

PLANTERLINE

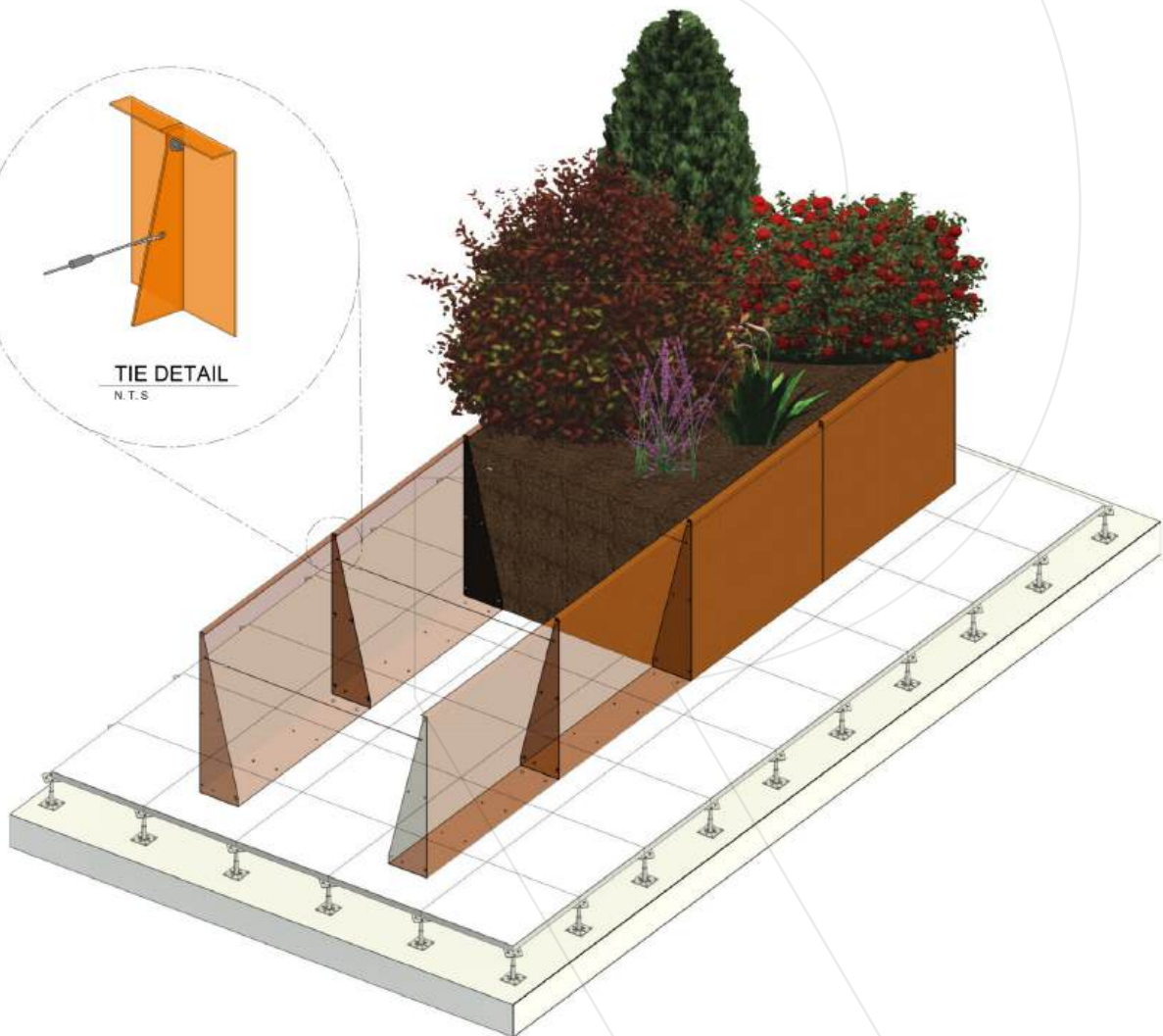
TECHNICAL DATA SHEET

PLANTERLINE

TECHNICAL DATA SHEET



TIE DETAIL
N.T.S



Planterline

Find out more or request a sample

Email sales@raftsystems.com or visit raftsystems.com

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Ref: **DS-PP-0323** Last update: August 2025

