

Specification

for the works for :

Carpark refurbishment
Lt Thetford Village Hall
Ely

for:
Lt Thetford Parish Council

Prepared by:
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EcoGrid Product Overview

EcoGrid Gravel Fill Installation

EcoGrid Bloxx Installation Guide

A10 Project particulars

110 The Project

1. Name: Carpark refurbishment
2. Location: Little Thetford Village Hall

120 Employer (client)

1. Name: Lt Thetford Parish Council
2. Address: Parish Council Clerk, Little Thetford Village Hall, The Lychees, Lt Thetford CB6 3HG
3. Contact: Parish Clerk
4. Email: parish.clerk@littlethetford.org.uk

130 Principal contractor (CDM) will be the Contractor

A11 Tender and contract documents

110 Tender drawings

1. The tender drawings are: as the attached drawing issue sheet

120 Contract drawings

1. The contract drawings: The same as the tender drawings.

160 Pre-construction information

1. Format: The pre-construction information is described in these Preliminaries in section A34. It refers to information given elsewhere in the Preliminaries, specification, drawings and associated documents.

A12 The site

110 The site

1. Description: Existing carpark adjacent to village hall in centre of village

200 Access to the site

1. Description: Access to the site is from The Wyches via the gate
2. Limitations: Safe access to the preschool must be maintained throughout the contract with the path being fenced from the main road to the preschool boundary.
3. Access for inspections: Provide access at reasonable times for both on-site and off-site work.

210 Parking

1. Restrictions on parking of the Contractor's and employees' vehicles: There is limited on street parking and care must be taken not to obstruct the main road

220 Use of the site

1. General: Do not use the site for any purpose other than carrying out the Works.
2. Limitations: Sports facilities may be used during the contract, so safe access must be maintained to the sports field;

230 Surrounding land/ building uses

1. **General:** Adjacent or nearby uses or activities are as follows:
 - 1.1. Preschool, Multi-use sports area, and football field.

250 Site visit

1. **Assessment:** Ascertain the nature of the site, access thereto and all local conditions and restrictions likely to affect the execution of the Works.
2. **Arrangements for visit:** Unaccompanied visits can be made to site which is open during the day.

A13 Description of the work

120 The works

1. **Description:** Excavation of existing unmarked gravel carpark and construction of grid-stabilised marked out parking area with extension of parking to pre-school boundary.

130 Work by others concurrent with the Contract

1. **Description:** Installation of electric car chargers organised and contracted by Village Hall Committee

A30 Tendering/ subletting/ supply

110 Scope

1. **General:** These conditions are supplementary to those stated in the Invitation to Tender and on the form of tender.

145 Tendering procedure

1. **General:** In accordance with the principles of: Single Stage Competitive Tendering unless presented in Open Tender
2. **Arithmetical errors:** Overall price is dominant.

160 Exclusions

1. **Inability to tender:** Immediately inform if any parts of the work as defined in the tender documents cannot be tendered.
2. **Relevant parts of the work:** Define those parts, stating reasons for the inability to tender.

170 Acceptance of tender

1. **Acceptance:** No guarantee is offered that any tender will be recommended for acceptance or be accepted, or that reasons for non acceptance will be given.
2. **Costs:** No liability is accepted for any cost incurred in the preparation of any tender.

190 Period of validity

1. **Period:** After submission or lodgement, keep tender open for consideration (unless previously withdrawn) for not less than 6 months.
2. **Date for possession/ commencement:** See section A20.

250 Priced documents

1. **Alterations:** Do not alter or qualify the priced documents without written consent. Tenders containing unauthorised alterations or qualifications may be rejected.
2. **Measurements:** Where not stated, ascertain from the drawings and/or site visit.

3. **Deemed included:** Costs relating to items, which are not priced, will be deemed to have been included elsewhere in the tender.
4. **Submit:** With tender

310 Tender

1. **General:** Tenders must include for all work shown or described in the tender documents as a whole or clearly apparent as being necessary for the complete and proper execution of the Works.

510 Alternative method tenders

1. **General:** In addition to and at the same time as tendering for the Works as defined in the tender documents, alternative methods of construction/ installation may be submitted for consideration. Alternatives, which would involve significant changes to other work, may not be considered.
2. **Alternative tenders:** Such alternatives will be deemed to be alternative tenders and each must include a complete and precise statement of the effects on cost and programme.
3. **Safety method statement:** Carry out a health and safety risk assessment for each alternative and where appropriate provide a safety method statement suitable for incorporation in the Health and Safety Plan.
4. **Full technical data:** Submit for each alternative together with details of any consequential amendments to the design and/ or construction of other parts of the Works.
5. **Submit:** With tender

515 Alternative time tenders

1. **General:** In addition to and at the same time as tendering based upon the date or period specified in section A20, an alternative tender based upon a different date for completion or period may be submitted.
2. **Date for completion:** If any such tender is accepted the date for completion inserted in the Contract will be the date stated in the alternative tender or determined from the period stated in the alternative tender.

530 Substitute products

1. **Details:** If products of different manufacture to those specified are proposed, submit details with the tender giving reasons for each proposed substitution. Substitutions, which have not been notified at tender stage, may not be considered.
2. **Compliance:** Substitutions accepted will be subject to the verification requirements of clause A31/200.

550 Health and safety information

1. **Content:** Describe the organization and resources to safeguard the health and safety of operatives, including those of subcontractors, and of any person whom the Works may affect.
2. **Include**
 - 2.1. A copy of the health and safety policy document, including risk assessment procedures.
 - 2.2. Accident and sickness records for the past five years.
 - 2.3. Records of previous Health and Safety Executive enforcement action.
 - 2.4. Records of training and training policy.
 - 2.5. The number and type of staff responsible for health and safety on this project with details of their qualifications and duties.
3. **Submit:** Within one week of request

570 Outline construction phase health and safety plan

1. **Content:** Submit the following information within one week of request:
 - 1.1. Method statements on how risks from hazards identified in the pre-construction information and other hazards identified by the contractor will be addressed.
 - 1.2. Details of the management structure and responsibilities.
 - 1.3. Arrangements for issuing health and safety directions.
 - 1.4. Procedures for informing other contractors and employees of health and safety hazards.
 - 1.5. Selection procedures for ensuring competency of other contractors, the self-employed and designers.
 - 1.6. Procedures for communications between the project team, other contractors and site operatives.
 - 1.7. Arrangements for cooperation and coordination between contractors.
 - 1.8. Procedures for carrying out risk assessment and for managing and controlling the risk.
 - 1.9. Emergency procedures including those for fire prevention and escape.
 - 1.10. Arrangements for ensuring that all accidents, illness and dangerous occurrences are recorded.
 - 1.11. Arrangements for welfare facilities.
 - 1.12. Procedures for ensuring that all persons on site have received relevant health and safety information and training.
 - 1.13. Arrangements for consulting with and taking the views of people on site.
 - 1.14. Arrangements for preparing site rules and drawing them to the attention of those affected and ensuring their compliance.
 - 1.15. Monitoring procedures to ensure compliance with site rules, selection and management procedures, health and safety standards and statutory requirements.
 - 1.16. Review procedures to obtain feedback.

