

# **EJ Covers & Grates AS3996:2019 Testing Changes**

Complementary but important tests have been added to the existing AS3996:2019 standard Geometric Centre tests required for compliance, as illustrated below. These updated additional "Weakest Points" tests (gazetted as Appendix C, Section 3.1) ensure that products perform as they should, providing low maintenance longevity.



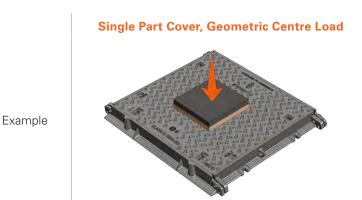




## **EJ Testing Unit Now at NATA Approved Facility**

EJ has already invested and upgraded many popular product lines to meet these strengthened, Australian Standards, that exceed global standards such as the European EN124:2015. You can trust EJ.

### The Familiar AS3996 Testing Procedure





### The Updated Additional AS3996:2019 Testing Procedures

| Criteria                | <b>IF</b> cover/grate has CO greater than 400mm (any direction) AND non-uniform load bars or thickness in load bearing structure | IF cover/grate has more than one part (e.g. trench runs) AND non-uniform load bars or thickness in load bearing structure |
|-------------------------|--|---|
| Additional Type<br>Test | Test Block placed at "Weakest Point"   | Test Block placed at each joint between covers at the "Weakest Point"   |
| Example                 |  |   |

### **Recessed for Concrete Infill**

Compliant for any type of infill material, suitable for shallow pavers.



| Clear<br>Opening Size<br>width x length (mm) | Overall Frame width x length x height (mm) | Number of<br>Covers | Product Code |
|--|--|---------------------|--------------|
| 600×600                                      | 800x710x55                                 |                     | ER0606B      |
| 900×600                                      | 1100x710x55                                |                     | ER0906B      |
| 900×900                                      | 1100×1010×55                               |                     | ER0909B      |
| 600×1220                                     | 800x1330x55                                |                     | ER0612B      |
| 900×1220                                     | 1100×1330×55                               |                     | ER0912B      |
| 900×1520                                     | 1100×1630×55                               |                     | ER0915B      |
| 900×1820                                     | 1100×1930×55                               |                     | ER0918B      |
| 600x1840                                     | 800x1950x55                                |                     | ER0618B      |
| 900×2140                                     | 1100×2250×55                               |                     | ER0921B      |
| 900×2440                                     | 1100×2550×55                               |                     | ER0924B      |
| 900×2740                                     | 1100×2850×55                               |                     | ER0927B      |

**Included Accessories:** Keyhole Covers, Stainless Steel Lock-Down Bolts and Bolt Hole Covers.

**Optional Accessories:** Height Adjusting Bolts, Lifting Key Levers and High Security Bolts.

# **Solid Top Anti-Slip Surface**

Pedestrian pathways, car parks or parking stations. With a **solid top** and featuring the EJ patented 4L anti-slip surface (P5 rated to AS4586:2013).



| Clear<br>Opening Size<br>width x length (mm) | Overall Frame width x length x height (mm) | Number of<br>Covers | Product Code |
|--|--|---------------------|--------------|
| 600×600                                      | 800x710x55                                 |                     | ES0606B      |
| 900×600                                      | 1100×710×55                                |                     | ES0906B      |
| 900×900                                      | 1100x1010x55                               |                     | ES0909B      |
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| 900×2440                                     | 1100×2550×55                               |                     | ES0924B      |
| 900×2740                                     | 1100×2850×55                               |                     | ES0927B      |

**Included Accessories:** Keyhole Covers, Stainless Steel Lock-Down Bolts and Bolt Hole Covers.

**Optional Accessories:** Height Adjusting Bolts, Lifting Key Levers and High Security Bolts.

### **Recessed for Concrete Infill**

Compliant for any type of infill material, suitable for shallow pavers.



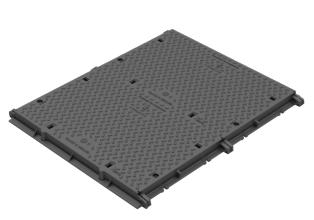
| Clear<br>Opening Size<br>width x length (mm) | Overall Frame<br>width x length x height<br>(mm) | Number of<br>Covers | Product Code |
|--|--|---------------------|--------------|
| 600×600                                      | 800x710x80                                       |                     | ER0606D      |
| 900×600                                      | 1100×710×80                                      |                     | ER0906D      |
| 900×900                                      | 1100x1010x80                                     |                     | ER0909D      |
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| 900x2440                                     | 1100×2550×80                                     |                     | ER0924D      |
| 900×2740                                     | 1100×2850×80                                     |                     | ER0927D      |

**Included Accessories:** Keyhole Covers, Stainless Steel Lock-Down Bolts and Bolt Hole Covers.

**Optional Accessories:** Height Adjusting Bolts, Lifting Key Levers and High Security Bolts.

### **Solid Top Anti-Slip Surface**

Major roadways, suburban pedestrian shared streets, hard shoulders and parking areas for all types of vehicles. With a **solid top** and featuring the EJ patented 4L anti-slip surface (P5 rated to AS4586:2013).



