



**BURDENS
AUSTRALIA**



Structurally Certified Access Chambers and Cover Systems

Advanced Products For Network Infrastructure

www.burdens.net.au



Burdens Australia

Unrivalled Australian Experience

Burdens Australia's Management team have over 100 years' experience in all aspects of Civil Electrical Rail and Network Infrastructure Construction. This direct experience is strengthened by a global network of experts in Network Infrastructure Provision, each having more than a decade in their area of expertise.



Burdens Australia has partnered with innovative suppliers, worldwide to bring the Australian Market the best in infrastructure and construction products. Burdens Australia is a specialist in the provision of time saving products, manufactured and tested to withstand Australia's harsh environment. Burdens Australia strives to meet the needs, challenges and objectives of our Clients and Partners and bring together solutions which exceed our customers expectation.

Burdens Australia's Vision and Values



Access Chamber Standards

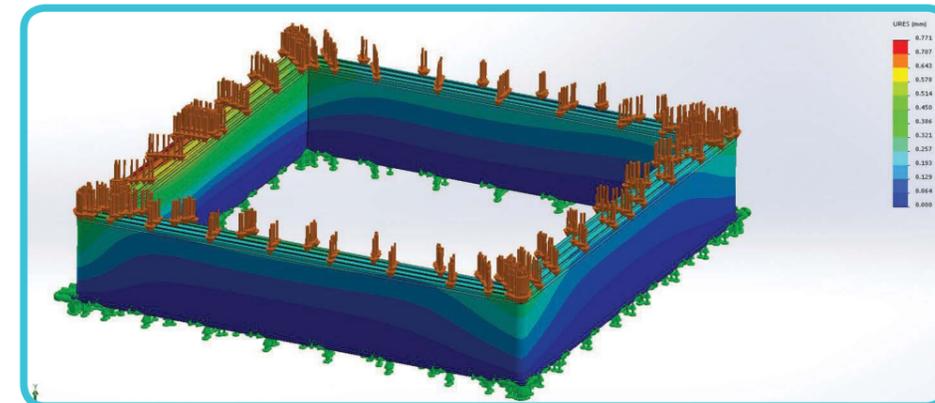
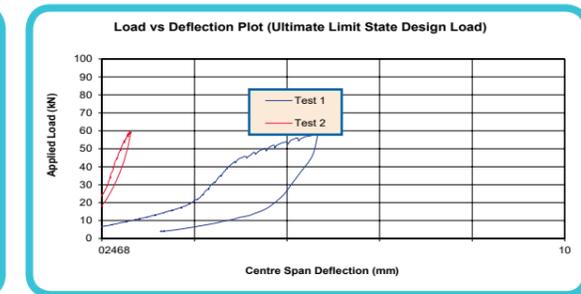
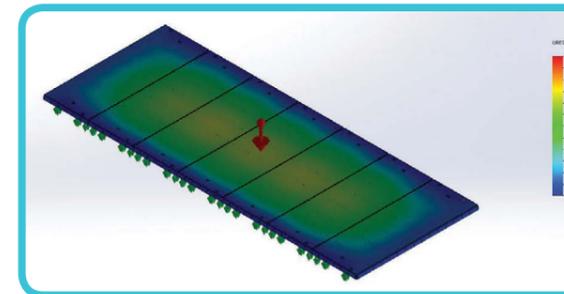
Unlike manhole covers, chambers or pits have no comparable Australian standard. Pits are selected with reference to their practical use and associated sizing. As a guide to specification and installation the AS3996 Standard is generally used as an outline to the specific use of the chamber. All EZYstack™ chamber component parts have been designed and tested with this standard in mind.



Technical

Design Production and Design Capabilities

Burdens Australia is continuously creating new products for the market place as well as working on bespoke projects and fulfilling customer needs. Burdens Australia's in house engineers are able to model specific chamber sizes and run FEA analysis.



Made from advanced construction materials our EZYstack™ access chamber system is at the forefront of developments in the general chamber market. The system is designed to provide the installer with a quick and efficient chamber installed in a fraction of the time normally associated with traditional chamber systems.

Available directly from Burdens Australia Pty Ltd. EZYstack™ currently has a customer base that include water and power utilities, telecommunications, rail networks and main roads operators.

