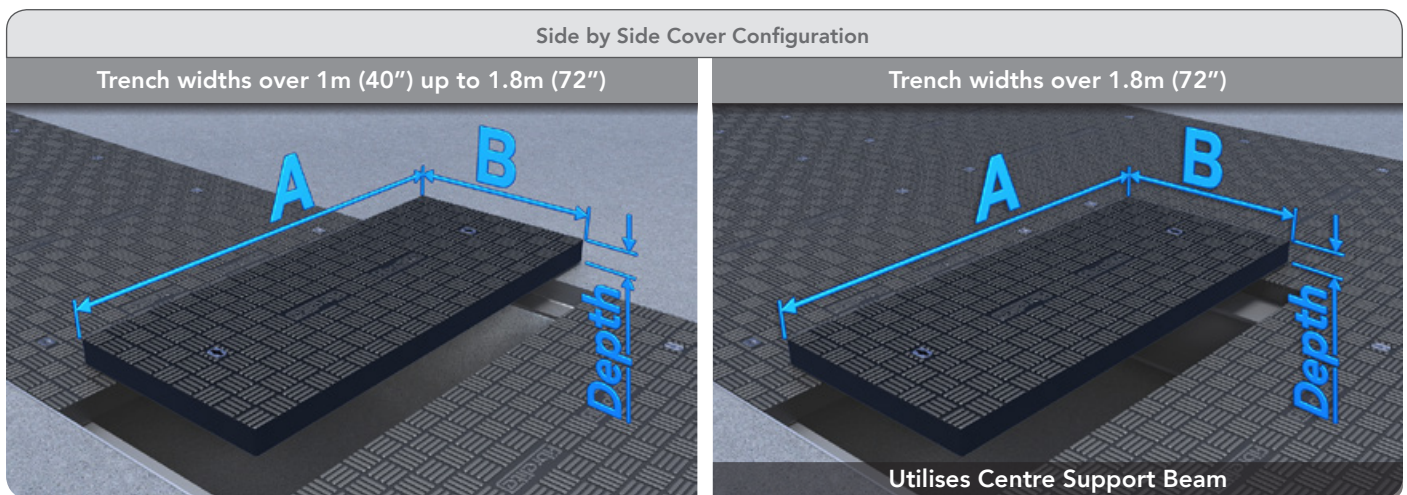


## Medium Light Duty

11,200lb / 5 Tonnes



Dim 'A'	Dim 'B'	Depth	Weight
300 - 1000mm (12" - 40")	450 - 1800mm (18" - 72")	50mm (2")	26 kg/M <sup>2</sup> (5 lbs/ft <sup>2</sup> )
300 - 1000mm (12" - 40")	450 - 1800mm (18" - 72")	76mm (3")	30 kg/M <sup>2</sup> (6 lbs/ft <sup>2</sup> )
300 - 1000mm (12" - 40")	450 - 1800mm (18" - 72")	101.6mm (4")	32 kg/M <sup>2</sup> (7 lbs/ft <sup>2</sup> )
300 - 1000mm (12" - 40")	450 - 1800mm (18" - 72")	117mm (4 5/8")	37 kg/M <sup>2</sup> (8 lbs/ft <sup>2</sup> )
300 - 1000mm (12" - 40")	450 - 1200mm (18" - 48")	203.2mm (8")	51 kg/M <sup>2</sup> (10 lbs/ft <sup>2</sup> )

