

Ductile Iron  
Manhole Covers  
&  
Frames



Specification  
SANS 50124 : 1994



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## Mechanical Properties

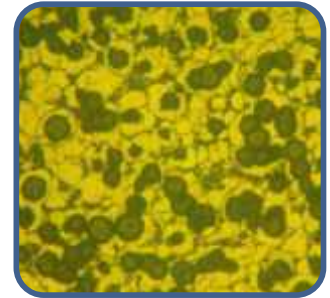
### A) THE DIFFERENCE BETWEEN DUCTILE AND GREY CAST IRON

CAST IRON



- Ductile Iron has a higher breakage safety coefficient, since it follows any deformation due to loads without breaking (unlike cast iron), the returning to the original condition after stress.
- Cast Iron is made up of thousands of plates which interrupt the continuity of the metal matrix and consequently jeopardise its mechanical resistance and make it subject to possible cracking or braking.
- Ductile Iron is made up of spheroids achieved by introducing a suitable quantity of magnesium into the bath before the casting. This gives the product a high breading load as well as remarkable elasticity

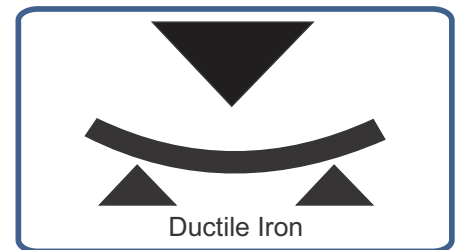
DUCTILE IRON



### B) THE BENEFITS OF DUCTILE IRON



- Elasticity 270 Mpa
- Tensile Strength 420 Mpa
- High Elongation > 10%

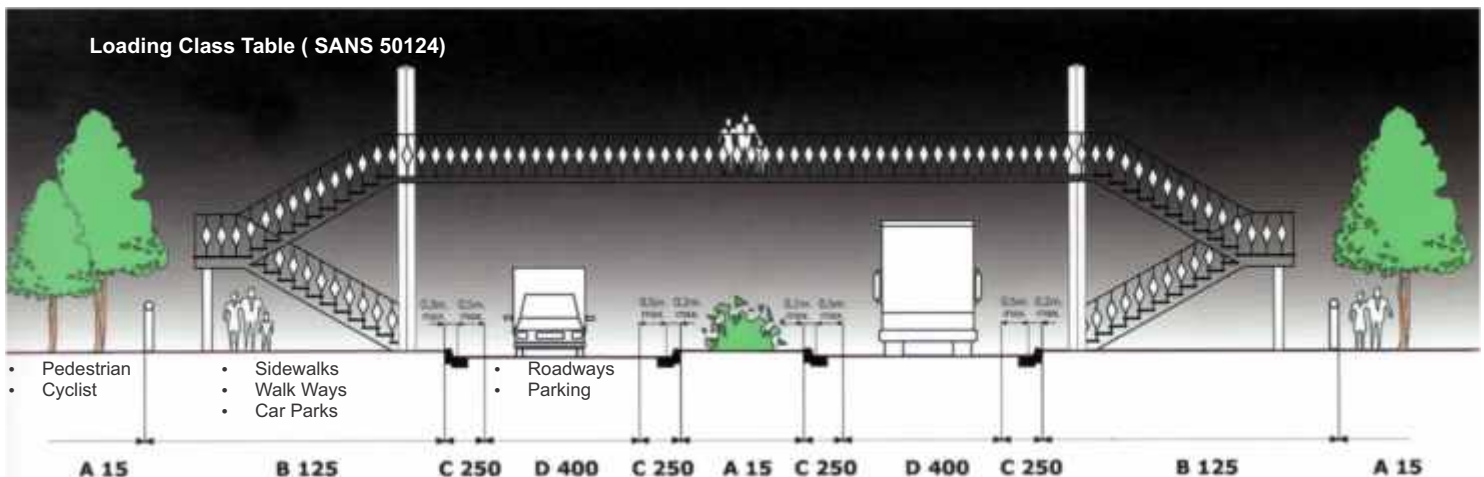


The Ductile Iron high strength to weight ratio allows for the production of light weight castings that offer what can amount to a 50% weight saving over traditional cast iron to achieve improved strength

