HINGED MANHOLE COVERS AND GRATINGS

THE SAFER CHOICE



TD THOMAS | DUDLEY

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UTILITY PRODUCTS TD

CASTINGS THAT ARE EASIER AND SAFER TO USE

Thomas Dudley is a family owned business and began as a foundry in 1920. 'Safety First' is a core value of the Thomas Dudley business and with this in mind, we have engineered a range of manhole covers, gratings and other utility castings that are easier and safer to use on site.

INNOVATIVE DESIGNS, ENHANCED PERFORMANCE

A review of the access cover market combined with in-house testing confirmed that manhole cover and grating designs had changed little in 30 years and that many products failed the EN124 load tests by more than 50%.

Where casting weight had been reduced, this was typically done without considering how casting strength, durability and performance would be affected.

As a result, we developed a set of stress simulation criteria to use in our FEA software. This has helped us remove material that does not impact casting integrity whilst strengthening those parts of a casting that are subjected to the greatest stresses. All of our castings are now reassuringly tested by BSI to load tests at least 10% higher than those required by EN 124-2.

REMOVING THE DANGERS OF TYPICAL DROP-IN UNITS

In addition to optimising weight and load bearing capacity, we addressed the safety concerns associated with typical horizontal drop-in castings.

Manual handling causes nearly a third of all workplace injuries in the UK with 0.5 million people suffering from work-related musculoskeletal issues in 2024/25 (HSE statistics)

Manual Handling Operations Regulations 1992 require businesses to:

- Avoid the need for hazardous manual handling.
- Assess the risk of injury from any hazardous manual handling.
- Reduce the risk of injury from hazardous manual handling.

With this in mind we have successfully designed unique hinged manhole covers and gratings that enable the covers to be easily lifted out of the frame whilst observing the safe manual lifting techniques. The introduction of hinges carry most of the load whilst being manually lifted, therefore reducing the total weight by up to 70%. This facilitates a one person operation in many cases which complies with the HSE manual handling guidelines without the need for often expensive or impracticable lifting equipment, second operator or the risky process of dropping the unit into place.

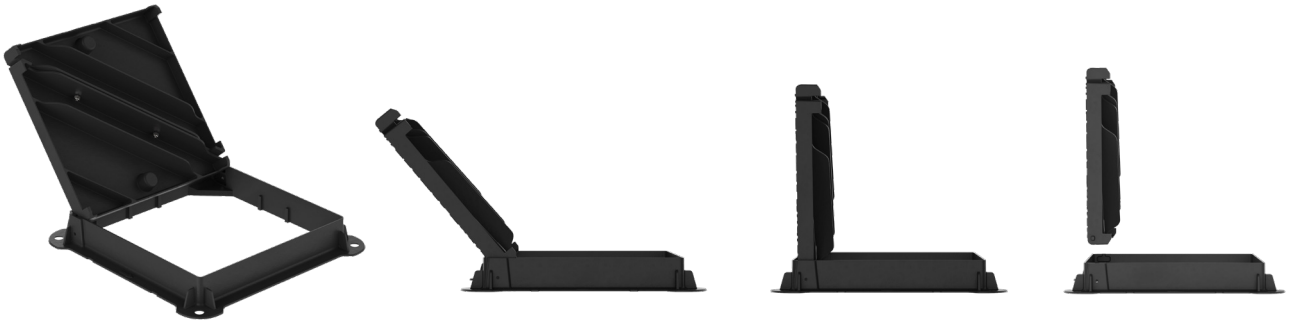
Our patented hinge design also opens to beyond 135 degrees making it impossible for the open cover to fall back on itself or fall out and injure an operator. The heavy phase of the lifting process can also be carried out at waist level and with a straight back to minimise the risks of injury. When covers are in the flat position (closed flat), there is at least 3mm clearance around hinges which means that they carry no weight and are non-wearing. The potential for covers to be removed by traffic is also eliminated.

At Thomas Dudley Utility Products, we manufacture hinged and horizontal drop-in castings which both comply fully with EN 124-2 and are suitable for use in busy environments and are marketed at the same prices.