PLANTERLINE

TECHNICAL DATA SHEET

Planterline

PRODUCT NAME	COLOUR	DIMENSIONS		OTHER	
Planterline Planterline Bespoke	Powder Coated	Maximum straight panel length	2400mm	Material specification	CorTen A steel materials class A EN10029
	CorTen	Maximum returns at corners	1000mm (Limited to one side)		
		Height Range	300-1100mm	Corner types	Folded
		Steel thickness	3mm	Top return	40mm single top

Standard Planterline planters only

Loading analysis

PLANTER HEIGHT	PANEL DEFLECTION	WET SOIL LOAD PER M²
300mm	0.02mm	300H - 510kg 400H - 680kg
600mm	0.14mm	500H - 850kg 600H - 1020kg 700H - 1190kg
900mm	0.66mm	800H - 1360kg 900H - 1530kg
1100mm	1.1mm	1000H - 1700kg 1100H - 1870kg

Structural calculations for our Planterline planters have been completed to ensure they are fit for standard use. Based on the calculations made, a deflection amount was measured on four planter heights as per the below above.

Please note this information should be used as a guide only. Please contact us if you would like further information on the structural calculations made.

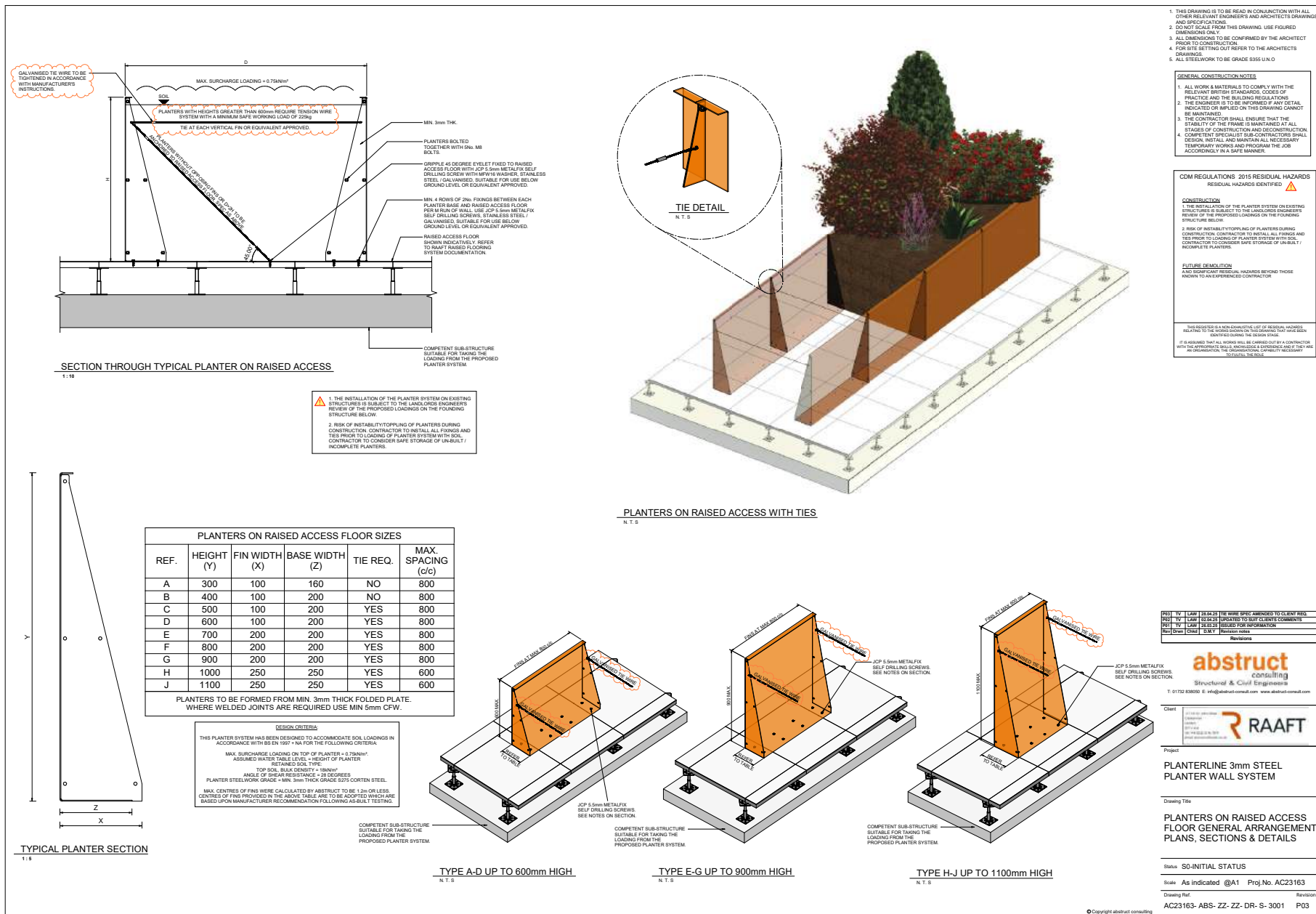
PLANTER HEIGHT	WEIGHT PER LM
300mm	13kg
400mm	16kg
470mm	18kg
500mm	19kg
600mm	24.5kg
700mm	27.5kg
800mm	30.5kg
900mm	39kg
1000mm	43kg
1100mm	46kg