599 Freedom of Information Act

1. **Records:** Retain, make available for inspection and supply on request information reasonably required to allow response to requests made under the provisions of the Freedom of Information Act.
2. **Determination:** Submit requests received. Do not supply information to anyone other than the project participants without express written permission.
3. **Confidentiality:** Maintain at all times.

A31 Provision, content and use of documents

110 Definitions

1. **Meaning:** Terms, derived terms and synonyms used in the preliminaries/ general conditions and specification are as stated here or in the appropriate referenced document.

120 Communication

1. **Definition:** Includes advise, inform, submit, give notice, instruct, agree, confirm, seek, provide or obtain information, consent or instructions, or make arrangements.
2. **Format:** In writing to the person named in clause A10/140 unless specified otherwise.
3. **Response:** Do not proceed until response has been received.

130 Products

1. **Definition:** Materials, both manufactured and naturally occurring, and goods, including components, equipment and accessories, intended for the permanent incorporation in the Works.
2. **Includes:** Goods, plant, materials, site materials and things for incorporation into the Works.

135 Site equipment

1. **Definition:** Apparatus, appliances, machinery, vehicles or things of whatsoever nature required in or about the construction for the execution and completion of the Works but not materials or other things intended to form or forming part of the Permanent Works.
2. **Includes:** Construction appliances, vehicles, consumables, tools, temporary works, scaffolding, cabins and other site facilities.
3. **Excludes:** Products and equipment or anything intended to form or forming part of the permanent works.

145 Contractor's choice

1. **Meaning:** Selection delegated to the Contractor, but liability to remain with the specifier.

155 Submit proposals

1. **Meaning:** Submit information in response to specified requirements.

160 Terms used in specification

1. **Remove:** Disconnect, dismantle as necessary and take out the designated products or work and associated accessories, fixings, supports, linings and bedding materials. Dispose of unwanted materials. Excludes removal and disposal of associated pipework, wiring, ductwork or other services.
2. **Remediate:** Action or measures taken to lessen, clean up, remove or mitigate the existence of hazardous materials; in accordance with standards, or requirements as may be set out by statutes, rules, regulations or specification.
3. **Fix:** Receive, unload, handle, store, protect, place and fasten in position; dispose of waste and surplus packaging. To include all labour, materials and site equipment for that purpose.
4. **Supply and fix:** As above, but including supply of products, components or systems to be fixed, together with everything necessary for their fixing. All products, components or systems are to be supplied and fixed unless stated otherwise.
5. **Keep for reuse:** Do not damage designated products or work. Clean off bedding and jointing materials. Stack neatly, protect adequately and store until required by the employer/ purchaser, or until required for use in the works as instructed.
6. **Keep for recycling:** As 'keep for reuse', but relates to a naturally occurring material rather than a manufactured product.
7. **Make good:** Execute local remedial work to designated work. Make secure, sound and neat. Excludes redecoration and/ or replacement.
8. **Replace:** Supply and fix new products matching those removed. Execute work to match original new state of that removed.
9. **Repair:** Execute remedial work to restore something to its original working state. Make secure, sound and neat. Excludes redecoration and/ or replacement.
10. **Refix:** Fix removed products.
11. **Ease:** Adjust moving parts of designated products, or work to achieve free movement and good fit in open and closed positions.
12. **Match existing:** Provide products and work of the same appearance and features as the original, excluding ageing and weathering. Make joints between existing and new work as inconspicuous as possible.

13. **System:** Equipment, accessories, controls, supports and ancillary items (including installation) necessary for that section of the work to function.

170 Manufacturer and product reference

1. **Definition:** When used in this combination:
 - 1.1. **Manufacturer:** the person or legal entity under whose name or trademark the particular product, component or system is marketed
 - 1.2. **Product reference:** the proprietary brand name and/ or identifier by which the particular product, component or system is described.
2. **Currency:** References are to the particular product as specified in the manufacturer's technical literature current on the date of the invitation to tender.

200 Substitution of products

1. **Products:** If an alternative product to that specified is proposed, obtain approval before ordering the product.
2. **Reasons:** Submit reasons for the proposed substitution.
3. **Documentation:** Submit relevant information, including:
 - 3.1. manufacturer and product reference;
 - 3.2. cost;
 - 3.3. availability;
 - 3.4. relevant standards;
 - 3.5. performance;
 - 3.6. function;
 - 3.7. compatibility of accessories;
 - 3.8. proposed revisions to drawings and specification;
 - 3.9. compatibility with adjacent work;
 - 3.10. appearance;
 - 3.11. copy of warranty/ guarantee.
4. **Alterations to adjacent work:** If needed, advise scope, nature and cost.
5. **Manufacturers' guarantees:** If substitution is accepted, submit before ordering products.

210 Cross references

1. **Accuracy:** Check remainder of the annotation or item description against the terminology used in the section or clause referred to.
2. **Related terminology:** Where a numerical cross reference is not given, the relevant sections and clauses of the specification will apply.
3. **Relevant clauses:** Clauses in the referred to specification section dealing with general matters, ancillary products and execution also apply.
4. **Discrepancy or ambiguity:** Before proceeding, obtain clarification or instructions.

220 Referenced documents

1. **Conflicts:** Specification prevails over referenced documents.

230 Equivalent products

1. **Inadvertent omission:** Wherever products are specified by proprietary name the phrase 'or equivalent' is to be deemed included.

240 Substitution of standards

1. **Specification to British Standard or European Standard:** Substitution may be proposed complying with a grade or category within a national standard of another Member State of the European Community or an international standard recognised in the UK.
2. **Before ordering:** Submit notification of all such substitutions.
3. **Documentary evidence:** Submit for verification when requested as detailed in clause A31/200. Any submitted foreign language documents must be accompanied by certified translations into English.

250 Currency of documents and information

1. **Currency:** References to published documents are to the editions, including amendments and revisions, current on the date of the Invitation to Tender.

260 Sizes

1. **General dimensions:** Products are specified by their co-ordinating sizes.
2. **Timber:** Cross section dimensions shown on drawings are:
 - 2.1. Target sizes as defined in BS EN 336 for structural softwood and hardwood sections.
 - 2.2. Finished sizes for non-structural softwood or hardwood sawn and further processed sections.

