

UTILITY CASTINGS RANGE PRODUCT SPECIFICATION GUIDE



### PRODUCT **SPECIFICATION** GUIDE

### WELCOME

The new TD Foundry Utility Castings Range Product Specification Guide, has been designed to provide an easy to use overview and technical specifications for our products.

TD Foundry provides a comprehensive portfolio of castings and is able to call upon unrivalled expertise in design, development and manufacturing.

Having been a foundry since 1920, we also have the technical know how to identify and work with market-leading overseas foundries. We partner with these to source high quality larger castings which are outside of the scope of our production.

### THE TD FOUNDRY DIFFERENCE A UNIQUELY FLEXIBLE, PEOPLE DRIVEN ORGANISATION

- Foundry in the UK since 1920
- Family owned and managed business
- Experienced and award winning management teams
- Investing heavily in the latest state-of-the-art technology
- Exceptional quality control is employed throughout the business
- Advanced processes to offer assured casting integrity
- Castings comply 100% with British Standards; exceeding EU and KM standards
- Financially stable source of supply
- Heavy duty manhole covers and drain grates that are guaranteed to pass the required load tests
- Commitment to quality; offering on-site testing of customers existing castings free of charge to allow comparison of performance
- Disamatic, Kunkel Wagner and airset moulding lines provide the ability to select the perfect platform for each casting product

Our extensive expertise, state-of-the-art technology and exceptional quality control enable the TD Foundry range to be specified with confidence.

Get in touch with our dedicated specification team at: foundrysales@thomasdudley.co.uk



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DOUBLE TRIANGULAR COVERS AND FRAMES

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DROP-IN DOUBLE TRIANGULAR COVERS, GRATES

# **FINDING THE RIGHT PRODUCT**

Designs vary between manufacturers and are often changed, so you cannot simply replace the lid of a broken or missing cover, as you will have difficulty finding a lid to fit an existing frame. We work on what is known as the "clear opening" size. This is the size of the hole you wish to cover i.e. the hole in the cover slab or internal measurement of the brick or plastic chamber. Other dimensions such as the lid or frame dimensions can vary between manufacturers. The clear opening is always the same.

For gully grates - we need to know the size of the gully pot you are planning on using.



# **STANDARDS AND LOAD CLASSES**

There are three main third party standards which apply to utility castings and determine key criteria, such as load bearing ability.

These are:

Level 1. European Standard BS EN 124-2:2015

Level 2. British Standards Institute (BSI) 'Kitemark'

Level 3. Highways Authority Advice Note CD534



### EUROPEAN STANDARD BS EN 124-2:2015.

Access covers and gully grates installed in the UK should meet the requirements of the European Standard BS EN 124-2:2015.

This standard divides access covers and gully grates into a number of classes by static test load. It also categorises the various places where they may be installed from Group 1, the least demanding environment, through to Group 6, the most demanding. It provides guidance on the minimum class to be used against each installation group.

# **STANDARDS AND LOAD CLASSES**

The table below explains how weight loadings work, however, if you are still unsure of what you need then please give us a call and we will be happy to talk through your requirements.



A15	Areas which can only be used by pedestrians and o
B125	Footways, pedestrian and comparable areas, car park
C250	For gully tops installed in the area of kerbside chan extend a maximum of 0.5m into the carriageway
D400	Carriageways or roads (including pedestrian stree vehicles.
E600	Areas imposing high wheel loads, e.g. docks, aircra
F900	Areas imposing particularly high wheel loads, e.g.

### Group 1: Minimum Class A15

Access covers and gratings capable of withstanding a 15kN test load. For use in areas where only pedestrians have access.

### Group 2: Minimum Class B125

Access covers and gratings capable of withstanding a 125kN test load. For use in car parks and pedestrian areas where only occasional vehicular access is likely.

### Group 3: Minimum Class C250

Access covers and gratings capable of withstanding a 250kN test load. For use in car parks, forecourts, industrial sites and areas with slow moving traffic also in highway locations up to 500mm from the kerb and up to 200mm into the verge, excluding motorways.

### Group 4: Minimum Class D400

Access covers and gratings capable of withstanding a 400kN test load. For use in areas where cars and lorries have access, including carriageways, hard shoulders and pedestrian areas.

### Group 5: Minimum Class E600

Access covers and gratings capable of withstanding a 600kN test load. For use in areas where high wheel loads are imposed such as loading areas, docks or aircraft pavements.

### Group 6: Minimum Class F900

Access covers and gratings capable of withstanding a 900kN test load. For use in areas where particularly high wheel loads are imposed such as aircraft pavements.

### cyclists.

ks or car parking decks.

annels of roads which when measured from the kerb edge, y and a maximum of 0.2m into the footway.

ets), hard shoulders and parking areas, for all types of road

aft pavements.

aircraft pavements.

# **STANDARDS AND LOAD CLASSES**

### **BSI KITEMARK CERTIFICATION**

The BSI Kitemark BS 7903:1997 applies to products up to 1000mm c/o, as defined by EN 124-2 (see page 4). As a guide, the BSI standard is around 10% higher than BS EN 124-2.

### HIGHWAYS AUTHORITY ADVICE NOTE CD534 (FORMALLY HA 104/09)

The Highways Authority provides additional guidelines for road chamber top and gully top installations in trunk roads and motorways. These more rigorous requirements are intended to meet the demands of heavily trafficked areas and high tonnage commercial vehicles. The requirements include:

- Grade E600 shall be specified in all applications subjected to over 1,500 commercial vehicles per day.
- Minimum polished skid resistance value (PSRV) >60 in all high risk sites.
- 150mm frame depth.
- Depth of insertion to be no less than 80mm.

1

Though a product may be specified to comply with CD534, the guidelines come in the form of an Advisory Note and are not enforced as a standard.