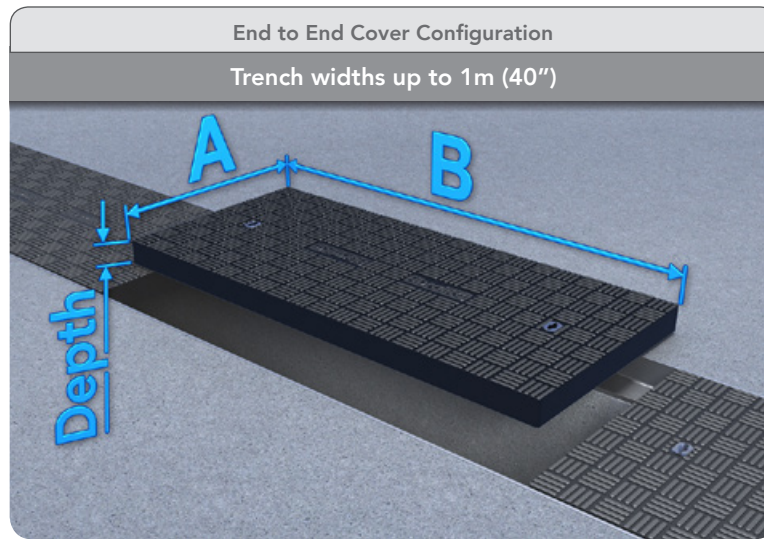


Dim 'A'	Dim 'B'	Depth	Weight
1000 - 1300mm (40" - 52")	450 - 1000mm (18" - 40")	50mm (2")	37 kg/M <sup>2</sup> (8 lbs/ft <sup>2</sup> )
1300 - 1500mm (52" - 60")	600 - 800mm (24" - 32")	50mm (2")	53 kg/M <sup>2</sup> (11 lbs/ft <sup>2</sup> )
1000 - 1600mm (40" - 64")	450 - 1000mm (18" - 40")	76mm (3")	33 kg/M <sup>2</sup> (7 lbs/ft <sup>2</sup> )
1000 - 1800mm (40" - 72")	450 - 1000mm (18" - 40")	101.6mm (4")	32 kg/M <sup>2</sup> (6.5 lbs/ft <sup>2</sup> )
1000 - 1800mm (40" - 72")	450 - 1000mm (18" - 40")	117mm (4 5/8")	35 kg/M <sup>2</sup> (7 lbs/ft <sup>2</sup> )
1000 - 1800mm (40" - 72")	450 - 600mm (18" - 24")	203.2mm (8")	51 kg/M <sup>2</sup> (10 lbs/ft <sup>2</sup> )

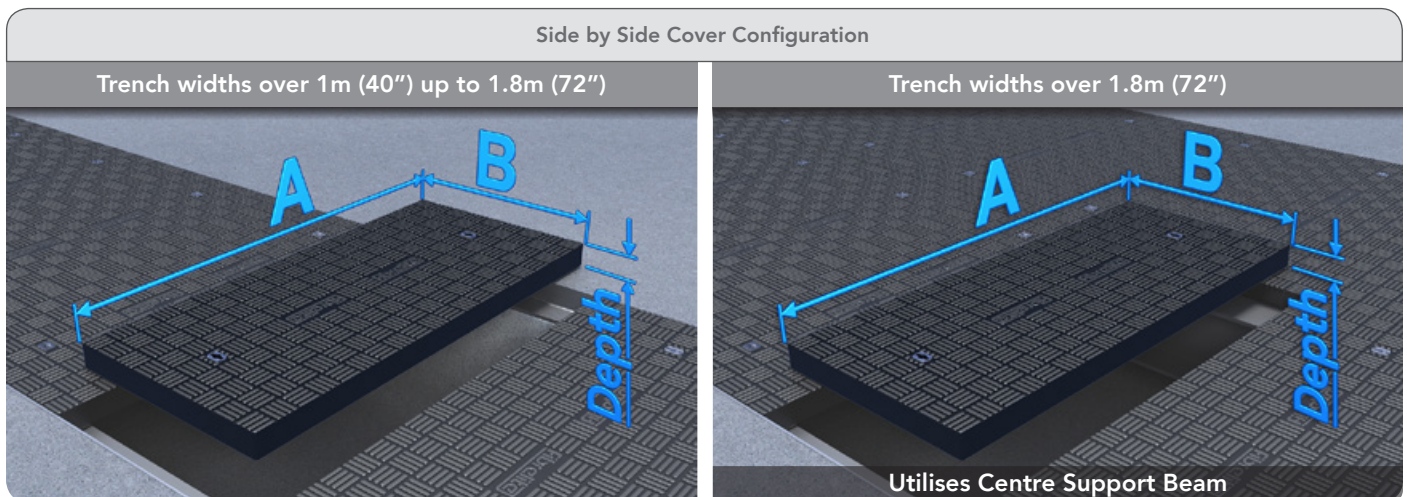


# Super Light Duty A15 Trench Covers

3,400lb / 1.5 Tonnes



Dim 'A'	Dim 'B'	Depth	Weight
300 - 1000mm (12" - 40")	600 - 1800mm (24" - 72")	50mm (2")	24 kg/M <sup>2</sup> (5 lbs/ft <sup>2</sup> )



Dim 'A'	Dim 'B'	Depth	Weight
1000 - 1800mm (40" - 72")	300 - 1000mm (12" - 40")	50mm (2")	24 kg/M <sup>2</sup> (5 lbs/ft <sup>2</sup> )

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