410 Additional copies of drawings/ documents

1. **Additional copies:** Issued free of charge.

440 Dimensions

1. **Scaled dimensions:** Do not rely on.

460 The specification

1. **Coordination:** All sections must be read in conjunction with Main Contract Preliminaries/ General conditions.

630 Technical literature

1. **Information:** Keep on site for reference by all supervisory personnel:
 - 1.1. Manufacturers' current literature relating to all products to be used in the Works.
 - 1.2. Relevant British, EN or ISO Standards.

A32 Management of the works

110 Supervision

1. **General:** Accept responsibility for coordination, supervision and administration of the Works, including subcontracts.
2. **Coordination:** Arrange and monitor a programme with each subcontractor, supplier, local authority and statutory undertaker, and obtain and supply information as necessary for coordination of the work.

118 Vehicle safety requirements

1. **Vehicle equipment:** Ensure that all vehicles have the following:
 - 1.1. Audible alert to other road users to the planned movement of the vehicle when the vehicle's indicators are in operation.

- 1.2. Prominent signage at the rear of the vehicle to warn cyclists of the dangers of passing the vehicle on the inside.
 - 1.3. Properly adjusted class VI mirror/s or Fresnel lens to eliminate the near side blind spot.
 - 1.4. Side under run guards.
2. Driver training
 - 2.1. Drivers must be trained on vulnerable road user safety through an approved course and hold a current valid Certificate of Competence.
 - 2.2. Drivers must have a valid driving licence and be legally able to drive the vehicle.

120 Insurance

1. **Documentary evidence:** Before starting work on site submit details, and/ or policies and receipts for the insurances required by the Conditions of Contract.

130 Insurance claims

1. **Notice:** If any event occurs which may give rise to any claim or proceeding in respect of loss or damage to the Works or injury or damage to persons or property arising out of the Works, immediately give notice to the employer/ client, the person administering the Contract on their behalf and the Insurers.
2. **Failure to notify:** Indemnify the employer/ client against any loss, which may be caused by failure to give such notice.

140 Climatic conditions

1. **Information:** Record accurately and retain:
 - 1.1. Daily maximum and minimum air temperatures (including overnight).
 - 1.2. Delays due to adverse weather, including description of the weather, types of work affected and number of hours lost.

150 Ownership

1. **Alteration/ clearance work:** Materials arising become the property of the Contractor except where otherwise stated. Remove from site as work proceeds.

210 Programme

1. **Master programme:** Immediately when requested and before starting work on site submit in an approved form a master programme for the Works, which must include details of:
 - 1.1. Planning and mobilisation by the Contractor
 - 1.2. Subcontractor's work.
 - 1.3. Running in, adjustment, commissioning and testing of all engineering services and installations.
 - 1.4. Work resulting from instructions issued in regard to the expenditure of provisional sums.
 - 1.5. Work by others concurrent with the Contract.
2. Submit two copies.

245 Start of work on site

1. **Notice:** Before the proposed date for start of work on site give minimum notice of two weeks.

310 Extensions of time

1. **Notice:** When a notice of the cause of any delay or likely delay in the progress of the works is given under the contract, written notice must also be given of all other causes which apply concurrently.

2. **Details:** As soon as possible submit:
 - 2.1. Relevant particulars of the expected effects, if appropriate, related to the concurrent causes.
 - 2.2. An estimate of the extent, if any, of the expected delay in the completion of the Works beyond the date for completion.
 - 2.3. All other relevant information required.

420 Removal/ replacement of existing work

1. **Extent and location:** Agree before commencement.
2. **Execution:** Carry out in ways that minimize the extent of work.

430 Proposed instructions

1. **Estimates:** If a proposed instruction requests an estimate of cost, submit without delay and in any case within seven days.

440 Measurement

1. **Covered work:** Give notice before covering work required to be measured.

470 Products not incorporated into the Works

1. **Ownership:** At the time of each valuation, supply details of those products not incorporated into the Works which are subject to any reservation of title inconsistent with passing of property as required by the Conditions of Contract, together with their respective values.
2. **Evidence:** When requested, provide evidence of freedom of reservation of title.

A33 Quality standards/ control

110 Incomplete documentation

1. **General:** Where and to the extent that products or work are not fully documented, they are to be:
 - 1.1. Of a kind and standard appropriate to the nature and character of that part of the Works where they will be used.
 - 1.2. Suitable for the purposes stated or reasonably to be inferred from the project documents.
2. **Contract documents:** Omissions or errors in description and/ or quantity shall not vitiate the Contract nor release the Contractor from any obligations or liabilities under the Contract.

120 Workmanship skills

1. **Operatives:** Appropriately skilled and experienced for the type and quality of work.
2. **Registration:** With Construction Skills Certification Scheme.
3. **Verification:** When requested, operatives must produce evidence of skills/ qualifications.

130 Quality of products

1. **Generally:** New. (Proposals for recycled products may be considered).
2. **Supply of each product:** From the same source or manufacturer.
3. **Whole quantity of each product required to complete the Works:** Consistent kind, size, quality and overall appearance.
4. **Tolerances:** Where critical, measure a sufficient quantity to determine compliance.
5. **Deterioration:** Prevent. Order in suitable quantities to a programme and use in appropriate sequence.

135 Quality of execution

1. **Generally:** Fix, apply, install or lay products securely, accurately, plumb, neatly and in alignment.
2. **Colour batching:** Do not use different colour batches where they can be seen together.
3. **Dimensions:** Check on-site dimensions.
4. **Finished work:** Without defects, e.g. not damaged, disfigured, dirty, faulty, or out of tolerance.
5. **Location and fixing of products:** Adjust joints open to view so they are even and regular.

140 Evidence of Compliance

1. **Proprietary products:** Retain on site evidence that the proprietary product specified has been supplied.
2. **Performance specification:** Submit evidence of compliance, including test reports indicating:
 - 2.1. Properties tested.
 - 2.2. Pass/ fail criteria.
 - 2.3. Test methods and procedures.
 - 2.4. Test results.
 - 2.5. Identity of testing agency.
 - 2.6. Test dates and times.
 - 2.7. Identities of witnesses.
 - 2.8. Analysis of results.

150 Inspections

1. **Products and executions:** Inspection or any other action must not be taken as approval unless confirmed in writing referring to:
 - 1.1. Date of inspection.
 - 1.2. Part of the work inspected.
 - 1.3. Respects or characteristics which are approved.
 - 1.4. Extent and purpose of the approval.
 - 1.5. Any associated conditions.