Led by the Highways advisory notes, TD Foundry covers and grates, rated D400 and above, have all been designed with the following features, making them an ideal choice for highways -



Increased bearing pressure of the frame.



2 Anti-skid tread pattern provides skid resistance of 78 PSRV, suitable in high risk areas.



3 Gussets below the top of the frame by at least **25mm** and conform to BS7903.



Frames fitted in trunk roads and motorways should be at least 150mm deep.





6 Frames allow for a higher level of mortar adhesion.

# **CAN YOUR CASTINGS HANDLE THE PRESSURE?**

### MARKET-LEADING CASTINGS THAT EXCEED EUROPEAN AND KM **STANDARDS**

TD Foundry castings are manufactured to provide assured performance. Unlike many inferior products that break at loads far below those specified by British Standards, our heavy duty manhole covers and drain grates are guaranteed to 100% pass the required load tests. We're so committed to quality that we'll even test your existing castings free of charge to allow you to see how our castings compare.



# **BETTER BY DESIGN**

TD Foundry utility castings are engineered to deliver assured quality and performance.

Our vastly experienced UK team has employed state-of-the-art design and development technology to produce a range of castings that incorporates a host of innovative features. Many of these features are patent protected and help to make castings quicker, easier and safer to install and use.



In addition, our manhole covers, gratings and surface boxes are up to 25% lighter than their traditional counterparts. Here, our ground-breaking designs have enabled casting weight to be reduced without compromising strength and durability.

Instead, TD Foundry engineers have taken time to design castings that offer assured performance and not only comply fully with, but exceed British Standards. Stress testing simulation software has been used to pro-actively strengthen those parts of a casting that are subjected to most pressure in the field. We have also developed robust testing methodologies and are the only UK foundry to undertake testing in accordance with BS EN 124 - 2.

We have the expertise to re-engineer existing customer castings. These can be tested free of charge to establish whether they comply with British Standards. We can then reconfigure designs to improve performance whilst reducing weight and costs

# <image>

# AFTER

Casting broke at 461 KN in load test



# **UNIQUE FEATURES OF TD FOUNDRY**



UK designed castings, quality assured and Kitemarked



Flexibility and design expertise



Next day despatch / collection



TD Foundry brand D400 loadings and above suitable for use in Highways as standard, fully flanged and all covers have 80mm min depth of insertion



Patented unique design features; interference hinge for gratings and lift out hinge for covers, providing superior stability, quiet operation and safer operation



Free load testing available; we are one of the the only Foundries in the UK that can test to BS EN 124-2:2015

# PATENTED REMOVABLE HINGE



UNIQUE FEATURES



### BENEFITS

- Patented unique design features; lift out covers providing 135° hinging giving superior site safety and one man operation for virtually all sizes
- Option to remove covers completely provides additional safety for man entry requirements



FULLY OPEN TO 135° FOR SAFE ACCESS

# **GULLY GRATINGS & FRAMES**

FLAT AND DISHED

### FEATURES INC IN THE RANGE



**COMPLIES WITH** BS EN 124-2



CERTIFIED BY BSI



INTERFERENCE HINGE



LOCK & NON-LOCK VERSIONS







- Complies fully with

- Secure, tamper-proof lock and non-lock versions

OPENING (A) MM	FRAME (B) MM	TYPE
225 x 225	290 x 264	GULLY GRATE
225 x 225	290 x 264	GULLY GRATE
225 x 225	290 x 264	GULLY GRATE
225 x 225	290 x 264	GULLY GRATE
300 x 300	365 x 339	GULLY GRATE
300 x 300	365 x 339	GULLY GRATE
300 x 300	365 x 339	GULLY GRATE
300 x 300	365 x 339	GULLY GRATE

DISHED 334561

50

3 - SIDE

402CM<sup>2</sup>

~

# **C250KM DUCTILE IRON HINGED GULLY GRATING & FRAME**







### **KEY FEATURES**



BENEFITS

Complies fully with

BS EN 124-2:2015

intensity of traffic in

assured ductile iron

interference hinge

✓ Tight fit, non rattle





C250 APPLICATIONS



VERSIONS



### **SINGLE GRATINGS & FRAMES** FLAT AND DISHED



### FEATURES INC IN THE RANGE





INTERFERENCE HINGE

14





# **C250KM DUCTILE IRON HINGED GRATING & FRAME**





### **KEY FEATURES**



SECURE, TAMPER-PROOF

LOCK & NON-LOCK

VERSIONS

SUITS CLASS

C250 APPLICATIONS



- Complies fully with BS EN 124-2:2015 Standard- suitable for intensity of traffic in Class C250 applications
- Sengineered from quality assured ductile iron
- ✓ Tight fit, non rattle interference hinge
- Secure, tamper-proof lock and non-lock versions

CLEAR OPENING (A) MM	OVER FRAME (B) MM	ТҮРЕ	FLANGE DESIGN	DEPTH (C) MM	WATERWAY	LOCK	STYLE	CODE
340 x 310	494 x 394	GRATE & FRAME	3 - SIDE	75	602CM <sup>2</sup>		FLAT	330830
340 x 310	494 x 394	GRATE & FRAME	3 - SIDE	75	602CM <sup>2</sup>	~	FLAT	330973