### SABS MARKS

SABS 558 & SABS EN 124 comparison		
	SANS 558 (Grey Iron)	SANS 50124 (Ductile Iron)
Description	Cast Iron surface boxes and manhole inspection covers and frames	Gully tops and manhole tops for vehicular and pedestrian areas- Designed requirements, type testing, marking, quality control
Materials covered	Grey Cast Iron only	Spheroidal Graphitic cast iron (Ductile Iron), Flake Graphite cast iron (Grey Iron): Cast Steel or any other material that meet the relevant requirements
Loading Class	HD = Heavy duty 135 Kn MD = Medium duty 40 Kn LD = Light duty 7 Kn	A 15 = 15Kn      D400 = 400Kn B125 = 125Kn    E600 = 600Kn C250 = 250Kn    F900 = 900Kn

Loading Class Table ( SANS 50124)

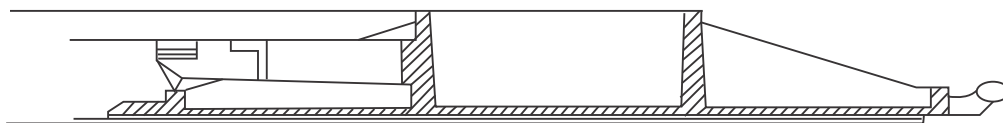
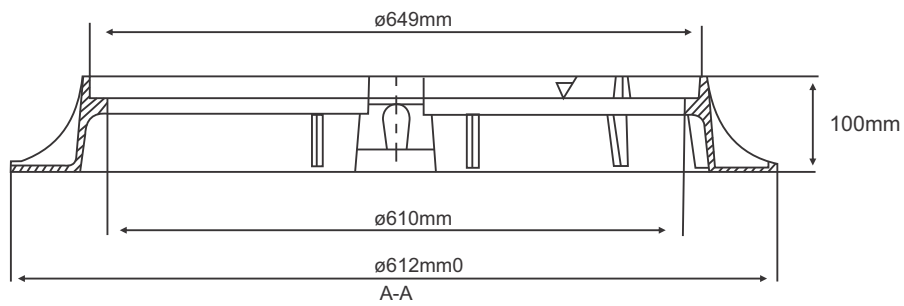
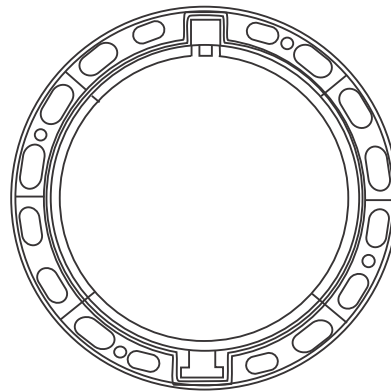
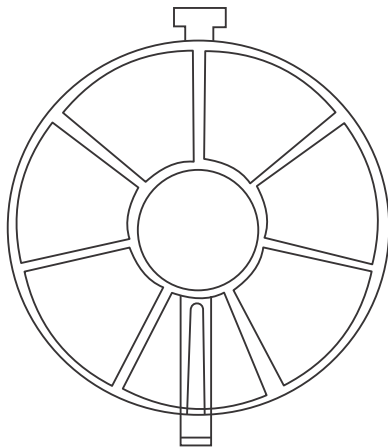
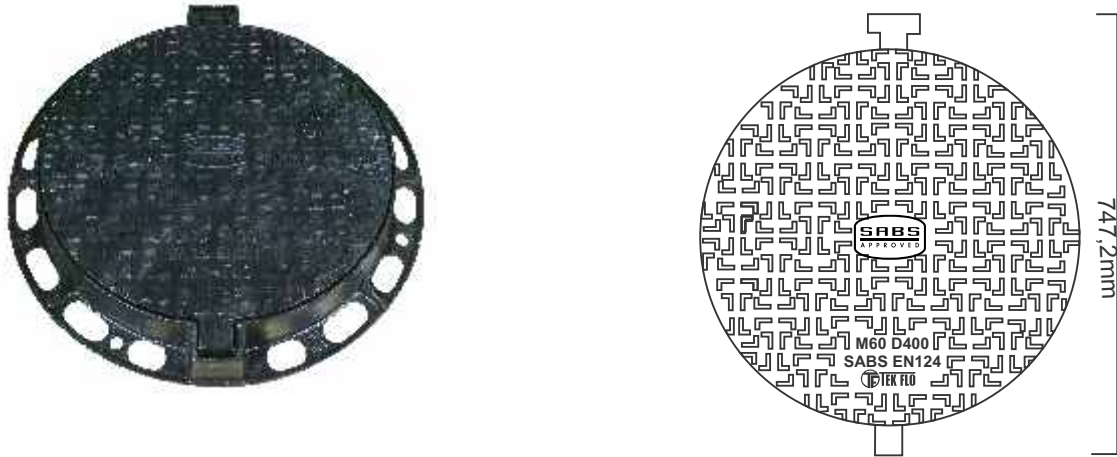