This brochure will guide you through our range of access chambers, covers, frames and accessories that are available to compliment our system.

Lightweight, easily transportable



Reduced waste and inefficiency

Waste and inefficiency has plagued Infrastructure Construction around the globe. Burdens Australia's products are engineered to enable the latest methodologies that improve the speed and efficiency of Network Infrastructure Construction, enhance productivity, improve build quality, reduce costs and provide both Operators and Contractors a better return on their investment.

Ideal for use in Telecommunications, Power, Water, Rail and Gas Distribution.



AS3996 Standard

Surface manhole covers installed in Australia must meet the requirements of the Australian Standard AS3996 (road gully and inspection chamber covers). Products designed to AS3996 are grouped depending on their place of installation.

Loading Class Applications	Size (Clear Opening)	Recommended Pit	Backfill
 A10kN Wheel Load 330kg	300mm ² -900mm ²	iDS™ HDPE or Polymer Pits	Any Material
	900mm ² +	EZYstack™ Saturn	Any Material
 B80kN Wheel Load 2,670kg	P1 -9 or 300mm ² -900mm ²	iDS™ HDPE or Polymer Pits	100mm 25Mpa Concrete at top & 50mm Concrete Bottom
	300mm ² -900 ² mm	EZYstack™ Saturn	No Concrete Required
	1200mm ² +	EZYstack™ Jupiter	No Concrete Required
 C150kN Wheel Load 5,000kg	300mm ² -900mm	iDS™ Polymer Pits	200mm 25MPa concrete around the top, 100mm concrete around the wall & 200mm 25MPa concrete underneath
	300mm ² -1200 ² mm	EZYstack™ Saturn	No Concrete Required
	1200mm ² +	EZYstack™ Jupiter	No Concrete Required
 D210kN Wheel Load 8,000kg	300mm ² -1200 ² mm	EZYstack™ Saturn	No Concrete Required
	1200mm ² +	EZYstack™ Jupiter	No Concrete Required
 E400kN Wheel Load 13,700kg	300mm ² -1200 ² mm	EZYstack™ Saturn	25Mpa Concrete surround required but no reo-bar
	300mm ² -5000 ² mm	EZYstack™ Jupiter	200mm Concrete around the top & bottom layers
 F600kN Wheel Load 20,000kg	300mm ² -5000 ² mm	EZYstack™ Jupiter	Consult Burdens Australia



EZYstack™ Saturn:

Manufactured by Burdens Australia from Talc Filled Polypropylene (PP)

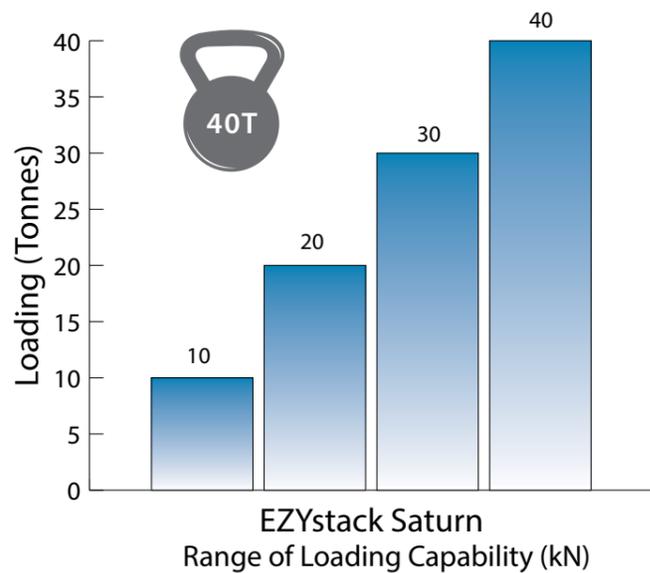
EZYstack™ Saturn has been designed to create a wide range of chamber sizes to suit infrastructure pit requirements. The system has been subject to finite element analysis studies coupled with physical testing to produce a chamber with excellent vertical load capabilities. EZYstack™ SATURN is mostly utilised for footway installations although it can also be installed in trafficable areas.