# **D400KM DUCTILE IRON HINGED GRATING & FRAME**



# **KEY FEATURES**





SUITS CLASS SUITABLE FOR USE IN D400 APPLICATIONS HIGHWAYS

CLEAR OPENING A) MM	OVER FRAME (B) MM	ТҮРЕ	FLANGE DESIGN	DEPTH (C) MM	WATERWAY	LOCK	STYLE	CODE
365 x 310	519 x 395	GRATE & FRAME	3 - SIDE	100	400CM <sup>2</sup>	~	FLAT	330976
365 x 310	519 x 395	GRATE & FRAME	3 - SIDE	100	400CM <sup>2</sup>		FLAT	330829
390 x 315	540 x 466	GRATE & FRAME	4 - SIDE	100	730CM <sup>2</sup>		FLAT	334566
390 x 315	540 x 466	GRATE & FRAME	4 - SIDE	100	730CM <sup>2</sup>	~	FLAT	334230
390 x 315	540 x 466	GRATE & FRAME	4 - SIDE	100	740CM <sup>2</sup>		DISHED	334567
390 x 315	540 x 466	GRATE & FRAME	4 - SIDE	100	740CM <sup>2</sup>	~	DISHED	334175

\*TABLE CONTINUED OVERLEAF

COMPLIES WITH

D400

### **BENEFITS**

- Complies fully with BS EN 124-2:2015 suitable for intensity of traffic in Class D400 applications
- Sensineered from quality assured ductile iron
- Il tight fit, non rattle interference hinged (inc double triangular non-rock) as standard
- Available with secure, tamper-proof lock and non-lock versions

# **D400KM DUCTILE IRON HINGED GRATING & FRAME CONTINUED**



EY FEATURES
PEDESTRIAN MESH
INCREASED WATERWAY

CLEAR OPENING (A) MM	OVER FRAME (B) MM	ТҮРЕ	FLANGE DESIGN	DEPTH (C) MM	WATERWAY	LOCK	STYLE	CODE
420 x 420	574 x 490	GRATE & FRAME	3 - SIDE	100	650CM <sup>2</sup>		FLAT	330826
420 x 420	574 x 490	GRATE & FRAME	3 - SIDE	150	650CM <sup>2</sup>		FLAT	332672
420 x 420	574 x 490	GRATE & FRAME	3 - SIDE	100	650CM <sup>2</sup>	~	FLAT	333692
420 x 420	574 x 490	GRATE & FRAME	3 - SIDE	150	650CM <sup>2</sup>	~	FLAT	334568
420 x 420	574 x 490	PEDESTRIAN MESH	3 - SIDE	100	517CM <sup>2</sup>		FLAT	332476
420 x 420	574 x 490	PEDESTRIAN MESH	3 - SIDE	150	517CM <sup>2</sup>		FLAT	334569
420 x 420	574 x 490	PEDESTRIAN MESH	3 - SIDE	100	517CM <sup>2</sup>	~	FLAT	334570
420 x 420	574 x 490	PEDESTRIAN MESH	3 - SIDE	150	517CM <sup>2</sup>	~	FLAT	334571
420 x 420	574 x 490	INCREASED WATERWAY	3 - SIDE	100	1243CM <sup>2</sup>		FLAT	333714
420 x 420	574 x 490	INCREASED WATERWAY	3 - SIDE	150	1243CM <sup>2</sup>		FLAT	334572
420 x 420	574 x 490	INCREASED WATERWAY	3 - SIDE	100	1243CM <sup>2</sup>	~	FLAT	333711
420 x 420	574 x 490	INCREASED WATERWAY	3 - SIDE	150	1243CM <sup>2</sup>	~	FLAT	333823
430 x 370	574 x 505	GRATE & FRAME	3 - SIDE	100	599CM <sup>2</sup>	-	FLAT	330827
430 x 370	574 x 505	GRATE & FRAME	3 - SIDE	100	599CM <sup>2</sup>	~	FLAT	332765

# **DOUBLE TRIANGULAR GRATINGS AND FRAMES**



### FEATURES INC IN THE RANGE





BS EN 124-2

# **D400KM DUCTILE IRON HINGED DOUBLE TRIANGULAR GRATING & FRAME**





### **KEY FEATURES**





HIGHWAYS



SUITABLE FOR USE IN D400 APPLICATIONS

### **BENEFITS**

- Complies fully with BS EN 124-2:2015 suitable for intensity of traffic in Class D400 applications
- Sensineered from quality assured ductile iron
- Il tight fit, non rattle interference hinged (inc double triangular non-rock) as standard
- Available with secure, tamper-proof lock and non-lock versions
- Increased waterway available
- S Lift out covers for 600 x 600 and above, providing 135° hinging giving superior site safety and one man operation

CLEAR OPENING (A) MM	OVER FRAME (B) MM	ТҮРЕ	FLANGE DESIGN	DEPTH (C) MM	WATERWAY	LOCK	STYLE	CODE
420 x 420	590 x 460	GRATE & FRAME	3 - SIDE	100	716CM <sup>2</sup>		FLAT	330828
420 x 420	590 x 460	GRATE & FRAME	3 - SIDE	100	716CM <sup>2</sup>	~	FLAT	333692
450 x 450	604 x 535	GRATE & FRAME	3 - SIDE	100	852CM <sup>2</sup>		FLAT	331307
450 x 450	604 x 535	GRATE & FRAME	3 - SIDE	100	852CM <sup>2</sup>	~	FLAT	334573
600 x 600	753 x 753	INCREASED WATERWAY	4 - SIDE	100	2500CM <sup>2</sup>	~	FLAT	333018
600 x 600	753 x 753	INCREASED WATERWAY	4 - SIDE	150	2500CM <sup>2</sup>	~	FLAT	334575

# **E600KM DUCTILE IRON HINGED DOUBLE TRIANGULAR GRATING & FRAME**





CLEAR OPENING (A) MM	OVER FRAME (B) MM	ТҮРЕ	FLANGE DESIGN	DEPTH (C) MM	WATERWAY	LOCK	STYLE	CODE
600 x 600	754 x 754	GRATE & FRAME	4 - SIDE	150	1048CM <sup>2</sup>	~	FLAT	334576
600 x 600	754 x 754	GRATE & FRAME	4 - SIDE	150	1048CM <sup>2</sup>		FLAT	334326
450 x 450	630 x 630	GRATE & FRAME	4 - SIDE	150	724CM <sup>2</sup>		FLAT	372077