Paul Thursfield
Utility Sales Director

THOMAS DUDLEY UNIQUE HINGE VS. TYPICAL HORIZONTAL DROP-IN CASTINGS

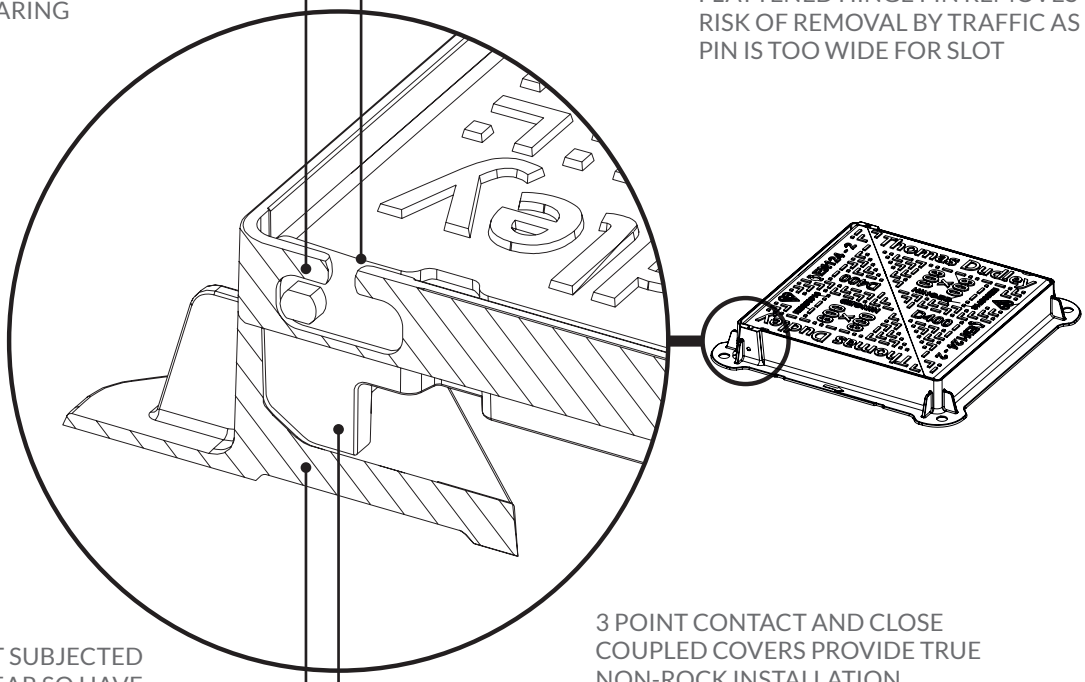
	TD HINGED UNITS	TYPICAL HORIZONTAL DROP-IN UNITS	TD HORIZONTAL DROP-IN UNITS
COST FROM THOMAS DUDLEY UTILITY PRODUCTS	SAME	SAME	SAME
EN124-2 FULLY COMPLIANT	✔	✔	✔
KM APPROVED TO 10% ABOVE EN 124-2 LOAD	✔	NORMALLY	✔
KITEMARKED	✔	NORMALLY	✔
CLOSE COUPLED WITH NYLOC ANTI VIBRATION NUTS	✔	SOME	✔
OFFER CUSTOMERS ABILITY TO WITNESS TEST EXISTING CASTINGS AND THOSE FROM TD FOUNDRY	✔	X	✔
THREE POINT NO ROCK DESIGN FOR SILENT OPERATION	✔	✔	✔
LIDS CAN EASILY BE REPLACED WITHOUT CHANGING FRAME	✔	✔	✔
LOAD 100% THROUGH FRAME VIA THREE POINT CONTACT	✔	✔	✔
TWO SEALED KEYHOLES	✔	✔	✔
COVER CAN BE FULLY REMOVED FROM FRAME AND STORED FLAT.	✔	✔	✔
DURING LIFTING >60% LOAD TAKEN VIA HINGE ON FRAME TO SUPPORT LIFTING	✔	X	X
LID PROVIDES BARRIER TO ACCIDENTAL SLIP INTO CHAMBER DURING LIFTING AND OPERATOR STANDS BEHIND LID AT ALL TIMES	✔	X	X
NO RISK OF OPERATORS SLIPPING INTO CHAMBER AS FEET DO NOT HAVE TO BE CLOSE TO EDGE DURING LIFT	✔	X	X
NO LOAD CARRIED BY HINGES WHEN CLOSED. TD HINGES HAVE MIN 3MM CLEARANCE TO FRAME WHEN CLOSED. THIS AVOIDS ANY POSSIBILITY OF WEAR / LOAD VIA TRAFFIC LOADING	✔	NOT APPLICABLE	NOT APPLICABLE
IMPOSSIBLE FOR COVER TO BE EJECTED BY TRAFFIC	✔	X	X
LIFT OUT MAX LOADING AT WAIST HEIGHT ALLOWING HIGHEST MANUAL HANDLING SAFE LOAD AND STRAIGHT BACK LIFTING	✔	X	X
LID CAN BE OPENED AND STORED SAFELY AT OVER 135 DEGREES OR REMOVED AND STORED FLAT	✔	X	X
50MM MIN. FLANGE WIDTH	✔	X	✔
MIN 80MM DEPTH OF INSERTION	✔	NORMALLY	✔



