

A Technical Guide for Specifiers

This is a comparative guide to IOTA's ranges, addressing issues typically of concern to specifiers in the private and public sector, under the following headings:

1. Supply Chain
2. Weights, Dimensions and Volumes
3. Manufacturing Quality and Guarantees
4. Environment Suitability
5. Chemical Staining and Graffiti
6. Protection Against Theft
7. Custom Manufacture
8. Direct Ex-Factory Supply
9. Use of IOTA Planters in Interiors

If further information is required on any subject relating to specifying IOTA's products, please contact IOTA:

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1. Supply Chain

IOTA's management is intimately engaged in every aspect of the company's supply chain – from design origination, to manufacturing, to delivery. 'IOTA' products are exclusive and designed in-house, and protected under various trademarks, design rights etc. Manufacturing is via dedicated supply contracts with companies in the northern Asia Pacific region (China, Philippines, Vietnam and Taiwan), and IOTA can arrange shipping worldwide.

The relationships between IOTA and its dedicated manufacturers are long-standing and based on genuine 'partnership' principles. As a result, predictability and security of supply is high, and IOTA is routinely engaged in delivering specified orders 'on time, to budget, and to the agreed quality standard'.

2. Weights, Dimensions and Volumes

Comprehensive catalogues can be downloaded from IOTA's website, and these catalogues detail the weights and dimensions for all IOTA products. In addition, the planter range catalogues detail the internal volumes for each individual planter – information which can be used to aid plant selection, and to assist budgeting for project materials.

All measurements given in the catalogues are according to the metric system (centimeters, kilograms, litres). To convert to imperial measurements, a range of resources are readily available on-line – such as: <http://www.initium.demon.co.uk/converts/metimp.htm>

3. Manufacturing Quality and Guarantees

All IOTA products carry a fully-comprehensive five-year guarantee against manufacturing defect, and all planters are guaranteed frost-**proof** for the same period (any frost damage, and the planter will be refunded in full or replaced free-of-charge).

In reality, IOTA's products should last not just five years, but for decades, as manufacturing quality standards are exacting. For example, on the natural stone planter ranges:

- **Adhesives:** glues used are specialist 2-pack epoxy resins, designed specifically for stone.
- **Corner Details:** all corners are mitred – both for aesthetic reasons, and to enhance bonding integrity.
- **Additional Supports:** on the largest planter sizes, stone 'fillet' sections are bonded across the joins internally to provide additional security.
- **Thickness:** stone thicknesses up to 25mm [1 inch] are used to guarantee structural integrity and maximise impact resistance.
- **Sealing:** Planters are sealed internally to prevent water ingress, the most common cause of frost damage to planters.

IOTA's other ranges are made to similarly high-quality standards as the stone planters, and further details of their manufacturing specification is given in the section below.

4. Environment Suitability

The product catalogues summarise IOTA's recommendation as to which ranges are suitable for which environments. A more detailed comparative analysis follows below:

Granite planters

These planters are recommended for all environments, including public spaces (such as city centres and other municipal areas). Granite is the strongest, most dense, and most impact-resistant of the stones used by IOTA, and its uniform granular composition means that minor damage is not readily apparent. Granite is also the stone in which the largest sizes can be fabricated – and the solid construction and considerable weight of IOTA's extra-large planters makes them particularly appropriate for municipal areas.

Marmoris planters

These planters are recommended for most environments, up to heavy commercial use (such as shopping malls, pubs and clubs etc...). Marmoris is essentially as strong as Granite in normal usage, and it is suitable for many of the same environments. However the Marmoris marble stone is marginally more brittle than Granite, and minor damage is also more apparent. Therefore Marmoris is not recommended for the most challenging of municipal environments.

Slate planters

These planters are also recommended for most environments, up to heavy commercial use. Slate is an extremely forgiving material, as the naturally uneven surface means that small areas of damage are not apparent. Like Marmoris, Slate is also essentially as strong as Granite in normal usage. However, Slate is a friable stone created from sedimentary layers, and it is susceptible to fracture if deliberately abused. Therefore Slate is not recommended for the most challenging of municipal environments.

Lexington planters

These planters are recommended for residential or light commercial use (such as offices, hotels, restaurants etc...). Despite being extremely lightweight, Lexington is a remarkably strong GRP material, with the forms being expertly layed up by hand from woven fiberglass (not chopped mat). The external painting is also of the highest specification: built up first with two layers of epoxy primer, followed by multiple layers of industrial melamine paint. The resulting external finish is extremely hardwearing and UV-colourfast. However, as with any painted surface, misuse can scratch the surface, and such damage will be highly visible. For this reason, Lexington is recommended for residential or light commercial use, but it is not recommended for heavy commercial environments. In addition, Lexington's light weight may limit its use in weather-exposed environments, unless suitably weighted or securely fastened-down.