PRODUCT FEATURES

- Manufactured in 150mm high sections
- Available in various sizes to cover traditional pits from 300 x 300 to a maximum of 1200cm x 1200cm
- Components stack vertically on each other to achieve any depth required
- Manufactured to ensure stability and rigidity
- All components weigh less than 25kg
- Available in two corner sizes, 75mm, 150mm to ensure layers are offset and increase the flexibility of the range
- Flat pack component design with smooth, rib free internal walls
- Covers and accessories available



LOADING



EZYstack™ Jupiter:

Manufactured by Burdens Australia from Glass Reinforced Polyester Resin (GRP)

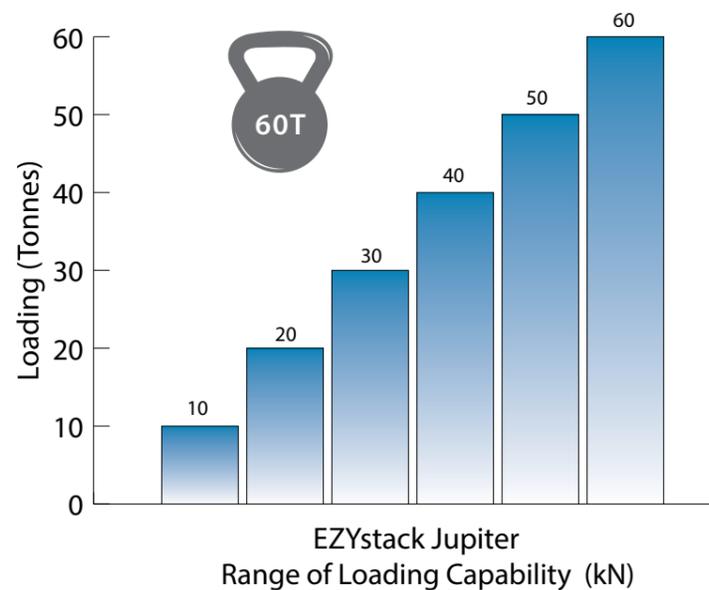
EZYstack™ JUPITER is also available in a number of component parts which enables a wide range of chamber sizes to be created. EZYstack™ Jupiter provides a much more rigid sidewall in large chambers as well as good thermal stability in extreme temperatures. EZYstack™ JUPITER is ideal for roadway installations or any application where a strong reliable chamber is required. **The perfect alternative to formed or pre cast manhole chambers!**

PRODUCT FEATURES

- Manufactured in 150mm high sections
- Wide range of components to manufacture any size chamber or pit, subject to installation instructions
- Components stack vertically on each other to achieve any depth required
- Manufactured to ensure stability and rigidity
- All components weigh less than 25kg
- Maximum of 60 tonne loading is achievable
- Does not require concrete support in most applications
- Covers and accessories available
- Flat pack component design with smooth, rib free internal walls
- Available in a fire retardant material (UL94 5VA)
- Does not move slowly or deform remotely under mechanical stress



LOADING



• Same Innovative Design • Interchangeable Parts • Medium and Heavy Loading

Benefits of EZYstack™



Occupation Health and Safety (OH&S)

EZYstack™ provides a system of components weighing less than 25kgs, the EZYstack™ Access Chamber system can be carried, handled and installed by hand without the need for any additional lifting equipment, thereby conforming to increased OH&S requirements.

95% Lighter Than Concrete

The EZYstack™ system is significantly lighter than traditional concrete chambers, it not only improves safety on site but saves a huge amount of fuel and energy in transportation compared to concrete chambers of the same size.

Cut Delays

When compared with concrete, which takes 30 days to cure, we produce comparable sizes at our warehouses in **less than an hour**; this means we have a greater capacity to fulfill projects where time and availability is a critical factor.

Strong

The structural twin wall design of the EZYstack™, means it is capable of supporting vertical load without the need for a concrete surround.

This strength is not there by accident, but is the result of state of the art Finite Element Analysis FEA design using the latest software! In addition, the product has been subjected to a rigorous load testing program on our purpose built test press to simulate the kinds of loading an installed chamber will face during its lifetime. With these factors in mind, the EZYstack™ Access Chamber is equally at home when installed in a variety of applications.