Product Listing

**TYPE 2A SNAP LOCK DUCTILE IRON COVER & FRAME**

CLASS D400 - 400Kn

Type	Ref. Code	Class	Duty	Description
2A	032442	D400	400Kn	Type 2A Ductile Iron Snap Lock Cover & Frame

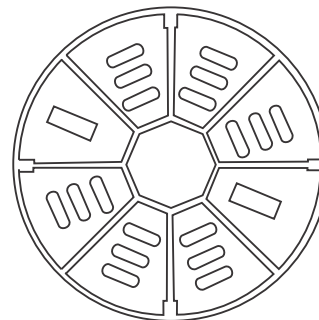
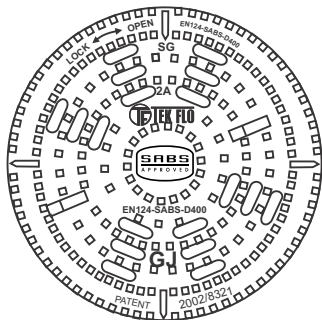
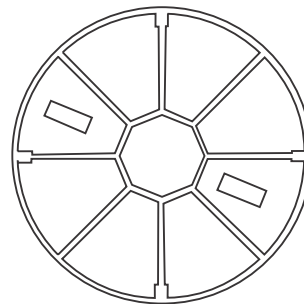
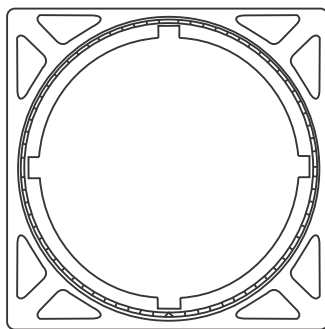
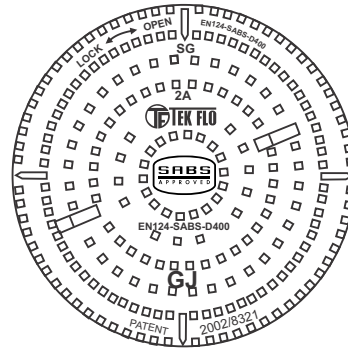