These weights are for standard Planterline planters only and anything bespoke would need to be discussed with technical team.

Find out more or request a sample
Email sales@raaftsystems.com or visit raaftsystems.com

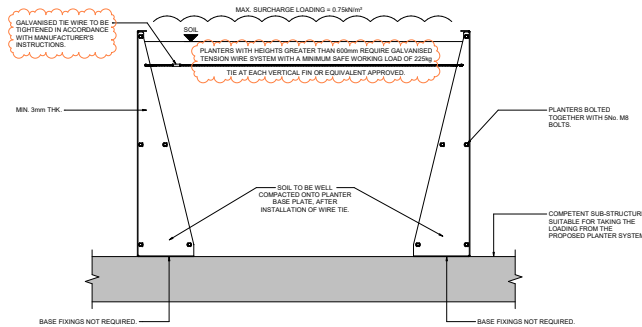
PLANTERLINE STRAIGHT

INSTALLATION GUIDE



PLANTERLINE STRAIGHT

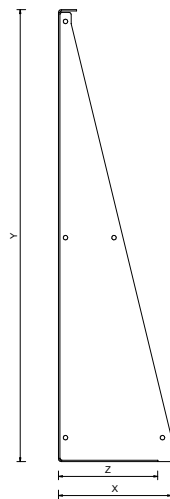
INSTALLATION GUIDE



SECTION THROUGH FREESTANDING PLANTER

1:10

1. THE INSTALLATION OF THE PLANTER SYSTEM ON EXISTING STRUCTURES IS SUBJECT TO THE LANDLORD'S ENGINEER'S REVIEW OF THE PROPOSED LOADINGS ON THE FOUNDING STRUCTURE BELOW.
2. RISK OF INSTABILITY/TOPPLING OF PLANTERS DURING CONSTRUCTION. CONTRACTOR TO INSTALL ALL FRINGS AND TIES PRIOR TO LOADING OF PLANTER SYSTEM WITH SOIL. CONTRACTOR TO CONSIDER SAFE STORAGE OF IN-SITU T.I. INCOMPLETE PLANTERS.



TYPICAL FREESTANDING PLANTER SECTION

1:5

FREESTANDING PLANTER SIZES					
REF.	HEIGHT (Y)	FIN WIDTH (X)	BASE WIDTH (Z)	TIE REQ.	MAX SPACING (c/c)
A	300	160	160	NO	800
B	400	200	200	NO	800
C	500	200	200	NO	800
D	600	200	200	NO	800
E	700	200	200	YES	800
F	800	200	200	YES	800
G	900	200	200	YES	800
H	1000	250	250	YES	600
J	1100	250	250	YES	600

PLANTERS TO BE FORMED FROM MIN. 3mm THICK FOLDED PLATE. WHERE WELDED JOINTS ARE REQUIRED USE MIN 5mm CFW.

DESIGN CRITERIA

THIS PLANTER SYSTEM HAS BEEN DESIGNED TO ACCOMMODATE SOIL LOADINGS IN ACCORDANCE WITH BS EN 1907-1 NA FOR THE FOLLOWING CRITERIA:

MAX. SURCHARGE LOADING ON TOP OF PLANTER = 0.75kN/m².