160 Related work

1. **Details:** Provide all trades with necessary details of related types of work. Before starting each new type or section of work ensure previous related work is:
 - 1.1. Appropriately complete.
 - 1.2. In accordance with the project documents.
 - 1.3. To a suitable standard.
 - 1.4. In a suitable condition to receive the new work.
2. **Preparatory work:** Ensure all necessary preparatory work has been carried out.

170 Manufacturer's recommendations/ instructions

1. **General:** Comply with manufacturer's printed recommendations and instructions current on the date of the Invitation to tender.
2. **Exceptions:** Submit details of changes to recommendations or instructions.
3. **Execution:** Use ancillary products and accessories supplied or recommended by main product manufacturer.
4. **Products:** Comply with limitations, recommendations and requirements of relevant valid certificates.

180 Water for the works

1. **Mains supply:** Clean and uncontaminated.
2. **Other:** Do not use until:
 - 2.1. Evidence of suitability is provided.
 - 2.2. Tested to BS EN 1008 if instructed.

210 Samples

1. **Products or executions:** Comply with all other specification requirements and in respect of the stated or implied characteristics either:
 - 1.1. To an express approval.
 - 1.2. To match a sample expressly approved as a standard for the purpose.

220 Approval of products

1. **Submissions, samples, inspections and tests:** Undertake or arrange to suit the Works programme.
2. **Approval:** Relates to a sample of the product and not to the product as used in the Works. Do not confirm orders or use the product until approval of the sample has been obtained.
3. **Complying sample:** Retain in good, clean condition on site. Remove when no longer required.

230 Approval of execution

1. **Submissions, samples, inspections and tests:** Undertake or arrange to suit the Works programme.
2. **Approval:** Relates to the stated characteristics of the sample. (If approval of the finished work as a whole is required this is specified separately). Do not conceal, or proceed with affected work until compliance with requirements is confirmed.
3. **Complying sample:** Retain in good, clean condition on site. Remove when no longer required.

320 Setting out

1. **General:** Submit details of methods and equipment to be used in setting out the Works.
2. **Levels and dimensions:** Check and record the results on a copy of drawings. Notify discrepancies and obtain instructions before proceeding.
3. **Inform:** When complete and before commencing construction.

330 Appearance and fit

1. **Tolerances and dimensions:** If likely to be critical to execution or difficult to achieve, as early as possible either:
 - 1.1. Submit proposals; or
 - 1.2. Arrange for inspection of appearance of relevant aspects of partially finished work.
2. **General tolerances (maximum):** To BS 5606, tables 1 and 2.

410 Services regulations

1. **New or existing services:** Comply with the Byelaws or Regulations of the relevant Statutory Authority.

530 Overtime working

1. **Notice:** Prior to overtime being worked, submit details of times, types and locations of work to be done.
 - 1.1. **Minimum period of notice:** Three days

2. **Concealed work:** If executed during overtime for which notice has not been given, it may be required to be opened up for inspection and reinstated at the Contractor's expense.

610 Defective products/ executions

1. **Proposals:** Immediately any work or product is known, or appears, to be not in accordance with the Contract, submit proposals for opening up, inspection, testing, making good, adjustment of the Contract Sum, or removal and re-execution.
2. **Acceptability:** Such proposals may be unacceptable and contrary instructions may be issued.

730 Making good defects

1. **Remedial work:** Arrange access with Employer.
2. **Rectification:** Give reasonable notice for access to the various parts of the Works.
3. **Completion:** Notify when remedial works have been completed.

A34 Security/ safety/ protection

120 Execution hazards

1. **Common hazards:** Not listed. Control by good management and site practice.
2. **Significant hazards:** The design of the project includes the following:
 - 2.1. **Hazard:** Use of large vehicles in the vicinity of the access to and from a preschool and sports facility.
 - 2.2. **Precautions assumed:** Carefully labelled and protected pedestrian routes to be created at the beginning of the works;

140 Construction phase health and safety plan

1. **Submission:** Present to the employer/ client no later than 1 week before commencement date.
2. **Confirmation:** Do not start construction work until the employer has confirmed in writing that the construction phase health and safety plan includes the procedures and arrangements required by the CDM Regulations.
3. **Content:** Develop the plan from, and draw on, the outline construction phase health and safety plan, clause A30/570, and the pre-tender health and safety plan/ pre-construction information.

150 Security

1. **Protection:** Safeguard the site, the Works, products, materials, and any existing buildings affected by the Works from damage and theft.
2. **Access:** Take all reasonable precautions to prevent unauthorized access to the site, the Works and adjoining property.

160 Stability

1. **Responsibility:** Maintain the stability and structural integrity of the works and adjacent structures during the contract.
2. **Design loads:** Obtain details, support as necessary and prevent overloading.

210 Safety provisions for site visits

1. **Safety:** Submit details in advance of safety provisions and procedures (including those relating to materials, which may be deleterious), which will require their compliance when visiting the site.
2. **Protective clothing and/ or equipment:** Provide and maintain on site for visitors to the-site.

330 Noise and vibration

1. **Standard:** Comply with the recommendations of BS 5228-1, in particular clause 7.3, to minimize noise levels during the execution of the Works.
2. **Equipment:** Fit compressors, percussion tools and vehicles with effective silencers of a type recommended by manufacturers of the compressors, tools or vehicles.
3. **Restrictions:** Do not use:
 - 3.1. Percussion tools and other noisy appliances without consent during the hours of 5pm to 8am.
 - 3.2. Radios or other audio equipment or permit employees to use in ways or at times that may cause nuisance.

340 Pollution

1. **Prevention:** Protect the site, the works and the general environment (including the atmosphere, land, streams and waterways) against pollution.
2. **Contamination:** If pollution occurs, report immediately, including to the appropriate authorities, and provide relevant information.

350 Pesticides

1. **Use:** Not permitted.

360 Nuisance

1. **Duty:** Prevent nuisance from smoke, dust, rubbish, vermin and other causes.
2. **Surface water:** Prevent hazardous build-up on-site, in excavations and to surrounding areas and roads.

371 Dangerous or hazardous substances

1. **Duty:** Report immediately suspected materials discovered during execution of the works.
 - 1.1. Do not disturb.
 - 1.2. Agree methods for safe removal or remediation.

375 Antiquities

1. **Duty:** Report immediately any fossils, antiquities and other objects of interest or value discovered during execution of the works.
2. **Preservation:** Keep objects in the exact position and condition in which they were found.

380 Fire prevention

1. **Duty:** Prevent personal injury or death, and damage to the Works or other property from fire.
2. **Standard:** Comply with Joint Code of Practice 'Fire Prevention on Construction Sites', published by Construction Industry Publications and The Fire Protection Association (The 'Joint Fire Code').

