

General Maintenance Photovoltaic Arrays

BauderSOLAR G Light system



General maintenance procedures

BauderSOLAR G Light systems

To ensure optimal performance, longevity, and, above all safety, the BauderSOLAR G Light photovoltaic array must be maintained exclusively by competent professionals. Routine inspections should be conducted at fixed intervals, with a minimum of one comprehensive inspection annually, including cleaning of the modules to preserve system efficiency. Electrical maintenance must be carried out at least once every three years to verify system integrity and compliance with safety standards. In addition to scheduled inspections, PV arrays should be inspected following extreme weather events, including, but not limited to:

- High winds
- Heavy rainfall
- Snowfall

These inspections help identify potential damage or displacement of components and ensure continued safe operation. All maintenance ensures that the PV array continues to perform, and that any potential problems are identified at an early stage. Any failures of the system resulting from a lack of maintenance may not be covered under the guarantee.

- Ensure safe access can be gained to the roof and that relevant Health and Safety procedures are followed.
- Ensure due care and attention is observed during inspection and maintenance of the array to prevent damage to the waterproofing system.

Competency Requirements for Roof Maintenance

While formal training is not a prerequisite, the following competency expectation apply:

- The building owner or assigned maintenance contractor is responsible for assessing and confirming the competence of individuals tasked to perform maintenance activities.
- Competent operatives must be able to understand and interpret the maintenance instructions provided and execute the required tasks thoroughly and in a safe manner, adhering to relevant health and safety protocols.
- Maintenance operatives should be familiar with general building maintenance practices and be capable of identifying potential issues such as membrane damage, drainage blockages, or plant contamination.

Inspection should comprise checking:

- Dirt on the modules, the type and levels of soiling.
- Security of the anchoring system including fixings and safety pins.
- Condition of electrical connections, isolators and inverter.
- Integrity of the waterproofing membrane to prevent water ingress and structural damage.

Module maintenance

Please follow module manufacturer's guidelines for specific maintenance requirements. If you are unsure regarding any aspect of maintenance, please contact the Bauder technical office to discuss requirements.

Module cleaning

Maintaining clean photovoltaic (PV) modules is essential for ensuring optimal energy yield and system performance. Over time, environmental factors such as dust, fallen leaves, bird droppings, and other debris can accumulate on the module surface, leading to partial shading and reduced output. While snow-related losses are typically negligible due to low irradiance during snowfall periods, regular cleaning remains important; particularly in areas with low rainfall where natural cleaning is limited

Recommended cleaning practise:

- Use warm water and non-abrasive materials such as soft foam pads, non-woven fabrics, soft sponges, or soft brushes.
- Do not use abrasive tools, harsh chemicals, or cleaning fluids that may damage the module surface.

Maintenance continued PTO

Maintaining the electrical system

The condition of all electrical connections, isolators, and the inverter must be inspected by a trained and competent person in accordance with current safety regulations and manufacturer guidelines.

Recommended inspection schedule:

■ Annually:

Visual inspection of isolators and inverters.

■ Every 2–3 years:

Full electrical health check, including but not limited to verification of electrical connection integrity, functionality testing of isolators and inverters and measurement of string voltages and current

Maintaining the mounting system

The BioSOLAR G2 mounting system requires minimal maintenance and a visual inspection should be carried out to ensure the following:

- Bauder extensive substrate has not eroded and the correct depth of substrate is in place.
- All visible fixings are secure and there has been no movement of mounts/modules.
- Any vegetation growing around/through mount fixings is removed.

Green roof maintenance

Maintaining the vegetation - Bio-SOLAR seed mix and wildflower plug plants

The following is a guide to the maintenance necessary to keep a biodiverse green roof in good condition. The information relates to installations that have been completed for one full growing season and where establishment maintenance has been effective.

Establishment maintenance relates to the surface watering and weeding required for the first 10-12 weeks after installation until the planting has rooted into the growing medium, adapted to its location and can be considered established.

What to Expect from a Bauder Biodiverse Green Roof System

There is a common misconception that extensive green roofs and sedum plants in particular, are always green and that from ground level they resemble grass. This is misleading, as they consist mainly of low growing, drought tolerant sedums, wildflowers, grasses, moss, and herbs.

A variation in type and density of vegetation growth is expected beneath the BioSolar modules due to the shading impact of the panels. Our BioSolar planting mix is chosen specifically to allow the vegetation to adapt and thrive in these varying conditions.

For a complete copy of our Biodiverse green roof maintenance guidelines please visit www.bauder.co.uk/technical-centre

General Vegetation Maintenance

The Bauder biodiverse green roofs designed to meet BREEAM requirements will include a species mix selected to provide a balanced plant community on the roof and will require basic maintenance, if this is to be sustained in the long term.

Maintenance is best carried out annually, during spring and autumn. Some deposited leaf litter may be considered as contributory to the bio-diverse environment, which is acceptable so long as provision is made to ensure that this has no negative effect on other plants or the PV array.