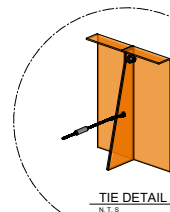
ASSURED WATER TABLE LEVEL = HEIGHT OF PLANTER.

RETAINED SOIL TYPE: TOP SOIL, SILT, SAND & GRAVEL.

ANGLE OF SHEAR RESISTANCE = 38 DEGREES.

PLANTER STEELWORK GRADE = MIN. 3mm THICK GRADE S275 CORTEN STEEL.

MAX. CENTRES OF FINs WERE CALCULATED BY ABSTRACT TO BE 1.2m OR LESS. CENTRES OF FINs PROVIDED IN THE ABOVE TABLE ARE TO BE ADOPTED WHICH ARE BASED UPON MANUFACTURER'S RECOMMENDATION FOLLOWING AS-BUILT TESTING.

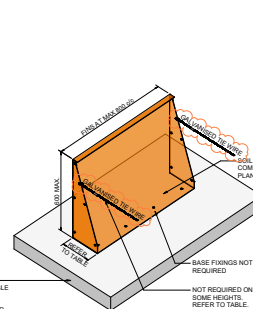


TIE DETAIL

N.T.S.

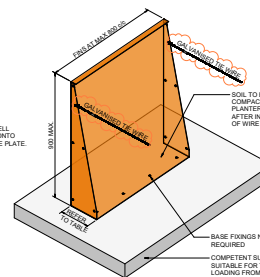
FREESTANDING PLANTER WITH TIES

N.T.S.



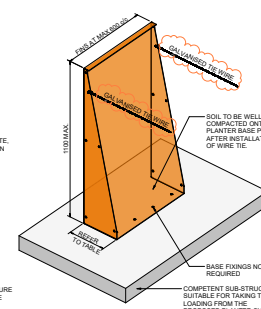
TYPE A-D UP TO 600mm HIGH

N.T.S.



TYPE E-G UP TO 900mm HIGH

N.T.S.



TYPE H-J UP TO 1100mm HIGH

N.T.S.

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT ENGINEERS AND ARCHITECTS DRAWINGS AND SPECIFICATIONS.
2. DO NOT SCALE FROM THIS DRAWING. USE FIGURED DIMENSIONS ONLY.
3. ALL DIMENSIONS TO BE CONFIRMED BY THE ARCHITECT PRIOR TO CONSTRUCTION.
4. FOR SITE SETTING OUT REFER TO THE ARCHITECTS DRAWING.
5. ALL STEELWORK TO BE GRADE S355 U N.O.

GENERAL CONSTRUCTION NOTES

1. ALL WORK & MATERIALS TO COMPLY WITH THE RELEVANT BRITISH STANDARDS, CODES OF PRACTICE AND THE BUILDING REGULATIONS.
2. THE ENGINEER IS TO BE INFORMED IF ANY DETAIL INDICATED OR IMPLIED ON THIS DRAWING CANNOT BE MAINTAINED.
3. THE CONTRACTOR SHALL ENSURE THAT THE STABILITY OF THE FRAME IS MAINTAINED AT ALL STAGES OF CONSTRUCTION AND DECONSTRUCTION.
4. COMPETENT SPECIALIST SUB-CONTRACTORS SHALL DESIGN, INSTALL AND MAINTAIN ALL NECESSARY TEMPORARY WORKS AND PROGRAM THE JOB ACCORDINGLY IN A SAFE MANNER.

CDM REGULATIONS 2015 RESIDUAL HAZARDS

RESIDUAL HAZARDS IDENTIFIED

CONSTRUCTION

1. THE INSTALLATION OF THE PLANTER SYSTEM ON EXISTING STRUCTURES IS SUBJECT TO THE LANDLORD'S ENGINEER'S REVIEW OF THE PROPOSED LOADINGS ON THE FOUNDING STRUCTURE BELOW.
2. RISK OF INSTABILITY/TOPPLING OF PLANTERS DURING CONSTRUCTION. CONTRACTOR TO INSTALL ALL FRINGS AND TIES PRIOR TO LOADING OF PLANTER SYSTEM WITH SOIL. CONTRACTOR TO CONSIDER SAFE STORAGE OF IN-SITU T.I. INCOMPLETE PLANTERS.