390 Smoking on-site

1. **Smoking on-site:** Not permitted.

400 Burning on-site

1. **Burning on-site:** Not permitted.

430 Waste

1. **Waste:** Includes rubbish, debris, spoil, containers and packaging, and surplus material requiring disposal.

2. **Requirement:** Minimize production and prevent accumulation of waste. Keep the site and works clean and tidy. Clean out voids and cavities in the construction before closing.
3. **Disposal:** Collect and store in suitable containers. Remove from site and dispose of in a safe and competent manner, as approved and directed by the waste regulation authority.
4. **Recyclable material:** Sort and dispose of at a materials recycling facility approved by the waste regulation authority.
5. **Documentation:** Retain on-site.

520 Roads and footpaths

1. **Duty:** Maintain roads and footpaths within and adjacent to the site and keep clear of mud and debris.
2. **Damage caused by site traffic or otherwise consequent upon the Works:** Make good to the satisfaction of the Employer, Local Authority or other owner.

530 Existing topsoil/ subsoil

1. **Duty:** Prevent over compaction of existing topsoil and subsoil in those areas which may be damaged by construction traffic, parking of vehicles, temporary site accommodation or storage of materials and which will require reinstatement prior to completion of the Works.
2. **Protection:** Before starting work submit proposals for protective measures.

540 Retained trees/ shrubs/ grassed areas

1. **Protection:** Preserve and prevent damage, except those not required.
2. **Replacement:** Mature trees and shrubs if uprooted, destroyed, or damaged beyond reasonable chance of survival in their original shape, as a consequence of the Contractor's negligence, must be replaced with those of a similar type and age at the Contractor's expense.

550 Retained trees

1. **Protected area:** Unless agreed otherwise, do not:
 - 1.1. Dump spoil or rubbish, excavate or disturb topsoil, park vehicles or plant, store materials or place temporary accommodation within the root protection area.
 - 1.2. Sever roots exceeding 25 mm in diameter. If unintentionally severed, give notice and seek advice.
 - 1.3. Change level of ground within an area 3 m beyond branch spread.

560 Existing features

1. **Protection:** Prevent damage to existing buildings, fences, gates, walls, roads, paved areas and other site features, which are to remain in position during execution of the Works.

A36 Facilities/ temporary work/ services

110 Spoil heaps, temporary works and services

1. **Location:** Give notice and details of intended siting.
2. **Maintenance:** Alter, adapt and move as necessary. Remove when no longer required and make good.

430 Water

1. **Supply:** The existing mains may be used for the Works as follows:
 - 1.1. **Metering:** Metered by the Employer and charged to the Contractor
 - 1.2. **Source:** Mains
 - 1.3. **Location of supply point:** Village Hall

2. **Continuity:** No responsibility will be accepted for the consequences of failure or restriction in supply.

440 Telephones

1. **Direct communication:** As soon as practicable after the Date of Possession provide the Contractor's person in charge with a mobile telephone.

540 Meter readings

1. **Charges for service supplies:** Where to be apportioned ensure that:
 - 1.1. Meter readings are taken by relevant authority at possession and/ or completion as appropriate.
 - 1.2. Copies of readings are supplied to interested parties.

570 Personal protective equipment

1. **General:** Provide for the sole use of other members of the project team, in sizes to be specified:
 - 1.1. Safety helmets to BS EN 397, neither damaged nor time-expired. Number required: 4
 - 1.2. High-visibility waistcoats to BS EN ISO 20471 Class 1. Number required: 4.

D20 Excavating and filling

To be read with preliminaries/ general conditions.

12 Site clearance

1. **Timing:** At start of project, mark out planting areas to ensure they are protected; clear whole site of gravel and other paving;
2. **General:** Do not compact topsoil to planting areas.

31 Unrecorded features

1. **Give notice:** If unrecorded foundations, beds, voids, basements, filling, tanks, pipes, cables, drains, manholes, watercourses, ditches, etc. not shown on the drawings are encountered.

45 Surplus subsoil

1. **Excavated material:** Stockpile in temporary storage heaps.
2. **Retained material:** Spread and level subsoil on site to ensure fall towards field.
 - 2.1. **Protected areas:** Do not raise soil level within root spread of trees that are to be retained.
3. **Remaining material:** Remove from site.

50 Hazardous, aggressive or unstable materials

1. **Generally:** Do not import or use fill materials which would, either in themselves or in combination with other materials or groundwater, give rise to a health hazard, damage to building structures or instability in the filling, including material that is:
 - 1.1. Frozen or containing ice.
 - 1.2. Organic.
 - 1.3. Contaminated or noxious.
 - 1.4. Susceptible to spontaneous combustion.
 - 1.5. Likely to erode or decay and cause voids.
 - 1.6. With excessive moisture content, slurry, mud or from marshes or bogs.
 - 1.7. Clay of liquid limit exceeding 80 and/ or plasticity index exceeding 55.

1.8. Unacceptable, class U2 as defined in the 'Specification for highway works', clause 601.

55 Placing fill

1. **Surfaces of excavations and areas to be filled:** Free from loose soil, topsoil, organic material, rubbish and standing water.
2. **Freezing conditions:** Do not use frozen materials or materials containing ice. Do not place fill on frozen surfaces. Remove material affected by frost. Replace and recompact if not damaged after thawing.
3. **Adjacent structures, membranes and buried services**
 - 3.1. Do not overload, destabilise or damage.
 - 3.2. Submit proposals for temporary support necessary to ensure stability during filling.
 - 3.3. Allow 14 days (minimum) before backfilling against in situ concrete structures.
4. **Layers:** Place so that only one type of material occurs in each layer.
5. **Earthmoving equipment:** Vary route to avoid rutting.

57 Geosynthetic sheet

1. **Description:** GEOMEMBRANE
2. **Manufacturer:** Eco Grid
 - 2.1. **Product reference:** EG80 non-woven fleece membrane

Q20 Granular sub-bases to roads/ pavings

To be read with preliminaries/ general conditions.

10 Thicknesses of sub-base/ subgrade improvement layers

1. **Thicknesses:** See sections: Q23 Gravel/ hoggin/ woodchip roads/ pavings.

30 Excavation of subgrades

1. **Final excavation to formation/ subformation level:** Carry out immediately before compaction of subgrade.
2. **Soft spots and voids:** Give notice.
3. **Old drainage and service trenches:** Excavate to remove soft or degraded material then backfill with specified granular sub-base material and compact
4. **Wet conditions:** Do not excavate or compact when the subgrade may be damaged or destabilized.