Product Listing

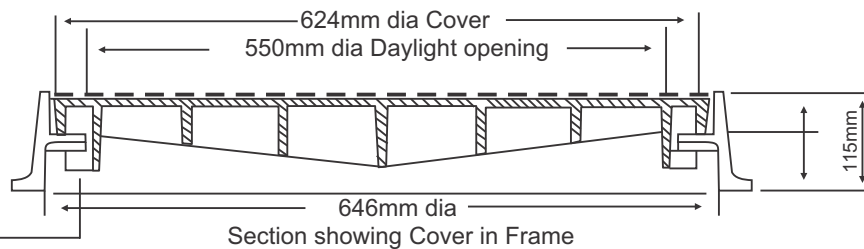
TYPE 2A & 2B ROTATING WEDGE LOCK DUCTILE IRON COVER & FRAME

CLASS D400 - 400Kn

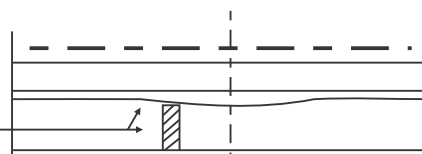
Type	Ref. Code	Class	Duty	Description
2A	032443	D400	400Kn	Type 2A Ductile Iron Rotating Wedge Lock Cover & Frame
2B	032444	D400	400Kn	Type 2B Ductile Iron Rotating Wedge Lock Cover & Frame



Stopper for Lift Location



4 Lugs on cover underside rotate anti-clockwise to engage with wedge and lock. To lift Cover out of frame, Cover is rotated clockwise to stopper at cut out. Lug then lifts out through cut out.



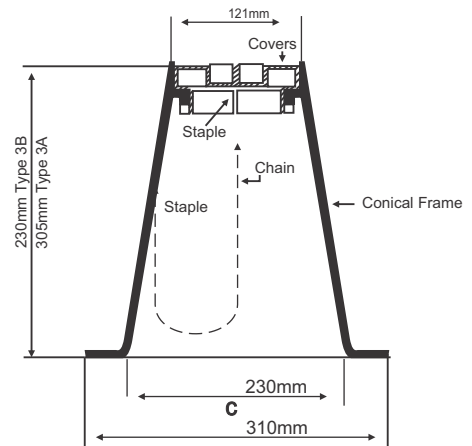
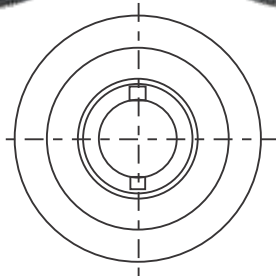
The Cover and Frame become an integral unit when locked. Ensures no rocking or dislodging, as well as water tight.

## Product Listing

### TYPE 3A DUCTILE IRON COVER & FRAME & TYPE 3B DUCTILE IRON COVER & FRAME

CLASS B125 - 125Kn

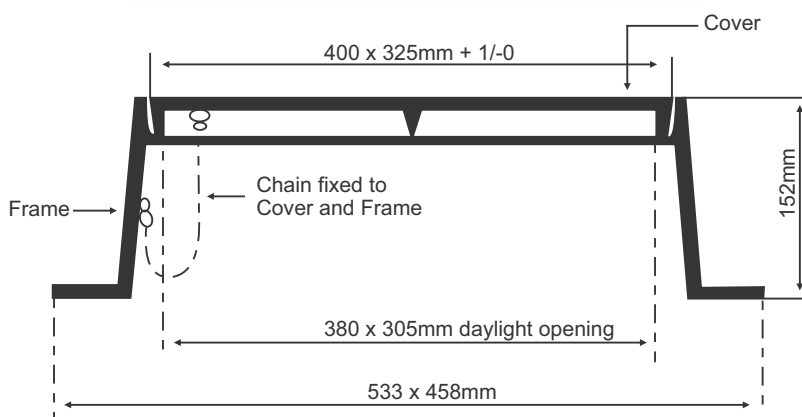
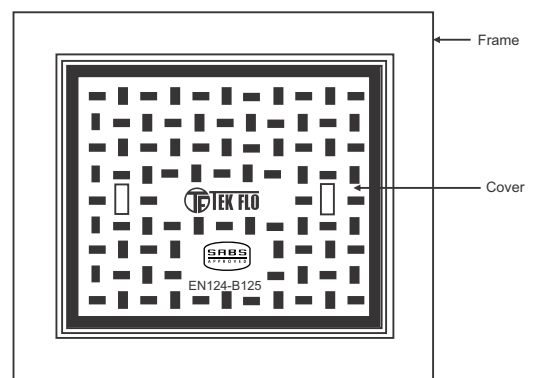
Type	Ref. Code	Class	Duty	Description
3A	032445	B125	125Kn	Type 3A Ductile Iron Cover & Frame
3B	032446	B125	125Kn	Type 3B Ductile Iron Cover & Frame