FUTURE DEMOLITION

A-10 IDENTIFIED RESIDUAL HAZARDS BEYOND THOSE KNOWN TO AN EXPERIENCED CONTRACTOR.

THIS REGISTER IS A NON-EXHAUSTIVE LIST OF RESIDUAL HAZARDS RELATING TO THE WORKS AND/OR ON THIS DRAWING THAT HAVE BEEN IDENTIFIED DURING THE DESIGN PHASE.

IT IS ADVISED THAT ALL WORKS WILL BE CARRIED OUT BY A CONTRACTOR WITH THE APPROPRIATE SKILLS & EXPERIENCE AND THAT THE WORK WILL BE CARRIED OUT IN ACCORDANCE WITH THE NECESSARY SAFETY MEASURES TO GUARANTEE THE SITE.

PROJ	TY	LAW	12.04.20	THE WIRE SPEC AMENDED TO CLIENT REQ.
PROJ	TY	LAW	12.04.20	UPDATED TO SUIT CLIENT COMMENTS
PROJ	TY	LAW	12.04.20	REVISED FOR INFORMATION
Rev	Draw	Client	D.M.V.	Revision notes

abstract
consulting
Structural & Civil Engineers

T: 01752 838550 E: info@abstract-consult.com www.abstract-consult.com

Client: **RAAF**

Project: **PLANTERLINE 3mm STEEL PLANTER WALL SYSTEM**

Drawing Title: **FREESTANDING PLANTERS GENERAL ARRANGEMENT PLANS, SECTIONS & DETAILS**

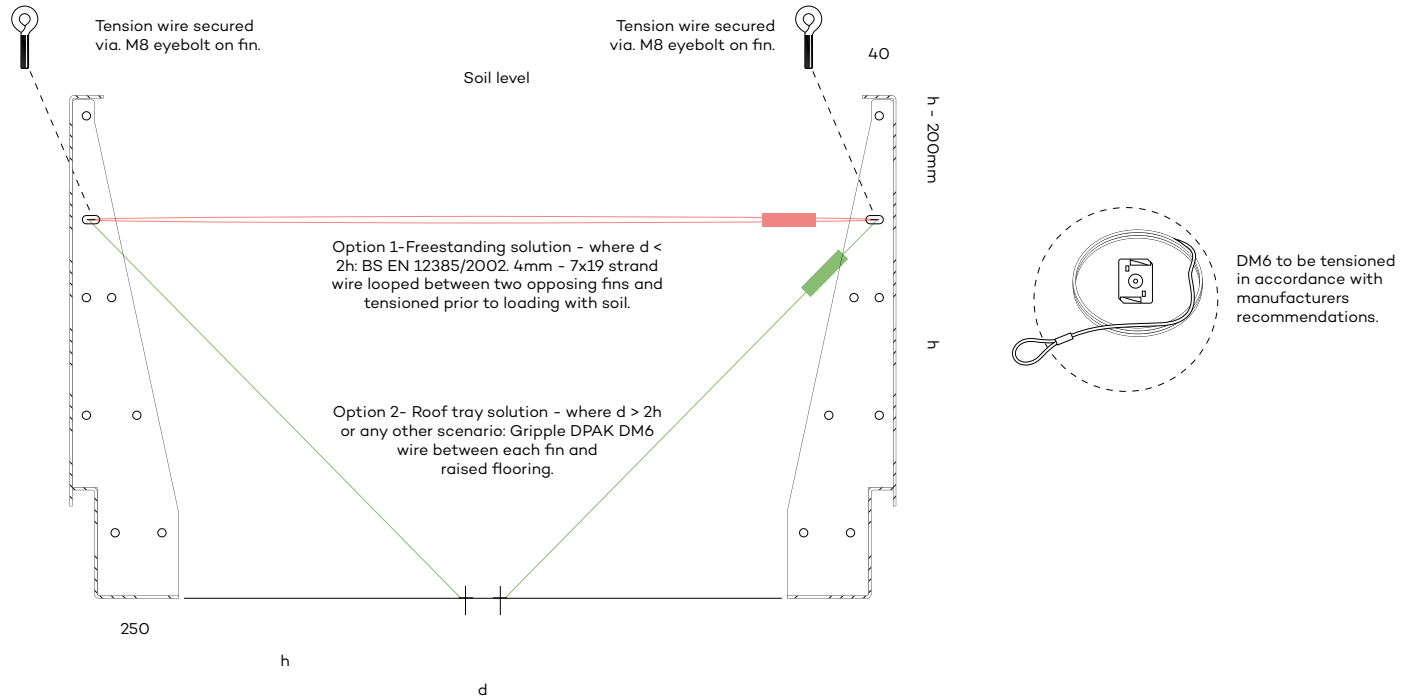
Status: **S0-INITIAL STATUS**

Scale: **As indicated @A1** Proj.No. **AC23163**

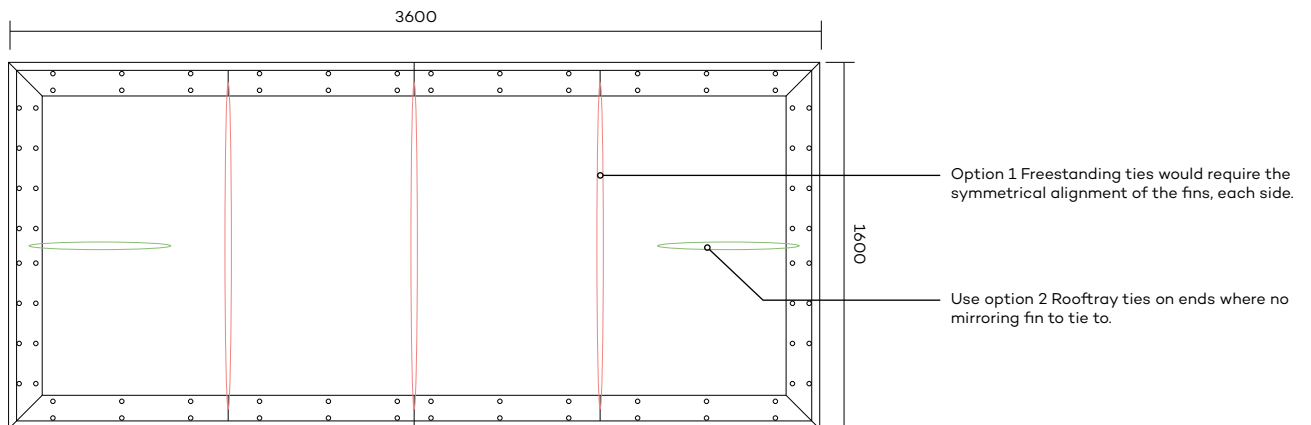
Drawing Ref: **AC23163-ABS-ZZ-ZZ-DR-S-3005** P03

Strengthening options

All planters higher than 600mm.



Plan view of both bracing solutions (Freestanding and Rooftray)



Find out more or request a sample

Email sales@raftsystems.com or visit raftsystems.com

Accessories



Lockable cabinet

Used within the planter walls (welded in place) for access or storage of weatherproof products/items. It can accommodate P67 rated power sockets and lighting boxes for external lighting.

For added security, a panel lock, complete with a key, prevents unauthorized access.