Fresco planters

These planters are also recommended for residential or light commercial use. A mid-weight range, Fresco is a unique composite material, being cement-based and reinforced internally with natural plant fibres. Structurally Fresco is very sound, and it carries the same five year frost-proof guarantee as all other IOTA planters. However Fresco is a form of decorative cement, and its properties are similar to more familiar analogous materials like polished cement or terrazzo – specifically, exposed edges can be chipped. Therefore Fresco is best suited to residential or light commercial use, and it is not recommended for heavy commercial environments.

Savanne planters

Savanne is a proprietary form of terrazzo – also a cement-based material. Therefore the material properties of Savanne, and its range of suitable environments, are as for Fresco.

Calisto planters

Calisto is a frost-proof, stoneware ceramic material, with thickly-applied glazes in vibrant colours. As such, Calisto is a robust material suitable for most environments up to heavy commercial use.

Water Features

Made from the same material in essentially the same way, IOTA's recommendation for Water Features is as for Granite planters.

Outdoor Art and Sculpture

IOTA's collections of Outdoor Art and Sculpture are made from mirror-polished stainless steel, sometimes combined with industrial acrylic. The grade of steel is 304, not 316, so the standard sculpture are suitable for all weathers and locations, other than marine/coastal (sculpture in 316 steel can be custom-ordered if this specification is required). IOTA recommends its art for residential or light commercial use, as the refined finishing on the pieces risks damage in more challenging environments.

5. Chemical Staining and Graffiti

With the exception of Lexington (painted GRP) and Calisto (stoneware ceramic), most of IOTA's planters are made from either natural stone or cement-composite. Although neither class of material is highly porous, nonetheless both will provide a surface key to chemical stains and graffiti. The resulting damage can be recovered, but it is rarely commercially viable to do so. Therefore it is recommended that IOTA planters should not be specified in 'extreme urban' environments where graffiti is an identified problem within the brief.

6. Protection Against Theft

As previously described, IOTA's largest planters have a solid construction and considerable weight, making them effectively theft-proof without the need for fixing. All other IOTA products can be readily secured against theft, in a wide variety of ways.

To give one example:

IOTA's planters all have large drainage holes in the base, and the bases are raised off the ground internally by around 5cm [to assist drainage]. Commonly, designers and contractors will fix the planters down to prevent theft, by using this drainage hole as an attachment point to a ground anchor. One option is to use an Eye-Bolt Sleeve Anchor such as shown in the following web link: <http://www.screwfix.com/prods/10152/Fixings/Shield-Anchors/Shield-Anchor-Eye-Type-M10-115mm-Drill-Size-16> attached to a bent bar threaded through the drainage hole.

There are many other options – but the example given above is one of the cheapest, easiest and simplest methods. Please contact Mark Chessell at IOTA to discuss ideas for any particular site situation (contact details as above).

7. Custom Manufacture

IOTA undertakes custom manufacture in natural stone planters, and in steel art. In addition to the materials used in standard product ranges, custom stone types and colours are also available.

There are no strict minimums, however custom manufacture is only commercially-viable for pallet quantities (a pallet quantity could be anything from 1 to 100 pieces, depending on the design). Leadtimes are generally 8-12 weeks. Certain other constraints apply:

Dimensions

In all of the natural stones, one dimension of each side requires to be 70cm or less, as this is the cutting bench width. This means, for example, that a stone trough planter can be made which is H 70 W 200 D 100cm, as this is made from side sections which are 70x200 and 70x100cm. However, a stone trough planter cannot be made which is H 100 W 200 D 70cm.

Stone Selection

Other than the above constraint, Granite planters can be made in large custom sizes at consistently attractive prices. In contrast, extra-large sizes in Marmoris are technically feasible, but the costs rise exponentially for sections much beyond 80cm on the longest side. Custom manufacture in Slate is also undertaken, but it is a difficult stone to fabricate in sizes much larger than the standard range.

Steel Art

There are no particular physical constraints for custom manufacture in steel art, and designs can be realised which are relatively much larger and more complex than IOTA's standard designs. However custom designs in art are only undertaken on the basis that IOTA will quote for fabrication against a detailed design received, and IOTA is not able to provide an art origination service.

For a custom manufacture quotation, and/or to discuss a brief, please contact Mark Chessell at IOTA.

8. Direct Ex-Factory Supply

All IOTA products are held in stock in the UK, so the company is usually able to meet urgent delivery deadlines. On larger projects, IOTA can supply direct container shipments at ex-factory prices delivered anywhere in the world, and IOTA can handle all shipping and importation issues.