- Complies fully with BS EN 124-2:2015 suitable for intensity of traffic in Class E600 applications
- Sensineered from quality assured ductile iron
- All tight fit, non rattle interference hinged (inc double triangular non-rock) as standard
- Available with secure, tamper-proof lock and non-lock versions
- S Lift out covers providing 135° hinging giving superior site safety and one man operation

# **F900KM DUCTILE IRON HINGED DOUBLE TRIANGULAR GRATING & FRAME**







### **KEY FEATURES**







**F900 APPLICATIONS** 



SUITABLE FOR USE IN HIGHWAYS

- Complies fully with BS EN 124-2:2015 suitable for intensity of traffic in Class F900 applications
- Sensineered from quality assured ductile iron
- All tight fit, non rattle interference hinged (inc double triangular non-rock) as standard
- Available with secure, tamper-proof lock and non-lock versions
- Lift out covers providing 135° hinging giving superior site safety and one man operation

CLEAR OPENING (A) MM	OVER FRAME (B) MM	ТҮРЕ	FLANGE DESIGN	DEPTH (C) MM	WATERWAY	LOCK	STYLE	CODE
600 x 600	754 x 754	GRATE & FRAME	4 - SIDE	150	1048CM <sup>2</sup>	~	FLAT	334577
600 x 600	754 x 754	GRATE & FRAME	4 - SIDE	150	1048CM <sup>2</sup>		FLAT	334327
450 x 450	630 x 630	GRATE & FRAME	4 - SIDE	150	724CM <sup>2</sup>		FLAT	372078

**BENEFITS** 

# SINGLE PIECE / SOLID TOP COVERS AND FRAMES



### FEATURES INC IN THE RANGE



COMPLIES WITH BS EN 124-2 CERTIFIED BY BSI





# **B125KM DUCTILE IRON SOLID TOP COVER & FRAME**





### **KEY FEATURES**





CERTIFIED

BY BSI

SUITS CLASS B125 APPLICATIONS



- Complies fully with BS EN 124-2:2015
- Sensineered from quality assured ductile iron
- Unique, slip resistant Thomas Dudley drain covers tread pattern

CLEAR OPENING (A) MM	OVER FRAME (B) MM	DEPTH (C) MM	CODE	
300 x 300	368 x 368	40	333608	
320 DIA	410 DIA	50	334390	
450 x 450	518 x 518	40	332754	
450 x 450	515 x 515	70	334395	
*450 DIA (A15KM)	550 DIA <b>(A15KM)</b>	50 (A15KM)	330825 ( <b>334392</b> )	
450 DIA	550 DIA	40	330825	
600 x 450	662 x 512	40	330824	
600 x 600	668 x 668	40	330934	
600 DIA	700 x 700	75	330944	
675 x 675	737 x 737	40	330935	
750 x 450	818 x 550	50	332600	
750 x 600	818 x 668	40	330939	
750 x 750	811 x 811	40	330936	
900 x 600	968 x 668	40	330938	
900 x 900	968 x 968	40	330937	
1000 x 750	1180 x 820	50	PLEASE ENQUIRE	

# **D400KM DUCTILE IRON COVER & FRAME**







### BENEFITS

- Complies fully with BS EN 124-2:2015 Standard suitable for intensity of traffic in Class D400 applications
- Sengineered from quality assured ductile iron
- Unique, slip resistant Thomas Dudley heavy duty drain covers tread pattern
- One piece Gripfix lid
- Snap-lock feature for added security
- ✓ Lift out covers for 600 dia, providing 135° hinging giving superior site safety and one man operation
- **Full 360**° seal for 600 dia



CLEAR OPENING (A) MM	OVER FRAME (B) MM	DEPTH (C) MM	GRIPFIX	SNAP LOCK	CODE
600 x 450	700 x 550	100	~		330822
600 dia Circular Flange	768 x 750	100		~	370717
600 dia Square Flange	767 x 682	100		~	333015

# **HINGED DOUBLE TRIANGULAR COVERS & FRAMES**

### FEATURES INC IN THE RANGE



**COMPLIES WITH** BS EN 124-2



CERTIFIED BY BSI



SLIP RESISTANT



SUITABLE FOR USE IN HIGHWAYS





### **KEY FEATURES**





### BENEFITS

- Complies fully with BS EN 124-2:2015 suitable for intensity of traffic in Class D400 applications
- Sensineered from quality assured ductile iron
- Unique, slip resistant Thomas Dudley heavy duty drain covers tread pattern

NING	OVER FRAME (B) MM	DEPTH (C) MM	CODE
450	600 x 600	100	332748
450	750 x 600	100	330987
600	750 x 750	100	330823
600	750 x 750	150	330926
675	825 x 825	100	330927
675	825 x 825	150	330928
600	900 x 750	100	330940
750	900 x 900	100	330929
600	1050 x 750	100	330941
900	1050 x 1050	100	330930

Section 2017 Hinged as standard

Section 2017 Hinged double triangular non-rock cover complying to one man lift manual handling regulations

Solution Lift out covers providing 135° hinging, giving superior site safety and one man operation

# **E600KM DUCTILE IRON HINGED DOUBLE TRIANGULAR COVER & FRAME**







**KEY FEATURES** 

BS EN 124-2



CERTIFIED

E600

SUITS CLASS

E600 APPLICATIONS



### BENEFITS

- Complies fully with BS EN 124-2:2015 suitable for intensity of traffic in Class E600 applications
- Engineered from quality assured ductile iron
- Unique, slip resistant Thomas Dudley drain covers tread pattern
- Hinged Double triangular non-rock cover complying to one man lift manual handling regulations
- Solution to the second site safety and one man operation