35 Preparation and compaction of subgrades

1. **Timing:** Immediately before placing sub-base.
2. **Soft or damaged areas:** Excavate and replace with sub-base material, compacted in layers 300 mm (maximum) thick
3. **Compaction:** Thoroughly, by roller or other suitable means, adequate to resist subsidence or deformation of the subgrade during construction and of the completed roads/ pavings when in use. Take particular care to compact fully at intrusions, perimeters and where local excavation and backfilling has taken place.

40 Granular material

1. **Quality:** DoT Type 1
 - 1.1. Crushed rock (other than argillaceous rock) or quarry waste with not more binding material than is required to help hold the stone together.
 - 1.2. Crushed concrete, crushed brick or tile, free from plaster, timber and metal.

- 1.3. Gravel or hoggin with not more clay content than is required to bind the material together, and with no large lumps of clay.
- 1.4. Natural gravel.
- 1.5. Natural sand.
2. Filling: Spread and levelled in 150 mm maximum layers, each layer thoroughly compacted.

43 Placing granular material generally

1. Preparation: Loose soil, rubbish and standing water removed.
2. Structures, membranes and buried services: Ensure stability and avoid damage.

45 Laying granular sub-bases

1. Description: FOR VEHICULAR AREAS
2. General: Spread and levelled.
3. Compaction
 - 3.1. Timing: As soon as possible after laying.
 - 3.2. Method: By roller or other suitable means, adequate to resist subsidence or deformation of the sub-base during construction and of the completed paving when in use. Take particular care to compact fully at intrusions, perimeters and where local excavation and backfilling has taken place.

50 Accuracy

1. Permissible deviation from required levels, falls and cambers (maximum)
 - 1.1. Subgrades
 - 1.1.1. Roads and parking areas: ± 20 -30 mm.
 - 1.1.2. Footways and recreation areas: ± 20 mm.
 - 1.2. Sub-bases
 - 1.2.1. Roads and parking areas: ± 20 mm

70 Protection

1. Sub-bases: As soon as practicable, cover with subsequent layers, specified elsewhere.
2. Subgrades and sub-bases: Prevent degradation by construction traffic, construction operations and inclement weather.

Q23 Gravel roads/ pavings

To be read with preliminaries/ general conditions.

10 Grid restrained gravel

1. Description: To carpark as shown on drawings
2. Subgrade improvement layer: Submit proposals after existing wearing layer removed
 - 2.1. Compacted thickness: Contractor's choice
3. Geomembrane: Geotextile membrane
 - 3.1. Manufacturer: EcoGrid www.ecogrid.co.uk
 - 3.1.1. Product reference: EG80 non-woven fleece membrane
4. Granular sub-base: Type 1 unbound mixture, as section Q20
 - 4.1. Compacted thickness: allow for 500mm subject to site inspection of sub grade
5. Blinding to sub-base: 20mm

6. Surface course: Angular gravel free from clay laid within stabilising grid EcoGrid E50
 - 6.1. Type: Gravel type: Granite or similar; Grid EcoGrid E50
 - 6.2. Source: Submit proposals for gravel
 - 6.3. Colour: grey granite gravel for parking and natural lighter mix for circulation; provide samples
 - 6.4. Size: Graded 10-18 mm
 - 6.5. Compacted thickness: 50 mm within E50 Ecogrid
7. Completion: Compact to produce a firm, regular surface, stable in use. Allow for white and yellow raised bay markers as shown on drawings and for flat white markers for road marking

30 Blinding to sub-base

1. Type: 2-4mm angular gravel;
2. Laying: Compact. Seal interstices. Provide free drainage.
3. Compacted thickness: 20mm

32 Laying generally

1. Channels, gullies, etc: Keep clear.
2. Finished surfaces
 - 2.1. Lines and levels: To prevent ponding.
 - 2.2. Overall texture: Even.
 - 2.3. State at completion: Clean.

35 Cold weather working

1. Frozen materials: Do not use.
2. Freezing conditions: Do not lay pavings.
3. Cold bituminous surface dressings: Do not apply when ambient temperature is below 10°C.
4. Other dressings or overlays: As manufacturers' recommendations.

40 Drainage falls

1. Sealed surfaces
 - 1.1. Falls and cross falls (minimum): 1:40.
 - 1.2. Camber (minimum): 1:50.
2. Unsealed surfaces (minimum): 1:30.

45 Laying granular surfaces in vehicular areas

1. Permissible deviation from required levels, falls and cambers (maximum): ± 20 mm.
2. General: Spread and level in 150 mm maximum layers. As soon as possible compact each layer.
3. Dry weather: Lightly water layers during compaction.

Q24 Interlocking brick/ block roads/ pavings

To be read with preliminaries/ general conditions.

12 Permeable concrete block paving

1. Description: To disabled parking bays and cycle storage
2. Subgrade improvement layer: Submit proposals following excavation

- 2.1. Compacted thickness: Submit proposals but allow for 500mm
- 3. Geomembrane below laying course: Geotextile membrane below 20mm screed layer
 - 3.1. Manufacturer: Eco Grid
 - 3.1.1. Product reference: EG80 non-woven fleece membrane
- 4. Laying course
 - 4.1. Material: EcoGrid Bloxx grid laid to EcoGrid installation instructions
- 5. Blocks: Infill blocks in 2 colours
 - 5.1. Manufacturer: Eco Grid www.ecogrid.co.uk
 - 5.1.1. Product reference: Bloxx Granite infill blocks in 2 colours with wheelchair pictograms per block
 - 5.2. Special blocks: Wheelchair pictograms
 - 5.3. Colour/ Finish: Dark Grey and light grey in arrangement shown on the drawings
 - 5.4. Requirements: for wheelchair parking bays
 - 5.4.1. Freeze/ thaw resistance: Class 3
 - 5.4.2. Abrasion resistance: Class 4
 - 5.4.3. Slip/ Skid resistance: PTV to BS 7976-2 of 45
- 6. Setting out
 - 6.1. Bond: stack bond within grid
 - 6.2. Features: parking and transition areas to be clearly delineated with varying colour
- 7. Accessories: wheelchair pictogram

22 Execution generally – concrete block and clay paver paving

- 1. Standard: In accordance with BS 7533-3.

27 Adverse weather

- 1. General: Do not use frozen materials or lay bedding on frozen or frost covered sub-bases.