Note - Specifically designated biodiversity areas should be disturbed as little as possible during maintenance, so as not to upset any micro-habitats that may have colonised.

Maintenance continued PTO

Preliminary Maintenance Procedures

- In the late autumn the vegetation is to be strimmed back to a 50-70mm height and the unwanted waste matter removed and lowered to ground level for composting/disposal. **Care must be taken to ensure that any solar cables are moved out of the way before any strimming/cutting takes place.** In the spring apply an 80g/m2 dressing of Bauder Slow Release Organic Fertiliser to the vegetated surface.
- We recommend removing unwanted leaf litter that has fallen onto the roof surface in the spring and autumn, to ensure that this does not smother the vegetation beneath. Open the lids of all inspection chambers and ensure they are free from blockage and water can flow freely.
- Any vegetation which has encroached into drainage outlets, inspection chambers, walkways and the vegetation barriers (pebbles) should be removed. If movement/settlement of the pebble vegetation barrier has occurred, additional washed stone pebbles similar to the existing should be added.
- Remove any weed growth that exceed 30 mm in height, is invasive or undesirable (if necessary this can be sprayed with a Glyphosate based herbicide). Any vegetation that shades the modules, however thin will have an impact on PV output and must be cropped.
- Damage to the landscaping should be reported to the building owner.

Bauder Green Roof Maintenance Service

Green roof maintenance service is carried out by Bauder's preferred maintenance providers. These experienced green roof maintenance companies have worked closely with Bauder carrying out maintenance services throughout mainland Britain for several years.

A typical maintenance programme includes:

- Roof evaluation - one of our expert team will perform a comprehensive review of your green roof to determine what remedial work, if any, needs to be done.
- Removal of weeds and unwanted items - over time a green roof can become congested with leaves, debris and other unwanted vegetation, which can be removed as part of our service.
- Inspection - inspection of roof outlets and removal of any encroaching vegetation to enable water to flow freely through rainwater pipes.
- Application of fertiliser - to help restore your green roof to its best, an organic slow release granular fertiliser will encourage growth.
- Testing - after all work has been performed, the irrigation system will be examined to ensure it works as expected.

This work can be undertaken by the companies below, who directly manage the maintenance of green roofs. This will cover all aspects of the service from quotations through to invoicing. Bauder and our preferred suppliers are committed to the arrangement and will ensure a continued high standard of expert care and advice for our customers.

Green roof maintenance contractors currently recommended to maintain green roof elements for the Bauder BioSOLAR system

Green Roof Maintenance in England and Wales:

The Urban Greening Company
07515 887868
greenmaintenance@tugc.co.uk
Tugc.co.uk

Green Roof Maintenance in Scotland:

Urban Utopia Landscapes
0800 061 4353
office@urbanutopialandscapes.com
urbanutopialandscapes.com

If you would like Bauder to forward your details to one of the preferred maintenance companies, please email c.rodick@bauder.co.uk giving the details of the green roof and contact information with explicit permission for your detail to be shared with the preferred supplier.

Contractors currently recommended to maintain BauderSOLAR systems PTO.

Contractors currently recommended to maintain BauderSOLAR systems

Maintenance must be carried out by competent professionals. The following is a non-exhaustive list of recommended contractors:

	Website	Contact	Areas Covered
Carbon3	www.carbon3.co.uk	0300 303 56 88 info@carbon3.co.uk	England & Wales
Envirolec	www.envirolec-ses.co.uk	0208 090 0270 info@envirolec-ses.co.uk	East of England London Midlands South East
Photon Energy	photonenergy.co.uk	0118 997 7470 maintenance@photonenergy.co.uk	Nationwide Scotland Wales
PV Plus	pv-plus.co.uk	02380 170215 info@pv-plus.co.uk	East of England, London South East South West
Sunlite Group Ltd	sun-lite.co.uk	01473 599 300 sales@sun-lite.co.uk	East of England London South East
Surge Electrical Engineering LTD	surge-electrical.co.uk	01656 645266 enquiries@surge-electrical.co.uk	Midlands, South East, South West Wales
Williams Renewables	williamsrenewables.co.uk	020 3542 2315 info@williamsrenewables.com	East of England London Midlands South East
Gensource	gensource.co.uk	0131 210 0392 hello@gensource.co.uk	Scotland North England
Greenbridge Renewables	gb-r.co.uk	01513456739 sales@gb-r.co.uk	Midlands Nationwide (multi-site)
Greenleaf Engineering	greenleafengineering.co.uk	0191 367 0248 info@greenleafengineering.co.uk	North England
Innasol Super Power One	innasol.com	01621 892613	North England
Square 4 Services	q4s.co.uk	0330 383 0351 enquiries@sq4s.co.uk	North England
UCS Renewables	ucs-renewables.co.uk	01642 242567 info@ucs-technologies.com	North East
Versatile Renewable Solutions	versatilesolutionsgroup.co.uk	01236 763300 info@vesol.co.uk	Scotland
Voltaire Energy	voltageenergy.com	01773 485105 office@voltageelectrical.co.uk	Scotland