CLEAR OPENING (A) MM	OVER FRAME (B) MM	DEPTH (C) MM	CODE
450 x 450	600 x 600	150	334401
600 x 600	750 x 750	150	334324
675 x 675	830 x 830	150	334325

# **F900KM DUCTILE IRON HINGED DOUBLE TRIANGULAR COVER & FRAME**



# **KEY FEATURES**





### BENEFITS

- Complies fully with BS EN 124-2:2015 suitable for intensity of traffic in Class F900 applications
- C Engineered from quality assured ductile iron
- Unique, slip resistant Thomas Dudley heavy duty drain covers tread pattern
- Hinged Double triangular non-rock cover complying to one man lift manual handling regulations
- Solution to the second site safety and one man operation
- Other sizes available to order











HIGHWAYS

CLEAR OPENING (A) MM	OVER FRAME (B) MM	DEPTH (C) MM	CODE
450 x 450	600 x 600	150	334402
600 x 600	700 x 750	150	334275
675 x 675	830 x 830	150	334323
900 x 900	1054 x 1051	150	334828

# MULTI-PART TRIANGULAR COVERS AND FRAMES

# **D400KM DUCTILE IRON HINGED MULTI-PART** TRIANGULAR COVER & FRAME



### **KEY FEATURES**





### BENEFITS

- Complies fully with BS EN 124-2:2015 suitable for intensity of traffic in Class D400 applications
- Sensineered from quality assured ductile iron
- Unique, slip resistant Thomas Dudley heavy duty drain covers tread pattern
- Section 2012 Hinged and lift out as standard
- Non-rock cover complying to one man lift manual handling regulations, multi leaf
- Solution Master and Slave with single locking point as standard
- Other sizes available to order

### Features & Benefits



COMPLIES WITH BS EN 124-2



CERTIFIED BY BSI SLIP RESISTANT



SUITABLE FOR USE IN HIGHWAYS







CLEAR OPENING (A) MM	OVER FRAME (B) MM	DEPTH (C) MM	CODE
1000 x 1000	1150 x 1150	100	330931
1200 x 900	1350 x 1050	100	330932
1200 x 1200	1350 x 1350	100	330933
1220 x 675	1370 x 825	100	330942
1220 x 675	1370 x 825	150	330943
1200 x 750	1350 x 902	100	372757

# **E600KM DUCTILE IRON HINGED MULTI-PART TRIANGULAR COVER & FRAME**





### **KEY FEATURES**







SUITABLE FOR USE IN HIGHWAYS

XX 00771

X

### BENEFITS

- Complies fully with BS EN 124-2:2015 suitable for intensity of traffic in Class E600 applications
- Engineered from quality assured ductile iron
- Unique, slip resistant Thomas Dudley drain covers tread pattern
- Hinged Double triangular non-rock cover complying to one man lift manual handling regulations, multi leaf
- Master and Slave with single locking point as standard
- Other sizes available to order

OVER FRAME (B) MM	DEPTH (C) MM	CODE
1150 x 1150	150	334398
1350 x 1050	150	334413
1350 x 1350	150	333019
1650 x 900	150	333020
1650 x 1050	150	333017
1650 x 1650	150	332368
1980 x 825	150	332162
	(B) MM 1150 × 1150 1350 × 1050 1350 × 1050 1650 × 1050 1650 × 1050	(B) MM     (C) MM       1150×1150     150       1350×1050     150       1350×1350     150       1650×1050     150       1650×1050     150       1650×1050     150

# **F900KM DUCTILE IRON HINGED MULTI-PART TRIANGULAR COVER & FRAME**





### BENEFITS

- Complies fully with BS EN 124-2:2015 suitable for intensity of traffic in Class F900 applications
- Sengineered from quality assured ductile iron
- Unique, slip resistant Thomas Dudley drain covers tread pattern
- Hinged Double triangular non-rock cover complying to one man lift manual handling regulations, multi leaf
- Solution All States with single locking point as standard
- Other sizes available to order
- C Lift out covers providing 135° hinging giving superior site safety and one man operation







CLEAR OPENING (A) MM	OVER FRAME (B) MM	DEPTH (C) MM	CODE
1000 x 1000	1155 x 1150	150	334399
1200 x 900	1350 x 1055	150	334414
1200 x 1200	1355 x 1350	150	334400
1500 x 900	1650 x 1050	150	372032
1500 x 1500	1650 x 1650	150	372033
1830 x 675	1980 x 830	150	334583

# **DROP-IN DOUBLE TRIANGULAR COVERS, GRATES AND FRAMES**



# **D400KM DUCTILE IRON DROP-IN DOUBLE TRIANGULAR COVER/GRATE & FRAME**







### BENEFITS

- Complies with BS EN 124-2:2015 suitable for intensity of traffic in Class D400 applications
- Engineered from quality assured ductile iron
- Unique, slip resistant Thomas Dudley heavy duty drain covers tread pattern
- Orop-in, loose coupled, double triangular covers
- Non-rock cover

34

Features & Benefits

**COMPLIES WITH** 

BS EN 124-2

CERTIFIED BY BSI

SLIP RESISTANT



IN HIGHWAYS

(A) MM

1220





OPENING	OVER FRAME (B) MM	DEPTH (C) MM	COVER OR GRATE	CODE
) x 600	1150 x 1150	100	2 PART COVER	334623
) x 600	1350 x 1050	150	2 PART COVER	334619
5 x 675	1350 x 1350	100	2 PART COVER	334625
5 x 675	1370 x 825	150	2 PART COVER	334621
0 x 675	1370 x 830	150	4 PART COVER	372034
			4 PART GRATE	
0 x 675	1370 x 830	150	- 5140cm <sup>2</sup>	372035
			WATERWAY	

### **TD** Foundry

# INVINCIBLE

### Range

The INVINCIBLE range from TD Foundry has been designed to stand the test of time in very high traffic conditions and with the requirements of Highways England's technical regulation, CD534, at the forefront of our specification.