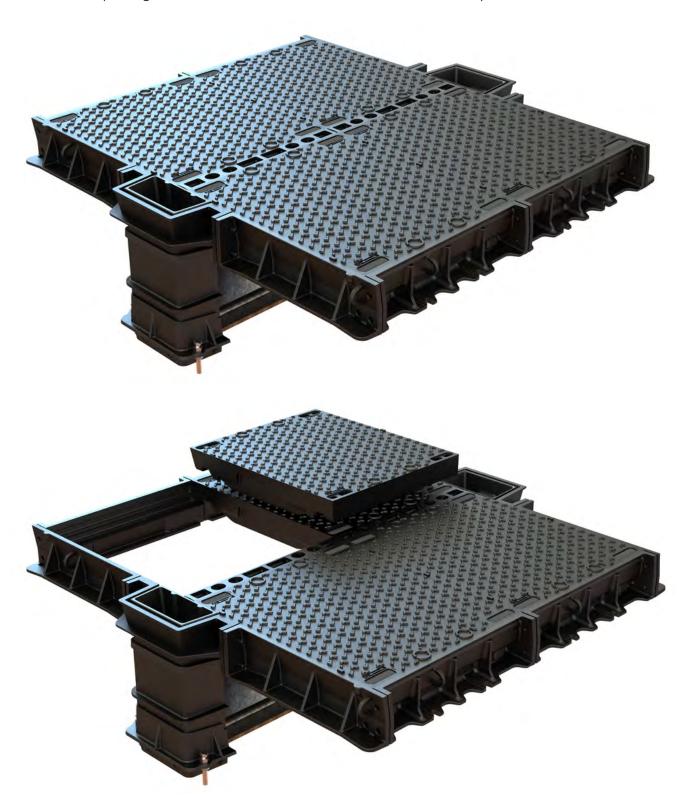
| Clear<br>Opening Size<br>width x length (mm) | Overall Frame width x length x height (mm) | Number of<br>Covers | Product Code |
|--|--|---------------------|--------------|
| 600×600                                      | 800x710x80                                 |                     | ES0606D      |
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| 900×2740                                     | 1100×2850×80                               |                     | ES0927D      |

**Included Accessories:** Keyhole Covers, Stainless Steel Lock-Down Bolts and Bolt Hole Covers.

**Optional Accessories:** Height Adjusting Bolts, Lifting Key Levers and High Security Bolts.

### **Multiparts and Long-run Trench Covers**

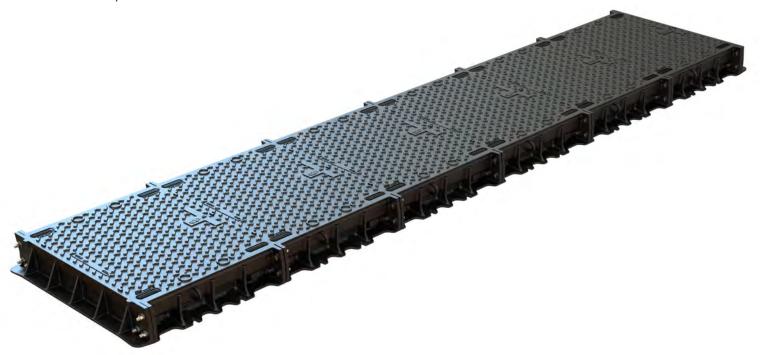
EJ is who you contact first when you need custom-made covers. Our team has decades of experience out on sites, getting to understand exactly what projects require. And knowing that our covers are AS3996:2019 rated and have been tested in our own NATA rated testing lab, gives you confidence that you're installing covers of uncompromising quality. Check with us about your specific Clear Opening and Load Class and we'll custom-make it for you.

