PLANNING CONDITION 3 + 4 + 5

APPEAL REF: APP/X5210/W/16/3154303



Condition Reference	Material Description	Image	Comment
3	VMZ standing seam facade cladding	QUARTZ-ZINC®	View VMZ surface finishing PDF documentation
4	Green Roof Sedum Blanket System	View Details	
5	Terrace obscurely glazed screen	View Details	

PLANNING CONDITION (3) Zinc Cladding Details

VMZ Standing seam

Surface finishes

Natural VMZINC®

Natural VMZINC has a shiny metallic appearance when new and develops a patina over time. In facade applications, it may take 10 years for the matt grey patina to form. It can be quickly soldered without removing the patina.

QUARTZ-ZINC®

QUARTZ-ZINC offers an appearance and texture that does not change over time. When QUARTZ-ZINC is scratched, it will self heal. The grey tones of QUARTZ-ZINC blend well with existing construction materials – ideal for refurbishment.

ANTHRA-ZINC®

ANTHRA-ZINC with its visible grain matches the colour of slate and blends well in combination with photovoltaic panels.

AZENGAR® New

AZENGAR is the new surface finish from VMZINC which is the first engraved zinc giving a product with a matt, heterogeneous and light aspect. AZENGAR can be used in the same fashion as other VMZINC products for both roofs and facades, however it will not be available in PLUS in 2014.







ANTHRA-ZINC®



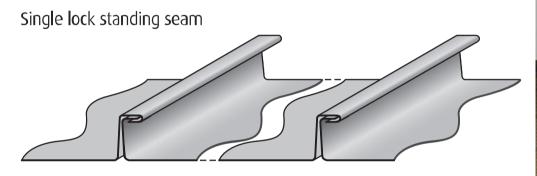
8 - VMZ Roofing VMZINC

VMZ Standing seam

Standing seam facades

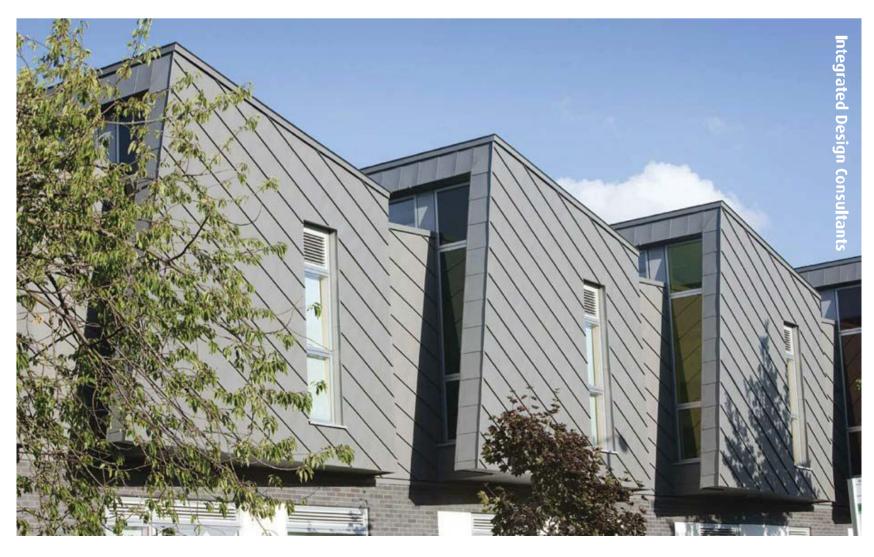
panels as walls and soffits

Standing seam VMZINC can be used as a standing seam panel for all vertical walls as well as soffits. The structure must be a cold ventilated one using either VMZINC on vented open gap boarding or VMZINC PLUS on vented plywood (humidity classes 1 to 4). The vented air space must be at least 38mm wide. The panels can be installed vertically, horizontally or even diagonally but panel length should not exceed 4m. Although zinc standing seam panels are not as flat as some other VMZINC facade systems it is possible to reduce unevenness by reducing panel width to 430mm and zinc thickness to 0.8mm. The use of a single lock also increases panel flatness.









VMZ Standing seam

Further technical information

Zinc aesthetics It is generally not recommended that zinc roofs and walls are cleaned VMZINC in relation to other materials as rain water performs this task very well. Non-rinsed surfaces such as soffits and some facades, especially in coastal areas may exhibit some stains. It should be noted that this is not a form of corrosion.