The cabinet comes in the following sizes:

500(H) x 600 x 200 mm

400(H) x 500 x 200 mm

250(H) x 300 x 200 mm

Lighting detail

Illuminate your planters with our lighting options. Feel free to contact any member of our team if you're keen on enhancing your planters with a touch of light.



Installation Information

The installation is then completed by covering the extent of the floor structure panels, which pass beyond the planter perimeter with porcelain tiles. To secure the planter into concrete, we advise from past planter installations, the creation of a 300mm wide by 150mm deep concrete race around the planter's perimeter. M10 through bolts (supplied by Raft®) are used for fixing down the planter into the concrete. Bracing becomes necessary for planters exceeding a height of 600mm. This is to account for potential loads imposed by soil and any additional stresses within a terrace environment. The recommended bracing solutions for Raft® planters include tensioning wire or a metal strap spanning from one side to the other.

Product finishes

CorTen A is a type of weathering steel which was developed to remove the need for regular painting and rust-prevention maintenance.

Note: Refer to the CorTen guide for more information.

This is achieved by the formation of a natural stable coating of dark brown oxidation across the metal's surface which acts as a barrier to the corrosive effects of rain, snow and other weather conditions. When delivered the CorTen will contain mill-scale which will remove over time prior to the natural stable coating of dark brown being achieved. The weathering process can take around 18 months.