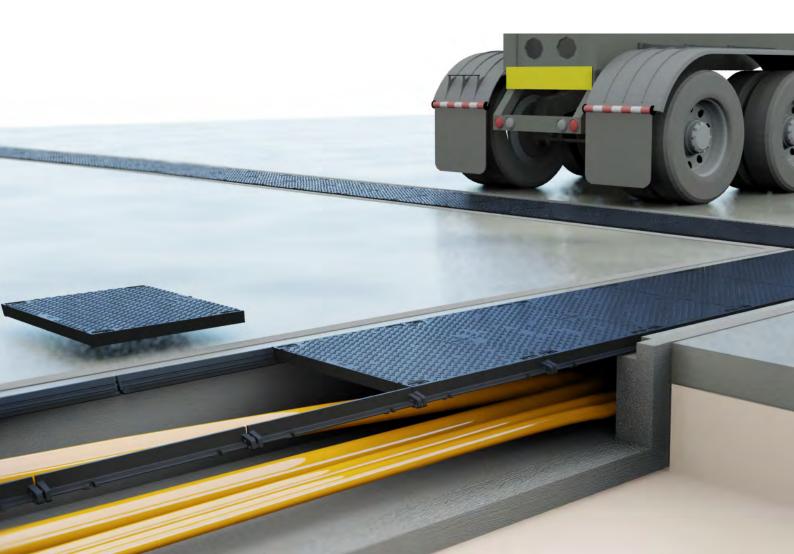


# **Multiparts - Made to Order**

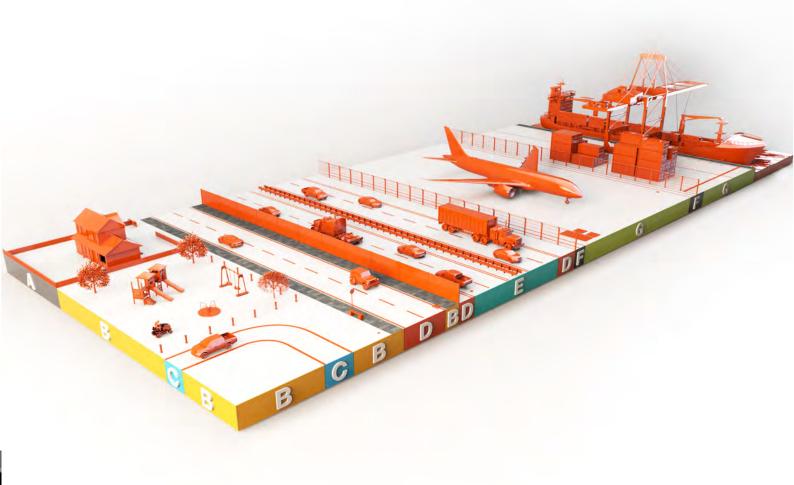
# Trench Covers Where We Go to Any Lengths and Loads For Your Project

Specify just what you need and we'll build it for you. Infill and solid applications, footpaths to airport tarmacs, we'll custom make and deliver, fully AS3996:2019 tested at our own NATA rated test unit. Check with us about your specific Clear Opening and Load Class and we'll custom make it for you.





# LOAD CLASSIFCATION OF COVERS AND GRATES AS3996: 2019



| Class | Typical Issue   | Nominal Wheel<br>Loading kg | Serviceability<br>Design Load kN | Ultimate Limit<br>State Design kN |
|-------|---|-----------------------------|----------------------------------|-----------------------------------|
| А     | Areas accessible strictly by pedestrains. Not suited to vehicles. Purpose - residential backyards. Walkways not accessible by vehicles.   | 330                         | 6.7                              | 10                                |
| В     | Private and shared residential property. Suitable for vehicles accessing driveways and footways. Low speed only. Purpose - residential driveways. Unit sites. Parklands. Residential car parks. | 2,670                       | 53                               | 80                                |
| С     | Residential roads and car parks trafficable to vehicles. Purpose - areas with slow moving traffic and minor roads.  | 5,000                       | 100                              | 150                               |
| D     | Major roads including freeway and motorway shoulders. Warehouses and loading docks. Purpose - major roads.  | 8,000                       | 160                              | 240                               |
| Е     | Freeway and motorway carriageways. Suitable for all heavy vehicles. Purpose - freeways and motorways.   | 13,700                      | 267                              | 400                               |
| F     | Docks, wharfs and airport service and taxiways. Purpose - heavy and high traffic volumes.   | 20,000                      | 400                              | 600                               |
| G     | Docks, wharfs and airport runways. Purpose - heavy and high traffic volumes.  | 30,000                      | 600                              | 900                               |

**Notes:** 1. Nominal wheel loads are given for guidance only. Consideration should be given to the type, size and pneumatic pressure of the load applied. 2. Class B design load exceed AS 5100.2 requirements for footway loads. 3. Class D design loads exceed AS 5100.2 requirements for a W80 wheel load. 4. Class C units are based on an intermediate load. 5. The ulitmate limit state load is 3 times the nominal wheel load and 1.5 times the serviceability load.





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