> Zinc can be installed adjacent to limestone. The run off from limestone onto zinc material is acceptable. However, limestone dust and gypsum dust generated during cutting operations can react with zinc in the presence of water and form a superficial layer of white rust. No dust should be in contact with unprotected zinc. To prevent white rust, good construction practices should be used to limit the amount of dust that comes in contact with the zinc.

VMZINC manufacturing uses a colour management system based on the Y-Factor. The Y-factor ranges from 0 to 100: 0 is black and 100 is white. The range for ANTHRA-ZINC is 5 to 7 and the range for QUARTZ-ZINC is 22 to 25. We recommend that one project uses one production batch.

Fixing system method

Clips have a dual function:

- Ensuring the mechanical resistance of the entire roof
- Allowing free expansion of the metal

VMZINC clips are made of 304 stainless steel. The thickness of the fixing clip is 0.5mm. The sliding clips have a moving component, which is 0.4mm thick, and a 70mm long slot to allow free movement of the panel when it is under expansion and contraction. Each clip must resist a pull-out force of 50daN. It is recommended that screws be used to secure the clips with three being used per sliding clip. The use of nails offers significantly less resistance, but in the event of using nails, contractors are advised to use ring shank nails.

Centre to centre distance between clips:

- 330mm on the main part of the roof
- 200mm on perimeter of the roof (at least 1100mm or 1/8 of the projected roof)
- 150mm in the corners



All standing seam panels require a minimum of 5 fixed clips. When attaching PV panels, snow guards, etc it may be necessary to further increase the number of these clips. Standard panel width is 600mm, however for aesthetic or wind up lift reasons 530mm or even 430mm wide panels can be used. Please consult us for further information.

VMZINC VMZINC Membrane is a breather layer that allows water vapour to **Membrane** pass through it but is water proof to liquid water (up to a column of 2m). For roof pitches above 22° (40%) the membrane should be overlapped by 150mm. Below this slope the overlap should be increased to 200mm. For pitches between 3° (5%) and 14° (25%) the overlap should be 200mm and taped.

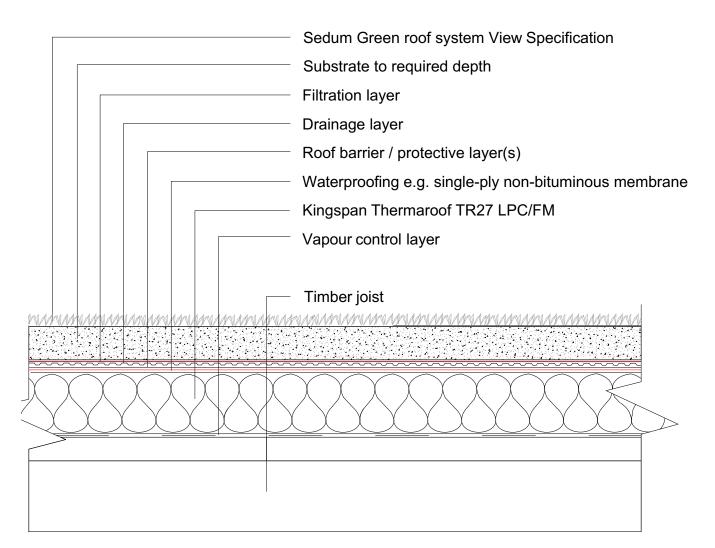
Compatible contact products Metals Lead Aluminium (painted, anodised or bare) Galvanised steel Stainless steel Woods Pine Spruce Scots pine Poplar Miscellaneous materials Polyurethane Non-acetic silicones MS polymer mastics

Organic timber treatments

Incompatible contact products & run-off*
Metals
Copper
Steel (non-galvanised)
Gypsum dust/limestone dust
Woods
Larch
0ak
Chestnut
Red cedar
Douglas fir
White cedar
All woods with a pH < 5
Miscellaneous materials
Mortar
Building paper
Bituminous membranes
Fire retardant & preservative treatments
Acidic cleaners (brick cleaner etc)
Acetic silicones
Metal salt timber treatments
† This list is not exhaustive



PLANNING CONDITION (4) Green Roof Details



	WARM FLAT DORMER ROOF (GREEN ROOF)
1:20	







GREEN ROOFS DIRECT

Extensive Sedum Roof Build Up Specification



Extensive Sedum Roof Build Up Specification

Consisting of: Protective Fleece, Drainage Layer, Growing Medium and Pre Grown Sedum Blanket

Drainage Layer

Product Description

Drainage Layer is made of cross-linked, closed cell polyethylene (PE) foam flakes, which are connected together by thermal processing. The already applied/laminated filter fleece is made of polyester (PET) fibres.