34 Laying geotextile sheet for permeable paving

- 1. Jointing: To EcoGrid installation details

35 Laying blocks/ pavers/ setts

- 1. Setting out: Start from an edge restraint.
- 2. Cutting: Cleanly, accurately and vertically, without spalling. Do not mark or damage visible surfaces.
- 3. Cut edges: Turn inwards where possible; do not position against edge restraints or other features.
- 4. Compaction: Vibrate to produce thoroughly interlocked paving of even overall appearance with regular joints and accurate to line, level and profile. Do not mark or damage paving units, kerbs and adjacent work.
 - 4.1. Concrete blocks and clay pavers: In accordance with BS 7533-3, Annex F, to site category required for laying course material.

38 Laying permeable paving

- 1. General: Follow EcoGrid laying instructions closely.

42 Regularity of paved surfaces

- 1. Maximum undulations in the surface of pavings (except tactile paving surfaces) under a 1 m straight edge placed anywhere on the surface (where appropriate in relation to the geometry of the surface): 3 mm.

2. Joints between paving units or utility access covers
 - 2.1. Joints flush with the surface: difference in level between adjacent units to be no more than twice the joint width (with a 5 mm max difference in level).
 - 2.2. Recessed, filled joints: difference in level between adjacent units to be no greater than 2 mm; the recess to be no deeper than 5 mm.
 - 2.3. Unfilled joints: difference in level between adjacent units to be no greater than 2 mm.
3. Sudden irregularities: Not permitted.

50 Completion of paving

1. Final compaction of the surface course: In accordance with BS 7533-3.
2. Vacuum cleaning machines: Not allowed

Q28 Topsoil and soil ameliorants

To be read with preliminaries/ general conditions

20 Imported topsoil to BS 3882

1. Description: for planting areas
2. Quantity: Provide as necessary to make up any deficiency existing on site and to complete the work.
3. Standard: To BS 3882.
4. Classification: Low fertility for wildflower planting
 - 4.1. Soil textural class to BS 3882, Figure 1: any class
5. Source: Local, to approval

25 Sanitized and stabilized composted materials certified to pas 100

1. Standard: In accordance with PAS 100 and Compost Quality Protocol
2. Source: Local, to approval
 - 2.1. Product reference: For use directly around newly planted tree roots below top soil
3. Horticultural parameters
 - 3.1. pH (1:5 water extract): 6.5-8.7
 - 3.2. Electrical conductivity (maximum, 1:5 water extract): 200 mS/m
 - 3.3. Moisture content (m/m of fresh weight): 35-55%.
 - 3.4. Organic matter (minimum): 25%
 - 3.5. Grading (air dried samples): 95% passing 25 mm and 90% passing 10 mm screen mesh apertures
 - 3.6. Carbon: Nitrogen ratio (maximum): 20:1.
4. Texture: Friable.
5. Objectionable odour: Not permitted.
6. Quality Compost Protocol certification: Required
7. Declaration of analysis: Submit.
8. Additional analyses: Not required
9. Samples: Submit details of recent chemical and physical analysis before ordering

30 Spreading topsoil

1. Standard: In accordance with BS 3882.

2. Temporary roads or surfacing: Remove before spreading topsoil.
3. Layers
 - 3.1. Depth (maximum): 150 mm.
 - 3.2. Gently firm each layer before spreading the next.
4. Depth after firming and settlement: 400mm
5. Crumb structure: Do not compact topsoil. Preserve a friable texture of separate visible crumbs wherever possible.

32 Applying compost to areas planted with trees

1. Application rate for trees and shrubs: 15kg/m²
 - 1.1. Timing: Apply prior to cultivation.

35 Planting into topsoil

1. Grass seed
 - 1.1. Mixture: Low growing Wildflower seeds
 - 1.2. Application rate: 3 grams/sqm
2. Trees, shrubs, climbers
 - 2.1. Standard: The National Plant Specification
 - 2.2. Species: As plant schedule
 - 2.3. Origin/ provenance: British provenance for British grown

40 Finished levels of topsoil after settlement

1. In relation to adjoining paving, kerbs or hard surfaces: No more than 30mm above adjacent paving
2. In relation to adjacent grass areas: Level
3. Seeded areas: Extend cultivation into existing adjacent grassed areas sufficient to ensure full marrying in of levels.
4. Sportsfields: To even levels and within the following permitted deviations:
 - 4.1. From levels or gradients shown on drawings: ± 75 mm.
 - 4.2. From line between boning rods 30 m apart: ± 25 mm.
5. Within root spread of existing trees and shrubs to be retained: Do not dig or cultivate.
6. Adjoining soil areas. Marry in.
7. Thickness of turf or mulch: Included.

45 Documentation

1. Description: for imported topsoil
2. Timing: Submit at handover.
3. Contents
 - 3.1. Full description of all soil components.
 - 3.2. Record of source for all soil components.
 - 3.3. Record drawings showing the location and depth of all soils by type and grade.
 - 3.4. Declaration of analysis: in accordance with BS 3882, clause 6 and Table 1.
4. Number of copies: 1

Q40 Fencing

To be read with preliminaries/ general conditions.

30 Proprietary fencing

1. Description: Pole and post fencing to footpath edge
2. Manufacturer: NBB Recycled Furniture, www.recycledfurniture.co.uk
 - 2.1. Product reference: Pole and post fence
3. Height: 600mm above ground
4. Materials: Recycled plastic post with 2m galvanised pole
 - 4.1. Treatment: Send finished post, black and natural galvanised pole
 - 4.2. Finish: as supplied
5. Centres of posts (maximum): 1.8m
6. Method of setting posts: As manufacturer's recommendation
7. Accessories: None

45 Gates to preschool fence

1. Manufacturer: Contractor's choice Double 5 bar timber gates
 - 1.1. Product reference: Submit proposals
2. Sizes: 1830 mm clear opening
3. Posts: Concrete
4. Finish: Unfinished
5. Fittings: Two hook and band hinges, return spring and a padbolt with padlock
 - 5.1. Finish: Hot-dip galvanized to BS EN ISO 1461
6. Method of fixing: Posts set in 450 mm square x 750 mm deep concrete

60 Installation generally

1. Set out and erect
 - 1.1. Alignment: Straight lines or smoothly flowing curves.
 - 1.2. Tops of posts: Following profile of the ground.
 - 1.3. Setting posts: Rigid, plumb and to specified depth, or greater where necessary to ensure adequate support.
 - 1.4. Fixings: All components securely fixed.

70 Setting posts in concrete

1. Standard: To BS 8500-2.
2. Mix: Designated concrete not less than GEN1 or Standard prescribed concrete not less than ST2.
3. Alternative mix for small quantities: 50 kg Portland cement to 150 kg fine aggregate to 250 kg 20 mm nominal maximum size coarse aggregate, medium workability.
4. Admixtures: Do not use.
5. Holes: Excavate neatly and with vertical sides.
6. Filling: Position post/ strut and fill hole with concrete to not less than half the depth, well rammed as filling proceeds and consolidated.
7. Backfilling of holes not completely filled with concrete: Excavated material, well rammed and consolidated.