The CD534 regulation was introduced back in February 2020, as a replacement for the HA104/09 guidance notes, with the intention of guiding installers to the best possible product specifications for installation in trunk roads and motorways.

The TD Foundry **INVINCIBLE** range has been designed to conform to and in many instances exceed the requirements of both EN124-2 and CD534, the products are also Kitemarked to provide additional peace of mind.

Here is a list of key product features and how they perform against the requirements of CD534 -

- Skid resistance value of 78 PSRV This figure vastly exceeds the CD534 minimum requirement of all Group 4 chamber tops to have a PSRV >60 when installed in high risk locations.
- Increased bedding area providing a bearing pressure of 2.05 N/mm<sup>2</sup> Although CD 534 does not specifically require • a more stringent bearing pressure than the 7.5 N/mm<sup>2</sup> stated in EN124, this was a key requirement in its predecessor, HA104/09, which stated a maximum bearing pressure of 2.1 N/mm<sup>2</sup>. We believe that the lower bearing pressure is key to dispersing stresses and thus reducing the potential damage on bedding materials, especially in high traffic installations and have ensured that our products still meets this specification.
- E600 Load Class CD534 now states that E600 covers should be used in ALL environments where the annual average daily traffic of large goods vehicles exceeds 1500 in each direction.
- Minimum clear opening of 600 x 600 For chamber tops permitting access, CD534 requires a minimum of 600mm clear opening.
- **150mm Frame Depth** CD 534 states a minimum frame depth of **150mm** for all motorways and all-purpose trunk • roads.
- 80mm Depth of Insertion This meets the CD 534 minimum depth of insertion of 80mm. •
- M16 Coupling Bolts Exceeding the CD 534 requirement of 140mm<sup>2</sup> minimum cross sectional area of loose • couplings.

In addition to the requirements of EN124 & CD534, we designed the following features into our INVINCIBLE products -

- Cover to frame contact area Increased by 600% This is critical to disperse stresses transferred from cover through the frame and into the bedding material.
- Increased strength Greater strength allowing the product to surpass the load test requirements of both EN124-2 and the Kitemark to give greater peace of mind in high traffic locations.
- Limited movement of the cover in the frame Design features limiting the movement of the cover in situ prevent wear and potential instability of the cover.
- Frame Keying Ribs Provide greater mortar engagement with the frame than a flat surface.

All these features add up to a product that you can install with confidence, even in the busiest locations.

**Features & Benefits** 







RESISTANT



**E600 DUCTILE IRON INVINCIBLE RANGE -HIGH TRAFFIC COVER & FRAME** 



### **KEY FEATURES**







### BENEFITS

- Complies fully with BS EN 124-2:2015 and Highways Authority CD534 Standard - suitable for very high intensity traffic applications
- Sensineered from quality assured ductile iron
- Unique, slip resistant tread pattern suitable for High **Risk installations**
- Orop-in, loose coupled covers
- Non-rock cover







CLEAR OPENING (A) MM	PENING OVER FRAME (B) MM		CODE	
600 x 600	842 x 842	150	372581	
675 x 675	915 x 915	150	372071	

# **RECESSED COVERS AND FRAMES**





### BENEFITS

- Complies fully with BS EN 124-2:2015
- Sensineered from quality assured ductile iron
- Orop-in recessed covers
- 80mm deep internal recessed tray
- Non-rock cover design

CLEAR (A) MM

### Features & Benefits





AVAILABLE IN B125 LOAD CLASS



R OPENING M	OVER FRAME (B) MM	DEPTH (C) MM	LOAD	CODE
750 x 450	900 x 600	100	B125	PLEASE ENQUIRE
750 x 450	900 x 600	100	D400	PLEASE ENQUIRE
900 x 600	1050 x 750	100	D400	PLEASE ENQUIRE

# OTHER DRAINAGE CASTINGS AND TOOLS

# D125 SQUARE DISHED PATTERN GULLY GRIDS

DIMENSION		COATED	GALVANISED	DIMENSION		COATED	GALVANISED
MM	INCHES	CODE	CODE	MM	INCHES	CODE	CODE
102 x 102 x 9	4 x 4 x 3/8	314296	PLEASE ENQUIRE	165 x 165 x 13	6 1/2 × 6 1/2 × 1/2	316946	PLEASE ENQUIRE
114 x 114 x 9	$4\frac{1}{2} \times 4\frac{1}{2} \times \frac{3}{8}$	314549	318338	178 x 178 x 13	7 x 7 x 1/2	316566	PLEASE ENQUIRE
120 x 120 x 13	$4^{3}_{4} \times 4^{3}_{4} \times \frac{1}{2}$	314964	314378	203 x 203 x 13	8 x 8 x 1/2	316638	318500
127 x 127 x 9	5 x 5 x <b>%</b>	316119	318613	229 x 229 x 13	9 x 9 x 1/2	314781	318238
152 x 152 x 6	6 x 6 x ¼	313220	315574	254 x 254 x 13	10 × 10 × 1⁄2	314113	316933
152 x 152 x 9	6 x 6 x <b>¾</b>	313124	315421	305 x 305 x 13	12 × 12 × 1⁄2	313562	319021
152 x 152 x 13	6 x 6 x 1/2	319469	313501	321 x 321 x 13	12 5% × 12 5% × 1/2	317236	318900