Powder coating starts with shot-blasting of the steel which removes mill-scale, oxide dirt, oil and grease from the substrate; followed by

a 7-stage zinc phosphate pre-treatment process for to prepare the surface. The product then receives the polyester powder coating to the requested colour. Polyester has excellent exterior durability and colour retention. Numerous colour options from world leading powder manufacturers are available.

Choose from these finishes:



CorTen

PPC

Armour Coat finishes:



Copper

Concrete

Terracotta

Wood

Find out more or request a sample

Email sales@raaftsyste.ms.com or visit raaftsyste.ms.com



Sustainability

Planterline is crafted from two material options: Untreated steel or Stainless Steel, and it boasts 100% recyclability. Consequently, Planterline stands out for its outstanding whole-life cost, as it is marketed with recycling in mind rather than incurring disposal costs. The primary component in steel production is iron, ranking second only to aluminium in terms of its natural abundance in the Earth's crust. Considering current extraction rates, there exists a sufficient iron supply to sustain production for well over 1000 years.

Steel

Mild steel is widely recognized as a sustainable material for several compelling reasons:

1. Longevity and Durability

Mild steel boasts exceptional longevity and durability. When compared to less robust materials, it provides extended service over many years. For instance, while other materials may require annual replacement, using mild steel every five years significantly reduces the environmental impact, as it necessitates less energy for continuous replacement.

2. Versatility

Mild steel offers high versatility in terms of shapes and sizes during production. Its malleability allows it to take on various forms, making it highly adaptable and suitable for a wide range of applications.

3. Recyclability

One of the most significant sustainable advantages of mild steel is its recyclability. While the percentage of recyclable content may vary by type, it typically contains a high percentage of recyclable material. This aligns seamlessly with its versatility, as any surplus steel from manufacturing processes can be repurposed for smaller products or recycled, making it an environmentally friendly metal choice.

4. Absence of Harmful Chemicals

Unlike some other metals, the production of mild steel does not involve the release of harmful chemicals or toxins. This characteristic contributes to its eco-friendliness.

Product maintenance

Steel

For the Planterline, the steel is powder coated. This will require little/no maintenance as there won't be any interaction between this part of the product and the user.

Fire protection

Planterline planters are made using CorTen A, or Mild Steel, neither of which burn nor pose a fire hazard.

CorTen A is high performance materials that display excellent resistance to atmospheric corrosion when compared to other steels, making them exceptionally suitable for bespoke planter applications.

Protective equipment

We recommend that PPE (Personal Protective Equipment) is used when installing the Planterline:

- a) **Good strong safety boots/shoes to protect the feet.**
- b) **Protective eye wear such as safety glasses.**
- c) **Strong gloves to protect the hands.**
- d) **If using loud cutting equipment then ear plugs or defenders should be worn.**

General construction notes

- All folding tolerances are $\pm 1.2\text{mm}$ with an angle variation of $\pm 1^\circ$
- All rolling tolerances $\pm 8\text{mm}$
- All fabricated and welded components are manufactured to a tolerance of $\pm 2\text{mm}$
- Tolerance of $\pm 5\text{mm}$ across a diagonal measurement
- Where powder coated components are applicable, they are completed to the following specification:
 - Pre-treatment - shot blast SA 25
 - Primer - Zinc-rich primer with a minimum of 60μ
 - Top coat - Final top coat to be a minimum of 60μ
- All Cor-Ten finishes are supplied as untreated/unweathered

Find out more or request a sample

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Storage and handling

The product is securely packed and sealed to ensure no movement of the product in transit. Depending on the size / weight of the consignment this may be palletised.

Whilst there is no specific weight restrictions on what is or is not safe to lift in manual handling, an assessment of the health and safety risks should be undertaken and measures taken to reduce the risk of injury so far as reasonably practicable.

The following guidelines may be useful:

- a) **Each person should be fully trained in manual handling techniques.**
- b) **The use of handling aids such as a trolley, folk-lift, pallet truck or conveyor should be used if moving large volumes of cartons.**
- c) **Break up large consignments into more manageable loads.**
- d) **Ensure that the product is stored at a reasonable height, so avoiding the lifting of cartons from floor level or above shoulder height.**



Manual handling

Refer to bills of materials for weights.

General construction notes

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