



| DIMENSIONS            | A   | B   | C   | D   | E   | F   | G  | H  |
|-----------------------|-----|-----|-----|-----|-----|-----|----|----|
| <b>Small Standard</b> | 368 | 314 | 271 | 218 | 316 | 276 | 89 | 72 |
| <b>Large Shallow</b>  | 492 | 438 | 271 | 218 | 316 | 276 | 89 | 72 |
| <b>Large Standard</b> | 492 | 438 | 271 | 218 | 220 | 180 | 89 | 72 |

### 1. MATERIAL

Plastic Boxes and Lids can be produced in a wide range of materials, and clients may specify any particular blend of polypropylene or other material to ensure that the product satisfactorily fulfils their known requirements. For example, Boxes made for Brisbane City Council contain up to 100% recycled material, while their Lids are in virgin material.

### 2. LOAD CAPACITY

General comparison may be made with the requirements of AS 3996 for metal access covers, road grates and frames. This provides specification for categories including Class A (pedestrian areas only with no vehicular traffic exposure) and Class B (normally pedestrian areas where occasional service vehicles may require access. None of the standard Polymer Boxes or the Polymer or Steel Lids and Covers would comply with requirements for Class C or higher (exposure to highway or slow-moving vehicular traffic).

#### (a) Lids/Covers

Load capacity for Plastic Lids or Covers, and for any steel Cover referred to as Class A, is limited to a minimum ultimate limit state design load of 10kN. These may be expected to support a load of 1000kg applied to an area of 240 x 240mm without failure. Load capacity for Class B steel Covers is limited to a minimum ultimate limit state design load of 80kN. This is based on AUSTRROADS Bridge Design Specifications for loading of 20kN, with a dynamic load factor of 2.0 and a factor of safety of 2.0. These may be expected to support a load of 8000kg applied to an area of 240 x 240mm without failure.

#### (b) Boxes

When correctly installed with compacted back-fill in an unpaved area, a standard Polymer Box is capable of withstanding loads equivalent to those for a Plastic or Class A steel Lid. When installed in a paved area, with an in-situ concrete collar providing support around and under the rim of the Box, loads equal to the capacity of a Class B steel Lid may be carried.

### 3. SLIP RESISTANCE

Slip resistance tests on Plastic Meter Box Lids conducted for Brisbane City Council on Plastic Lids in accordance with AS/NZS3661.1:1993 (Slip Resistance of Pedestrian Surfaces) were carried out by a NATA approved laboratory. These gave results indicating a mean coefficient of friction of 0.42 which exceeded the minimum requirement of 0.4 required by that standard. The raised pattern which is a current feature of EVERHARD Polymer Meter Box Covers was developed as a result of testing during this joint investigation undertaken with Brisbane City Council. It should be noted that it was also found that naturally occurring wear of the raised pattern appears to enhance the slip resistance, as abrasion of the moulder pattern features produce a "feathered" edge with a significant reduction of the smoothness of the moulding.

### 4. SECURITY

Covers are attached by steel cable, allowing access to check or maintain enclosed equipment, while making removal extremely difficult without specialised tools. Boxes with Polymer or Steel Covers can also be provided with locks to prevent unauthorised access without tools.