# **D126 ROUND DISHED PATTERN** GULLY GRIDS

### **RANGE OFFERS**





SEALING PLATES



GRATINGS AND FRAMES



LIFTING TOOLS

DIMENSION		COATED	GALVANISED	DIMENSION		COATED	GALVANISED
MM	INCHES	CODE	CODE	MM	INCHES	CODE	CODE
76 dia. x 9	3 x ⅔	319489	PLEASE ENQUIRE	191 dia. x 9	7 ½ × ¾	319451	316001
102 dia. x 9	4 × ⅔	318308	317050	197 dia. x 9	7 ¾ × ⅔	315837	PLEASE ENQUIRE
114 dia. x 9	4 ½ × ¾	313172	PLEASE ENQUIRE	203 dia. x 9	8 x ¾	317052	316369
127 dia. x 9	5 x ⅔	319759	318839	229 dia. x 9	9 x ¾	314891	317555
140 dia. x 9	5 ½ × ¾	316375	318051	254 dia. x 16	10 × %	318136	317685
152 dia. x 9	6 x %	316960	316175	273 dia. x 9	10 ¾ × ¾	PLEASE ENQUIRE	316032
165 dia. x 9	6 ½ × ¾	319232	316889	286 dia. x 9	11 ¼ × ¾	317657	313369
178 dia. x 9	7 x 3/8	316725	315983	305 dia. x 16	12 × %	315529	316144





# **D127 ROUND FLAT STRAIGHT BAR PATTERN GULLY GRIDS**



DIMENSION		COATED	GALVANISED	DIMENSION		COATED	GALVANISED
MM	INCHES	CODE	CODE	MM	INCHES	CODE	CODE
76 dia. x 9	3 × %	317969	PLEASE ENQUIRE	229 dia. x 13	9 x 1/2	313760	317647
89 dia. x 13	3 ½ × ½	317551	PLEASE ENQUIRE	229 dia. x 25	9 x 1	316874	PLEASE ENQUIRE
102 dia. x 9	4 × 3/8	315218	313384	267 dia. x 25	10 ½ × 1	316268	317585
114 dia. x 9	4 ½ × ¾	PLEASE ENQUIRE	315675	279 dia. x 13	11 × ½	318530	PLEASE ENQUIRE
127 dia. x 9	5 x %	318266	317091	286 dia. x 16	11 ¼ × %	PLEASE ENQUIRE	316527
152 dia. x 9	6 × 3/8	314580	314426	286 dia. x 25	11 ¼ × 1	313130	PLEASE ENQUIRE
178 dia. x 9	7 × 3/8	313999	316522	305 dia. x 16	12×%	318570	316122
191 dia. x 9	7 ½ × ¾	315029	316928	305 dia. x 25	12 x 1	PLEASE ENQUIRE	315411
197 dia. x 9	7 <sup>3</sup> ⁄ <sub>4</sub> × <sup>3</sup> ⁄ <sub>8</sub>	313628	PLEASE ENQUIRE	368 dia. x 25	14 ½ × 1	314535	315232
197 dia. x 22	7 ¾ × 1/8	PLEASE ENQUIRE	318859	204	454		240000
203 dia. x 9	8 x %	PLEASE ENQUIRE	317300	381 dia. x 25	15 x 1	PLEASE ENQUIRE	318990

# **D129 FLAT COBWEB GULLY GRIDS**

DIMENSION	COATED	
MM	INCHES	CODE
381 x 381 x 25	15 x 15 x 1	313884



# **D130 SQUARE AND RECTANGULAR FLAT STRAIGHT BAR PATTERN GULLY GRIDS**

DIMENSION		COATED	GALVANISED	DIMENSION		COATED	GALVANISED
MM	INCHES	CODE	CODE	MM	INCHES	CODE	CODE
102 × 102 × 9	4 × 4 × 3/8	318047	314492	229 x 229 x 13	9×9×1/2	PLEASE ENQUIRE	313151
127 x 127 x 13	5 x 5 x 1/2	318884	317611	229 x 229 x 25	9x9x1	319642	319378
152 x 152 x 9	6×6×3/8	314606	314325	254 x 152 x 13	10×6×1/2	317081	319086
152 × 152 × 25	6x6x1	PLEASE ENQUIRE	317949	254 x 254 x 13	10×10×1⁄2	318270	317342
178 × 178 × 13	7 x 7 x 1/2	PLEASE ENQUIRE	316762	305 x 305 x 13 12 x 12 x 12	12×12×1⁄2	PLEASE	315816
203 x 203 x 13	8 x 8 x 1/2	314808	314174			ENQUIRE	

# **D131 ROUND FLAT STRAIGHT BAR GULLY GRIDS**

DIMENSION		COATED	GALVANISED
MM	INCHES	CODE	CODE
178 dia. x 9	7 × ⅔	318245	PLEASE ENQUIRE

# **D105 CIRCULAR SEALING PLATES AND FRAMES**

DIMENSION	MENSION		GALVANISED	
MM	INCHES	CODE	CODE	
114 x 25	4 ½ × 1	318234	PLEASE ENQUIRE	
140 x 25	5½×1	318258	PLEASE ENQUIRE	
191 x 25	7 ½ × 1	315007	314034	
273 x 25	10 ¾ × 1	317213	318457	

# **D106 SQUARE AND RECTANGULAR SEALING PLATES AND FRAMES**

DIMENSION		COATED	GALVANISED
MM	INCHES	CODE	CODE
120 x 120 x 25	4 ¾ × 4 ¾ × 1	PLEASE ENQUIRE	319611
152 x 152 x 25	6 x 6 x 1	318071	316523
229 x 229 x 25	9 x 9 x 1	313547	319284
254 x 125 x 25	10 x 6 x 1	PLEASE ENQUIRE	PLEASE ENQUIRE
305 x 305 x 25	12 x 12 x 1	313443	318787

