

SHOP DRAWINGS & SWATCHES

The professional preparation and management of shop drawings and related swatches is an essential part of Satu Bumi's quality control process for the development of custom GRC planters and GRC street furniture. Therefore, this information sheet has been prepared to explain the key issues that need to be considered by a Satu Bumi customer during the shop drawings process and how Satu Bumi manages this process to ensure Satu Bumi delivers the products that are expected.

■ The Shop Drawing Process

Satu Bumi will not proceed with the manufacture of any custom products without customer-approved shop drawings and swatches. Therefore, it is important that the following shop drawing process is followed to avoid any potential product delivery delays: -

- The customer provides the basic information about the product to be made.
- Satu Bumi's Product Engineering Department prepares preliminary shop drawings.
- The preliminary shop drawings are provided to the customer for approval or amendment.
- After amendments, the customer provides documented approval of the final shop drawings.
- Where relevant, swatches are signed by the customer to show approval and returned to Satu Bumi.
- Satu Bumi will not proceed to make samples or prototypes or initiate final production of any custom products for which customer approval has not been received.

Please Note

- Customer approval of shop drawings and swatches triggers the commencement of Satu Bumi's delivery timeframe commitment.
- Adjustments to approved shop drawings may increase the pricing and increase committed delivery timeframes.

■ Issues to Consider in the Shop Drawing Process

Since the shop drawings for customer products will be followed in detail in the manufacturing process, it is important to ensure that all relevant issues are addressed in detail before customer approval is provided. The following is a summary of the key issues that should be considered in this process: -

Dimension tolerances

Whether the shop drawings relate to either GRC planters or GRC street furniture, it is important to consider the dimensions of the products in relation to the area in which the products are to be placed.

Satu Bumi's manufacturing tolerances are to within +/- 10mm, and generally less, because the manufacturing environment is highly controlled. On the other hand, construction and landscaping sites often have less exacting tolerance standards. Walls may not be perfectly straight or concrete slabs may not be perfectly level, etc.

For example, a set of three two-meter-long balcony planters will generally come from the factory with a total length of between 5,970 millimetres and 6,030 millimetres. However, if the balcony space for the planters is six meters on the plans or the actual balcony construction has the balcony at 5,969 millimetres, there could be a practical problem at installation. In addition, even if the planters and the balcony space were both exactly 6,000 millimetres, it would still potentially be too tight a fit to enable the planters to be maneuvered into position during installation.

Therefore, a firm commitment is required from the customer at shop drawings time as to the acceptable dimensional tolerances of a custom product which should take into consideration: -

- Satu Bumi's committed manufacturing tolerance of +/- 10mm per product dimension.
- The customer's expected construction tolerances.
- The customer's tolerances for gaps between, and at the ends, of the GRC planters or street furniture in the shop drawings.

Planter weights

GRC planters are typically light weight in comparison with normal cast concrete planters of similar external dimensions. However, large GRC planters are still quite heavy. Therefore, the practicalities of installing heavy planters should be considered during shop drawings stage. If the estimated weights of the proposed planters are considered too high for the installers to handle, it may be worth reducing the lengths and increasing the quantities of the planters required to fill specific designated spaces.

Finishes

Satu Bumi provides several optional finishes that include integrated colours, painted finishes, surface oxides and moulded finishes such as faux timber or pitted surfaces. Any requirements for these finishes must be clearly defined at shop drawings stage.

Swatches

Where swatches are required, the following process must be followed to ensure there is no confusion between the customer's understanding of what is signed off for on the shop drawings and the practical result: -

- Satu Bumi will send two copies of the relevant swatch to the customer.
- The customer can keep one swatch copy for future reference, sign the back of the second copy and send it back to Satu Bumi.
- Production will not start until the signed swatch has been received by Satu Bumi.

Forklift holes

Where very large planters are required; consideration should be given to adding forklift holes into the design of the actual planters themselves. This requirement must be included in the shop drawings for the products.

Lifting lugs & ferrules

Satu Bumi can imbed either lifting lugs or ferrules into the actual GRC planters during the manufacturing process which can be very helpful, or even essential, during the installation process. In addition, ferrules can also be added for fixing purposes. However, this requirement must be specified at shop drawings stage.

Feet options

Satu Bumi typically provides 1cm high feet on its planters as a standard. However, any practical planter feet height required can be provided if it is specified in the customer-approved shop drawings.

Please Note

Planter heights shown on any pre or post sales documentation from Satu Bumi are based on the actual height of the planter shell and do not include the height of the planter feet. Therefore, to obtain the full height of a planter from a solid base, you need to add the feet height to the planter height. This approach is taken because the height of the planter feet is variable upon request.

Planter lip size

Satu Bumi has standard planter lip widths for different sized planters which are designed to be aesthetically balanced with the actual size of each planter size. However, if a different lip size is required, it will need to be specified at shop drawings stage.

Waterproofing

All the products in Satu Bumi's CityScape range come with an integrated waterproofing add-mix, an external penetrative sealant, and an internal high quality bitumen based waterproofing membrane.

Drainage Risers & Raised Drainage Risers

If drainage risers or raised drainage risers are required to be added during manufacture, they need to be specified at shop drawings stage.

Drainage Hole Size

All Satu Bumi planters come with 51mm diameter drainage holes to facilitate the attachment of standard plumbing fittings. However, any size drainage holes can be specified at shop drawings stage.

Graffiti protection

A specialised "graffiti protection sealant" is applied to all Satu Bumi street furniture unless otherwise requested. However, graffiti protection can also be provided as an optional alternative to the standard external penetrative sealant normally provided with CityScape planters. Graffiti protection is a worthwhile investment if GRC planters are going to be situated in public spaces and should be specified on the shop drawings.

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