### TYPE 5 DUCTILE IRON COVER & FRAME

CLASS B125 - 125Kn

Type	Ref. Code	Class	Duty	Description
5	032447	B125	125Kn	Type 5 Ductile Iron Cover & Frame

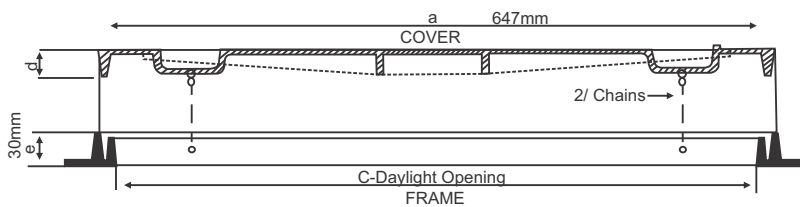
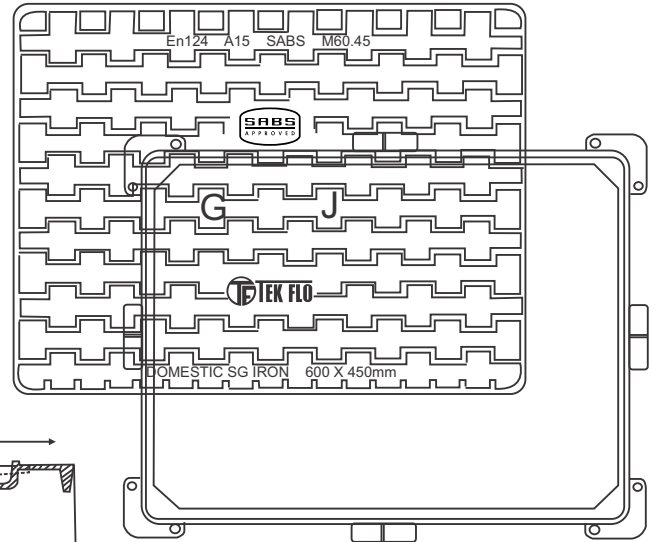


## Product Listing

### 25Kg DOMESTIC DUCTILE IRON COVER & FRAME

CLASS A15 - 15Kn

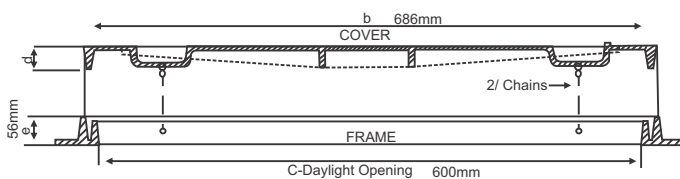
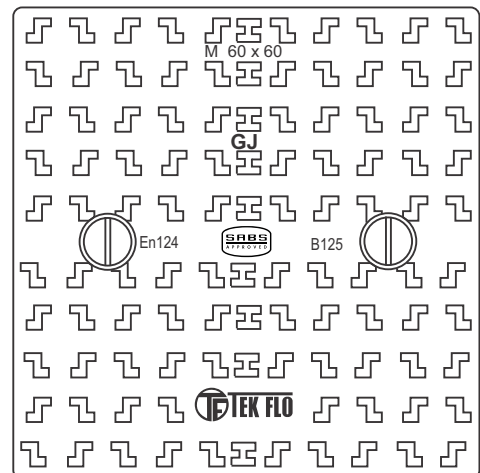
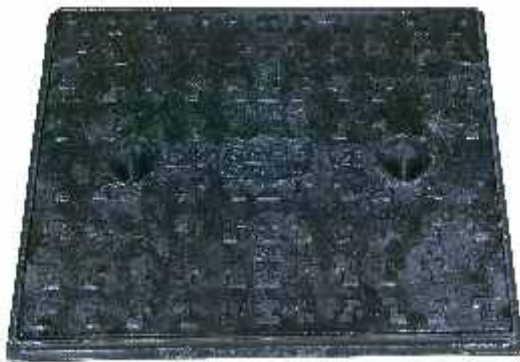
Type	Ref. Code	Class	Duty	Description
25Kg	032450	A15	15Kn	25kg Domestic Ductile Iron Cover & Frame