Uses:

Drainage Layer is used as a drainage, protection, filter and root expansion layer for extensive green roof systems on flat roofs.

Characteristics / Advantages

- 4 in 1 product (drainage, protection, filter and root expansion layer)
- Light and easy to cut
- Suitable for low pitch roofs
- High porosity and very high water transmissibility
- Drainage Layer does not rot
- Compressive strength
- Recyclable

Tests Approvals / Standards

Quality management system EN ISO 9001/14001 Reaction to fire according to EN 13501-1, class E

Product Data:

Appearance Surface: structured

Colour Drainage layer: coloured Filter fleece: light grey Packaging,

Packing unit: 40 pieces per pallet (90 m2)

Storage Conditions Drainage Layer shall be stored at dry conditions. Shelf-Life Drainage Layer does not expire during correct storage.



Drainage Layer:

Technical Data

Material Bases

Drainage layer: Polyethylene foam (PE)
Filter fleece: Polyester fibres (PET)

Length 2.25 m (± 3 %) Width: 1.00 m (± 3 %)

Thickness: 25 mm (- 0 mm / + 3 mm)

Mass per unit area

Drainage layer: 2100 g/m2 (- 120 g / + 100 g)

Filter fleece: 145 g/m 2 (-3 g / + 5 g)

Static puncture EN 12236

Drainage layer: 1800 N Filter fleece: 1600 N

Water permeability EN 11058

normal to the plane

(V H50) $0.11 \text{ m/s } (\pm 0.01)$

Application Conditions/ Limits:

Temperature The use of Drainage Layer 30 is limited to geographical locations

with average monthly minimum temperatures of -50 °C. Permanent

ambient temperature during use is limited to +50 °C.



Growing Medium:						
Install	50mm multi-layer extensive roof substrate composed of mineral bulk mixture with a proportion of mineral and organic matter.					
Total pore volume	> 60-70 Vol %					
Max water capacity	≥ 35% Vol					
Key data						
Dry weight approx.	≤ . 75 g/cm3					
Water saturated	≤ 1. 4g/cm3					
Organic content	≥65 g/L					
pH value	5.8-7.9					
Water permeability	≥ 0.6 mm/min					

Vegetation Layer:

Compression factor

Please see data sheet for information

1,2

Ecology, Health and Safety Information

The product does not fall within the EC-regulation of hazardous goods. As a result, a material safety data sheet following EC-Guideline 91/155 EWG is not needed to bring the product to the market, transport or use it. The product does not damage the environment when used as specified.



Sedum Blanket	t Datasheet:					
Carrier	Predominately rottable Cocomat with geo textile weave					
Substate	Locally produced mix containing at least 25% recycled green waste					
Vegetation						
compostion	Sedum Acre Aureum, Sedum Album Coral Carpet, Sedum Album mini, Sedum Album Athoum, Sedum Hispanicum, Sedum Summer Glory, Sedum Reflexum, Sedum Weihenstephaner Gold, Sedum Voodoo					
Vegetation coverage	Vegetation coverage					
Thickness	2.5cm -4.5cm					
Water saturation weight	18-22 kg /m²					
Standard Size	1 m x 1.5 m					



GREEN ROOFS DIRECT

Extensive Sedum Green Roof Maintenance Schedule



A Green Roof management plan must be specifically tailored as every roof will face different conditions.

THE BASICS

- Slow release granular fertilizer in April
- Apply 10grams per square metre. A handheld broadcaster is ideal for this and can be purchased in any hardware or DIY store
- Cut the flowers off and remove them in August
- Slow release granular fertilizer in October
- Apply 10grams per square metre
- Program should commence once The Green Roof is installed

Week 1

Watering in the first week is crucially important. If the Blanket is rolled out in very dry conditions it must be watered every other day during this first week. A quick establishment is very important for the plants to cope with the harsh conditions on a roof.

Week 3

By this stage the Sedum should be showing new signs of growth with mostly bright green, new foliage this will be in contrast to the darker shades of the more hardened foliage. This will indication the Sedum has travelled well and is beginning to establish. From this point Green Roofs Ireland Sedum Blankets are low in maintenance. Mainly because of the beginning of the growing season, weeds will instantly start to move into any areas of bare substrate and a spot weed will be required. Due to our coverage of Sedum and intense weeding program during propagation weeds find it very difficult to establish themselves in the blankets.