THOMAS DUDLEY UNIQUE HINGE - TECHNICAL DATA SHEET

3MM CLEARANCE AROUND PIN MEANS HINGES ARE NOT LOAD BEARING

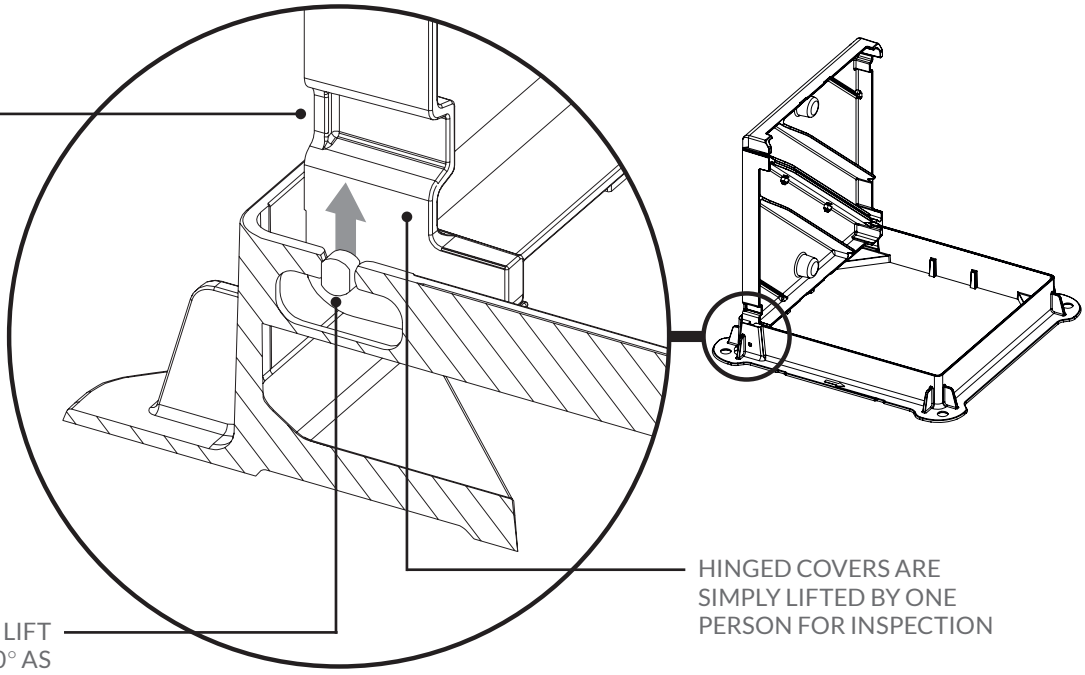
PATENTED "T-SLOT" WITH FLATTENED HINGE PIN REMOVES RISK OF REMOVAL BY TRAFFIC AS PIN IS TOO WIDE FOR SLOT



HINGES ARE NOT SUBJECTED TO IMPACT OR WEAR SO HAVE INFINITE WORKING LIFE

3 POINT CONTACT AND CLOSE COUPLED COVERS PROVIDE TRUE NON-ROCK INSTALLATION

COVERS COME WITH INTEGRAL PRY POINTS FOR EASY OPENING



HINGED COVERS ARE SIMPLY LIFTED BY ONE PERSON FOR INSPECTION

COVERS ONLY LIFT OUR WHEN AT 90° AS FLATTENED PIN CAN FIT THROUGH "T SLOT"

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