### Type 9A DUCTILE IRON COVER & FRAME

CLASS B125 - 125Kn

Type	Ref. Code	Class	Duty	Description
9A	032448	B125	125Kn	Type 9A Ductile Iron Cover & Frame

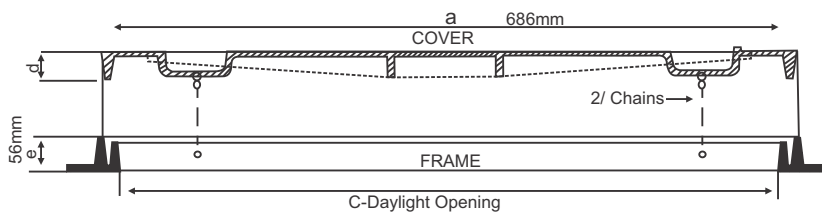
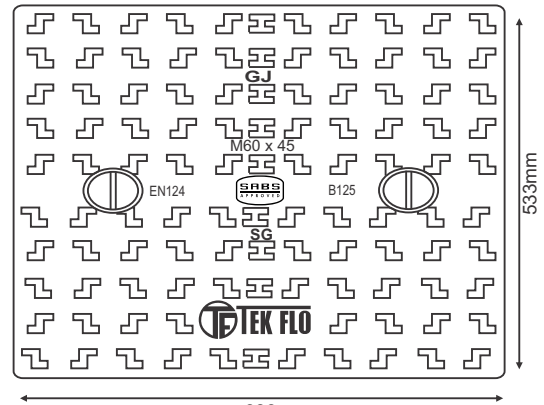


## Product Listing

### Type 9D DUCTILE IRON COVER & FRAME

CLASS B125 - 125Kn

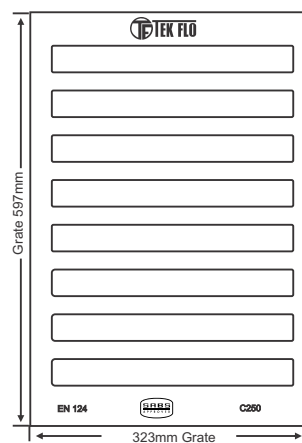
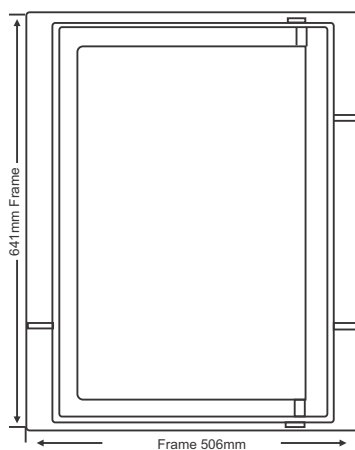
Type	Ref. Code	Class	Duty	Description
9D	032449	B125	125Kn	Type 9D Ductile Iron Cover & Frame



### Type 8 DUCTILE IRON HINGED GRATE & FRAME

CLASS C250 - 250Kn

Type	Ref. Code	Class	Duty	Description
8	032451	C250	250Kn	Table 8 Ductile Iron Hinged Grate & Frame





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