# **D106D OVAL SEALING PLATES AND FRAMES**

DIMENSION		COATED
MM	INCHES	CODE
298 x 143 x 25	11 ¾ × 5 ‰ × 1	313975

Other sizes available, please enquire







GALVANISED CODE 314033



# **D170** GARDEN GRATINGS AND FRAMES

INCHES

9×9×1%

DIMENSION

MM

229 x 229 x 35

# **D172 ROUND GULLY GRATINGS** AND FRAMES

COATED

CODE

317438

GALVANISED

CODE

DIMENSION		COATED	GALVANISED
MM	INCHES	CODE	CODE
140 x 25	5 ½ × 1	319513	314619
197 x 25	7 ¾ × 1	314067	316385
273 x 35	10 ¾ × 1 ¾	315337	318187
368 x 35	14 ½×1 ¾	314515	318578



# D173 SQUARE GULLY GRATINGS AND FRAMES

DIMENSION	DIMENSION		GALVANISED
MM	INCHES	CODE	CODE
152 x 152 x 25	6 x 6 x 1	314138	319347
229 x 229 x 25	9 x 9 x 1	315324	319586
229 x 229 x 38	9 x 9 x 1 ½	318510	315489
254 x 254 x 38	10 × 10 × 1 ½	316277	318825
305 x 305 x 38	12 × 12 × 1 ½	316120	316597



# **PLASTIC DRAIN GRIDS**

DIMENSION		
MM	INCHES	CODE
152 x 152	6 x 6	314607



# HYDRAFOLD MANHOLE LIFTING TOOLS (PAINTED FINISH)

DESCRIPTION	CODE
HYDRAFOLD LIFTING TOOL	323293
HYDRAFOLD 4 HEAD KEYWHEEL	319826

# HYDRA LIFTING TOOL (PAINTED FINISH)

DESCRIPTION	CODE
530MM LONG HANDLE	313100

# LIFTING KEYS LIGHT, MEDIUM AND HEAVY DUTY

SCRIPTION	LENGTH MM	KEYHOLE SIZE MM	CODE
HD3 DUCTILE HEAVY DUTY	300	36 x 8	317006
HD2 STEEL HEAVY DUTY	442	37 x 10	315456
M1 DUCTILE MEDIUM DUTY	125	29 x 9	317796
LD3 GREY IRON LIGHT DUTY	75	24 x 13	314350
LD4 GREY IRON LIGHT DUTY	71	23 x 9	317895





# **SURFACE BOXES**



### **GRIPFIX SURFACE BOXES** EN124-2 D400

GRADE	CLEAR OPENING MM	OVER FRAME MM	DEPTH MM	CODE
D400 (6274)	380 x 230	536 x 385	100	PLEASE ENQUIRE
D400 (6270)	380 x 230	536 x 385	125	PLEASE ENQUIRE
D400	430 x 280	534x 384	100	PLEASE ENQUIRE

# **GRIPFIX 135AN, 225AN, 300AN COATED SURFACE BOXES** BS5834 Grade A

GRADE	CLEAR OPENING MM	OVER FRAME MM	DEPTH MM	CODE
135AN	165 x 165	245 x 245	100	PLEASE ENQUIRE
135AN (SLOTTED)	165 x 165	245 x 245	100	PLEASE ENQUIRE
225AN	230 x 230	307 x 307	100	PLEASE ENQUIRE
300AN	302 x 302	381 x 381	100	PLEASE ENQUIRE

# **100B2S MEDIUM DUTY COATED SURFACE BOXES** BS5834 Grade B

CLEAR OPENING	OVER FRAME	DEPTH	
MM	MM	MM	
127 x 80	180 x 180	75	

STOP TAP BOXES



BOUNDARY BOXES



AVAILABLE

SURFACE BOXES











CODE

319627



# 6150 6153 BOUNDARY BOXES

BS5834 Grade B

GRADE	CLEAR OPENING MM	OVER FRAME MM	DEPTH MM	SPIGOT DEPTH MM	CODE
B (6150/135)	150 x 140	187 x 187	60	30	PLEASE ENQUIRE
B (6150/150)	144 DIA	201 x 201	60	30	PLEASE ENQUIRE
B (6150/180)	184 DIA	240 x 240	60	45	PLEASE ENQUIRE
B (6153/190)	197 x 190	271 x 271	75	-	PLEASE ENQUIRE



# **TYPE A COATED SURFACE BOXES** BS5834 Grade C

CLEAR OPENING	OVER FRAME	DEPTH	CODE
MM	MM	MM	
152 x 127 (BADGED WITH W)	202 x 170	75	314996



# **D6110 STOP TAP BOXES**

BS5834 Grade C

DIMENSION			DEPTH		COATED
PATTERN	MM	INCHES	MM	INCHES	CODE
HINGED LID	114 x 114	41/2 × 41/2 × 3	76	3	317269
HINGED LID	127 x 127	5 x 5 x 4	102	4	313223
HINGED LID	152 x 152	6x6x3	76	3	319994
HINGED & LOCKING LID	152 x 152	6x6x3	76	3	326111
HINGED LID	305 x 305	12 x 12 x 4	102	4	316363



# **100C1H PLASTIC** SURFACE BOXES

### BS5834 Grade C

DIMENSION		DEPTH	COATED	
PATTERN	MM	INCHES	MM	CODE
"W" BLACK LID	135 x 119	5 5/16 x 4 <sup>11</sup> /16	75	313629



Requesting a quotation from us for heavy duty manhole covers and heavy duty drain covers couldn't be easier. Simply visit www.tdfoundry.co.uk/contact-us/ and fill out the form.

Enquiries

Please call **C** 0121 521 2503 or email **@** foundrysales@thomasdudley.co.uk



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