Loads Comparable with Concrete

The interlocking sections also provide a great degree of strength to each other when they are built up. This is further enhanced through the **clever design of offset component joints providing a brickwork style of finish**. The resulting chamber is much stronger than the sum of its parts, which in turn provides for **lateral side loads being achieved that are comparable with concrete**.

Fast

EZYstack™ Sections are simply assembled by joining adjacent pieces together to form layers which are then stacked on top of each other until the desired depth is reached. With the hole dug and prepared, typical **installation times of 30 minutes** can be achieved. Due to the sectional nature of the EZYstack™; retrofitting around existing network services makes the system easy and quick to install, even if there are live cables in situ!

Flexible Sizing

The component aspect of the EZYstack™ system means that chambers can be created to most sizes and depth required for project specifications. Additionally we are able to supply covers in a variety of materials and sizes.

Ancillaries

The component material allows for the easy addition to the chamber of ancillaries such as cable management, ladders, duct entries and associated chamber fixtures and fittings. These can be added to the chamber system without the need for specialist tools.

Installation time of EZYstack™ products



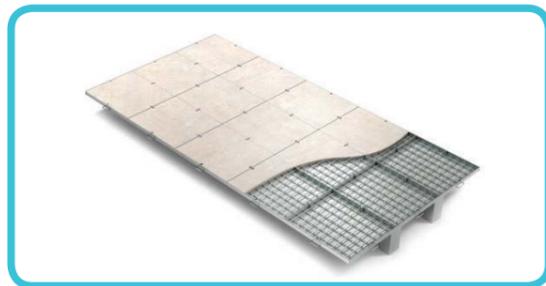
Covers & Frames

Burdens Australia prides itself on providing customers with a complete underground network access system. Our extensive range of covers and frames in a variety of materials, can be tailored to meet project specific loading requirements.

We are able to provide covers and frames manufactured in accordance with AS3996 for use in various applications from pedestrian use to ports and airport facilities.

URBAN CLASSIC INFILL

- Covers and frames are made from galvanised steel and are designed to meet the requirements of areas requiring high aesthetic finishes
- A minimal amount of metal is visible on the exposed surface and covers are fitted with locking bolts for security purposes
- The deep pan accommodates concrete bedding, allowing the quick and easy installation of pavers and reducing the need for cutting pavers
- Stainless steel or brass decorative edging is available on request



URBAN TRAFFIC INFILL

- Designed for use in trafficable areas but with all the features to ensure the final product blends with the intended aesthetic
- The deep pan accommodates concrete bedding, allowing the quick and easy installation of pavers and reducing the need for cutting pavers
- Stainless steel or brass decorative edging is available on request

GALVANISED STEEL

- Galvanised steel covers to fit any size of EZYstack chamber
- Widely used in water treatment and pumping station chamber locations and general construction
- 21 tonnes (D 210kN), 15 tonnes (C 150kN), 8 tonnes (B 80kN) and 1 tonne (A 10kN) loadings available
- High security, unauthorised entry prevention options
- Hot dip galvanised to AS1650/1980 & EN1461 standard and/or aesthetic powder coated



Ductile Iron Covers

DUCTILE IRON SOLID TOP

- More durable, reliable and flexible than other materials
- High impact resistance
- Available in a range of sizes from 300mm-1000mm (for single parts)
- Available in circular, rectangular and square configurations
- Use in infrastructure projects, storm water and sewer covers.
- Also available in multi-part sizes



iDS Ductile Iron Range - Solid Tops			
Class	SI #	Part #	Description - Solid Top Covers
B/D/G	1	iDS C4545	450 x 450
	2	iDS C6045	600 x 450
	3	iDS C6060	600 x 600
	4	iDS C9060	900 x 600
	5	iDS C9090	900 x 900
	6	iDS C90120	900 x 1200
	7	iDS C120120	1200 x 1200

DUCTILE IRON INFILL

- Designed to match the surrounding environment
- Used in various applications such as carparks, landscape areas, airports and train stations.
- Superior strength to weight ratio compared to cast iron
- Available with brass and stainless steel edging for decorative purposes
- Also available in multi-part sizes



iDS Ductile Iron Range - Infill Covers			
Class	SI #	Part #	Description - Solid Top Covers
B/D/G	1	iDS C3030	300 x 300
	2	iDS C4545	450 x 450
	3	iDS C6045	600 x 450
	4	iDS C6060	600 x 600
	5	iDS C7575	900 x 600
	6	iDS C9090	900 x 900
	7	iDS C90120	900 x 1200

Accessories

Using an EZYstack™ Access Chamber system can save even more time with our Options and Accessories range, allowing installers to simply place, connect up pipes or conduit, backfill and walk away.