Week 6

At this stage a walk of each roof is required to check for any weeds. Pulling weeds, whilst they are very small will cause less damage to the Sedum and also before they are allowed to seed. This is paramount as a simple grass weed will turn into a small lawn if a roof is not properly cared for during the first year. A thorough inspection and spot weed at this stage could save weeks of labour in weeding or replacing sections of Blanket.



Week 12

The roof will be well established and by this time a simple check on each roof is all that is required. The comprehensive care plan during the Spring months will mean weeds will not be seeding and spreading. The Roof will also be flowering soon so it is important that foot traffic is kept to a minimum.

Week 24

As the growing season will soon be ending a simple inspection and spot weed is required. At this time fertiliser is used to brighten up the foliage before the winter.

Week 36-48

This will be a winter inspection to check on the health of the Sedum. As our winters are changing we are experiencing more and more extreme weather conditions. The most Northerly Location in the United Kingdom is going to face the worst of this therefore, a winter visit is vital to monitor its performance.

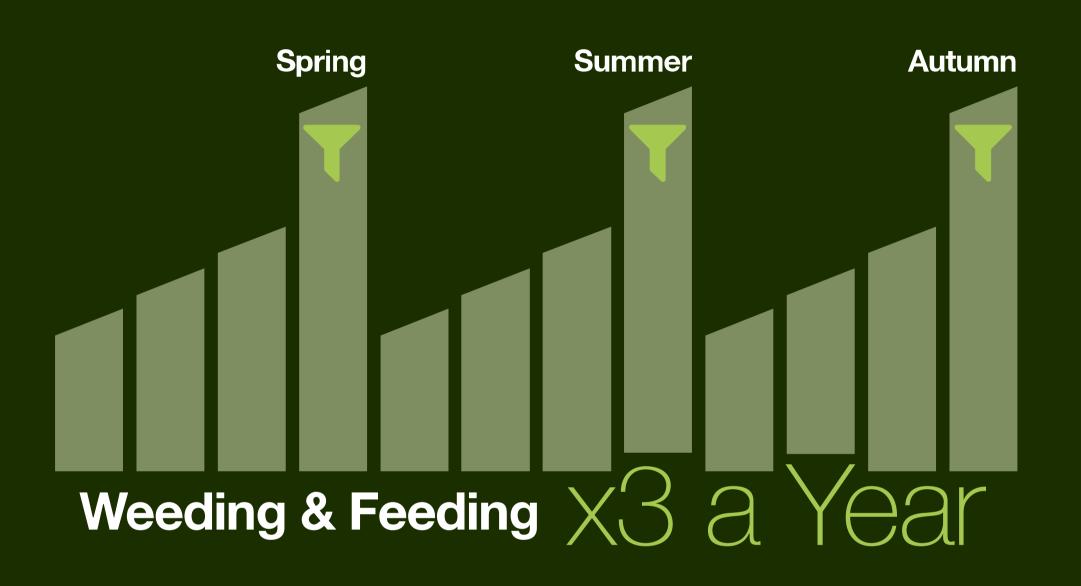
Year 2

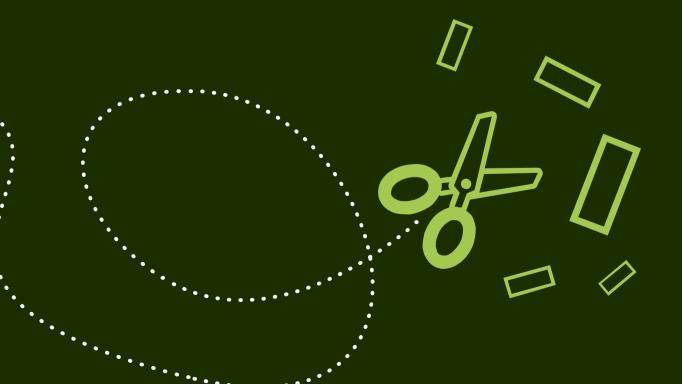
Four scheduled visited to align with the growing season and throughout with one visit in the winter.

A Green Roof is a living organism it is changing on a daily basis and is highly dependent on the weather. Therefore it is difficult to quantify exact amount of water or labour required. A good relationship with excellent communication between the client and the grower is required and combined with a maintenance schedule tailored for the application this will create a healthy and low maintenance Green Roof.