Focusing on our customer needs, we have developed the parts required and offer a pre-fitting service, saving further time on site and providing a consistent build quality.

BASES

- Available with anti-slip finish, sumps and drainage holes
- Securely fitted to a ring section or bottom of a chamber
- Prevents silt and vegetation from entering
- Available to suit any chamber size
- Made of low density polyethylene



DUCT ENTRY

- Available in many sizes and wall configurations
- Fittings allow for a simple transit into our chambers
- Consistent internal wall finish and spacing
- Custom sizes are available to your specification

LIFTING KEYS

- A variety of lifting keys are available to assist in the removal of all types of cover
 - Long handed lifting key (1)
 - Short handed lifting key (2)
 - iDS Lifting key (3)



CONCRETE SURROUNDS

- To compliment Burdens extensive range of chambers we are able to offer concrete surrounds as an additional service

ACCESSORIES

- High quality access ladders available to suit customer requirements
- Required for chambers deeper than 900mm
- Allen key for locking covers
- Brass identification plates for cover marking
- Marker puck for asset identification



Accessories



The Handylift Hydraulic is the best selling lifter on the market. It's light and easy to use. With a breakout force of 1.5 tonnes it will enable anyone to lift stuck covers without effort. It is Proteus' most versatile lifter, capable of lifting all types of covers with the relevant keys and accessories.

One important thing to remember for Australian based purchasers is that with a Handylift Hydraulic you will be fulfilling your obligations under the Manual Handling Operations Regulations. We supply our lifters to all major utility companies, councils and thousands of other companies throughout the world.

This machine can be carried completely assembled in a van or large car boot. It can also be disassembled easily in 15 seconds to fit in smaller spaces.

The Handylift Hydraulic comes in two sizes:



HANDYLIFT HYDRAULIC

The basic Handylift Hydraulic will lift covers up to 900mm x 900mm keyspan, and with the right array of keys can tackle 2-keyhole covers, double-triangle covers, and 4-keyhole covers.

- Model name: Handylift Hydraulic
- SWL (tonnes): 1.5
- Weight (kilos): 25 fully assembled
- Maximum keyspan (mm): 900 x 900



TEXAS HANDYLIFT HYDRAULIC

The Texas Handylift Hydraulic is a larger version of the standard unit and can lift covers up to 1200mm x 1200mm keyspan as standard.

- Model name: Texas Handylift Hydraulic
- SWL (tonnes): 1.5
- Weight (kilos): 30 fully assembled
- Maximum keyspan (mm): 1200 x 1200 as standard; even larger sizes available as special build

Specialist Rail Products

iDS™ CABLE TROUGH

Burdens iDS™ plastic cable trough is ideal for laying in signal and communications lines underground on railway routes and in power plants and industrial installations. The fact that it can be laid so simply and quickly is particularly useful with short closure times or on surfaces. Its structural design ensures that it is very stable in spite of its low weight and it provides cables and pipes with effective protection against external influences.