GREEN ROOFS DIRECT Extensive Sedum Green Roof Maintenance Schedule





then flower removal late summer once a year

For further technical support or maintenance advice contact

0800 774 7650

info@greenroofsdirect.com www.greenroofsdirect.com



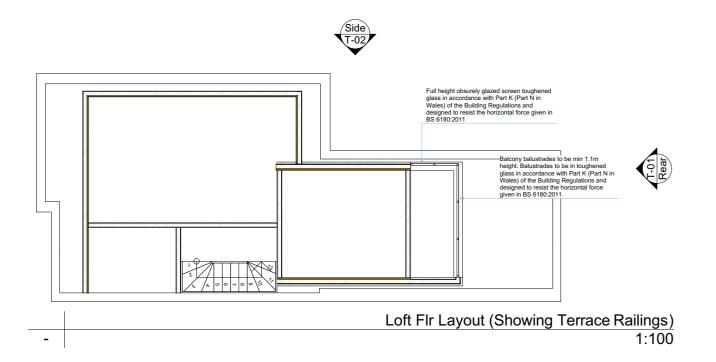
GREEN ROOFS DIRECT

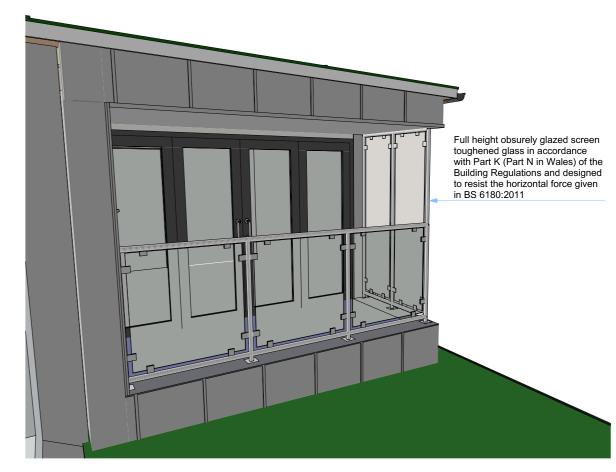
Sedum Blanket Datasheet

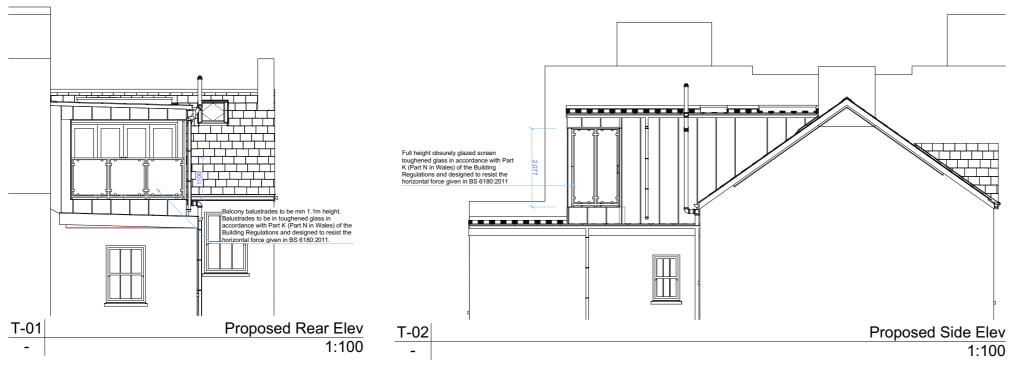


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Vegetation coverage	Vegetation coverage					
Thickness	2.5cm -4.5cm					
Water saturation weight	18-22 kg /m²					
Standard Size	1 m x 1.5 m					

PLANNING CONDITION (5) Terrace Railings







Scale 1:100 1 2 3 4 5m

Approved by

rev

Α

The material used in any exterior works is to be of a similar appearance to those used in the construction of the existing dwelling house

R HOMEFRONT ARCHITECTURE

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<u>Applicant</u>	Site Address	<u>Drawing Status</u>	Scale at								
Mrs Mirjana Cvetkovic	29 Prowse Place London NW1 9PN	Building Control	1:100								
,			Print at	RevID	Issue ID	Issue Na	me	Issu	e Date	Issued By	Statu
Project Description	<u>Application</u>	Drawing Description	A3	Drawing Number							
	Full Plans	Details	Issue Date	project	originator	zone	level	type	role	number	
Roof Extension			Sep 2019		1	1	'		' '	PL23.	.1