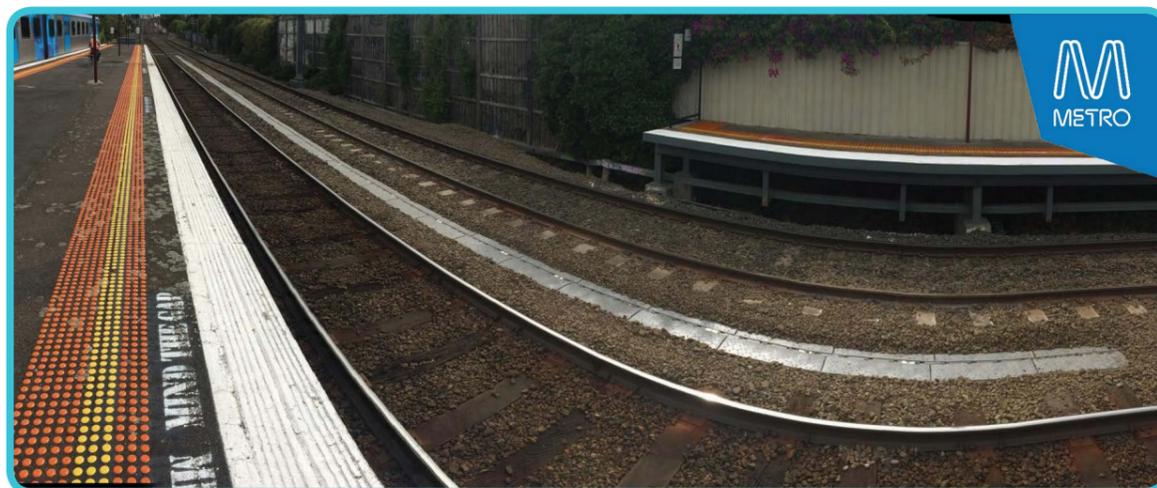


100mm WIDE



240mm WIDE

- Horizontal segments - increase strength substantially when installed
- Can be laid above ground if earth nails are used
- Cover can be installed over two troughs
- Cover can be firmly connected even when open
- Covers can be opened individually
- Cables and pipes that have been laid are easily accessible anywhere and at any time
- Cables and pipes effectively protected against external influences
- No earthing or insulation necessary
- Easy adjustments on-site - ability to mitre 45 and 90 degree angle
- Cable duct can be laid simply and quickly, cutting down closure times for assembly
- Light weight, maintenance-free and 100% recyclable
- No jointing components
- EZYstack plastic cable trough is reusable



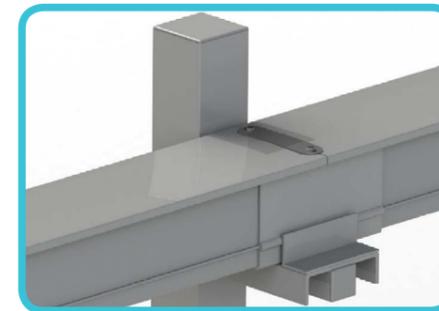
iDS™ Elevate Box

iDS™ Elevate is a GRP (Glass Reinforced Polymer) and PP (Polypropylene) Cable Trough and tray system offering rail network owners the opportunity to install cable runs in an elevated position either track-side or over bridges. The resultant installation reduces maintenance frequency and provides an excellent product lifespan.

Developed with Safety and Design in mind the iDS™ Elevate has been designed to offer a quicker, simpler product installation when compared with traditional systems. Innovatively designed with minimal sectional pieces iDS™ Elevate provides strength and durability, furthermore at the end of its product cycle the iDS™ Elevate box is easy to remove and recycle thereby providing a small carbon footprint.

The materials used are light and yet have a structural integrity ordinarily seen in steel and /or concrete, however they do not suffer from the conductivity, corrosion and theft issues of steel or the weight problems of concrete.

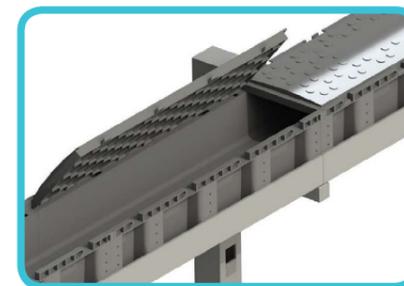
With occupational health and safety in mind the support posts and rails are all GRP which eliminates the conductivity risk altogether.



iDS™ Elevate Trough

iDS™ Elevate Trough incorporates the iDS™ Cable Trough as the carrier mechanism for the rail infrastructures cable management. The use of the iDS™ Cable Trough ensures a seamless transition from in-ground or surface installed Cable Trough to elevated use.

The iDS™ Elevate Trough utilises the same materials as the iDS™ Elevate Box apart from the Cable Trough itself. Through the use of the iDS™ Cable Trough the iDS™ Elevate Trough provides all the benefits inherent with the original system but enhanced to span difficult geographical terrain.





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