90 Making good galvanized surfaces

1. **Treatment of minor damage (including on fasteners and fittings):** Low melting point zinc alloy repair rods or powders made for this purpose, or at least two coats of zinc-rich paint to BS 4652.
2. **Thickness:** Apply sufficient material to provide a zinc coating at least equal in thickness to the original layer.



Permeable ground
reinforcement

Product Overview



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ABOUT US

EcoGrid Limited are the sole suppliers of the entire ECORASTER range of products to the United Kingdom and Irish market. We provide a quality of products and services second to none on pre, during and post sales. Our technical team is on hand to ensure a swift and hassle-free installation. The EcoGrid products are fully tested, approved and guaranteed to be the best available from the market since 1994 with a complete stock offering.



EcoGrid (known across Europe as Ecoraster) has enjoyed the status of world leader in completely recycled plastic reinforced surfacing system.

DIN 38412	Neutral for the environment
DIN 4102	Approval emergency access routes
DIN 1072	Approval for 20 tonne axle load, driveways, road extensions, bridges
DIN IN ISO 124 and B125	Approval for car park, access roads & storage areas
DIN 1072:1985	UV-resistant
DIN EN 60068-2-5	Certified for heavy-duty
DIN EN 124:2011	Tried and tested for environmentally safe
Point axle loading up to 20 T/m	
Tested OECD202:2004 part 'M' compliant	
Factory warranty: 20 years from purchase date	
NATO certified E50 - MOD / 9330-99-858-1406 TUV Certification	

EcoGrid E30

Our light loading grid for pedestrian usage and a variety of applications.



Technical Specifications

Dimensions	330 x 330 x 30mm
Wall thickness	4.4mm
Carrying load	Up to 250 t/sqm filled
Weight (sqm)	5.04kg
Weight (pce)	0.56kg
Wall height	30mm
Material	100% recycled polyethylene
Pressure resistance	Up to 10t axle load (DIN 1072)
Dimensional stability	Temp range -50° to +80°
Deformation	0.5% (at normal temp as above)
Moisture absorption	0.01%
Solubility	Resistant to acids, alkalis, alcohols and petrol (de-icing salt etc)

Delivery Units

Packaging unit	1 layer (1.33 sqm)
Layers per pallet	71
Sqm per pallet	94.43
Pieces per pallet	852
Pallet dimensions	105 x 135 x 229cm
Weight per pallet	484kg (inc. pallet)

Ideal to reinforce the likes of the following:

- Shed bases
- Golf walkways
- Country pathways
- Grass reinforcement
- Border control
- Green roofs
- Flagstone support
- Tree root protection
- Temporary surfacing
- Concrete block base support

Colour Options



All EcoGrid products arrive on-site pre-locked in layers of 12 grids or 1.33 square metres, fitting is very swift and uncomplicated. All grids feature a unique patented locking system to ensure that they remain locked together even under the most demanding conditions.

Our universal grid, an all-rounder for a multitude of low to medium load bearing applications.



Technical Specifications

Dimensions	330 x 330 x 40mm
Wall thickness	3.6mm
Carrying load	Up to 800 t/sqm gravel infilled
Weight (sqm)	5.22kg
Weight (pce)	0.58kg
Wall height	40mm
Material	100% recycled polyethylene
Pressure resistance	Up to 20t axle load (DIN 1072)
Dimensional stability	Temp range -50° to +80°
Deformation	0.5% (at normal temp as above)
Moisture absorption	0.01%
Solubility	Resistant to acids, alkalis, alcohols and petrol (de-icing salt etc)

Delivery Units

Packaging unit	1 layer (1.33 sqm)
Layers per pallet	43
Sqm per pallet	74.66 / 69.33
Pieces per pallet	660
Pallet dimensions	105 x 135 x 235cm
Weight per pallet	470kg (inc. pallet)

Ideal to reinforce the likes of the following:

- Landscape construction
- Gravel parking systems
- Grassed parking systems
- Garden office bases
- Pedestrian walkways
- Construction sites
- Tree root protection
- Animal compounds
- Shed base
- Walkways
- Golf courses
- Horse arenas

Colour Options



Can be jointed together for ground reinforcement



All EcoGrid products arrive on-site pre-locked in layers of 12 grids or 1.33 square metres, fitting is very swift and uncomplicated. All grids feature a unique patented locking system to ensure that they remain locked together even under the most demanding conditions.

EcoGrid E40 XXL

Same functionality as the EcoGrid E40 and it is recommended for resin installs with less joins.



Technical Specifications

Dimensions	1m x 1.33m x 4cm
Wall thickness	3mm
Carrying load	Up to 800 t/sqm gravel infilled
Weight (sqm)	4.8kg
Weight (pce)	6.35kg
Wall height	4cm
Material	100% recycled polyethylene
Pressure resistance	Up to 20t axle load (DIN 1072)
Dimensional stability	Temp range -50° to +90°
Deformation	0.5% (at normal temp as above)
Moisture absorption	0.01%
Solubility	Resistant to acids, alkalis, alcohols and petrol (de-icing salt etc)

Delivery Units

Packaging unit	1 layer (1.33 sqm)
Layers per pallet	55
Sqm per pallet	74.66 / 69.33
Pieces per pallet	55
Pallet dimensions	100.5 x 135 x 240cm
Weight per pallet	365kg (inc. pallet)

Ideal to reinforce the likes of the following:

- Parking spaces
- Horse and courtyard driveways
- Campsites

Colour Options



Can be jointed together for ground reinforcement



All EcoGrid products arrive on-site pre-locked in layers of 12 grids or 1.33 square metres, fitting is very swift and uncomplicated. All grids feature a unique patented locking system to ensure that they remain locked together even under the most demanding conditions.

EcoGrid E50

7

Our highest loading grid, high lateral loading characteristics for a variety of applications where strength and rigidity is paramount.



Technical Specifications

Dimensions	330 x 330 x 50mm
Wall thickness	5mm
Carrying load	1000+ t/sqm filled
Weight (sqm)	9.55kg
Weight (pce)	1.06kg
Wall height	50mm
Material	100% recycled polyethylene
Pressure resistance	Up to 40t axle load (DIN 1072)
Dimensional stability	Temp range -50° to +80°
Deformation	0.5% (at normal temp as above)
Moisture absorption	0.01%
Solubility	Resistant to acids, alkalis, alcohols and petrol (de-icing salt etc)

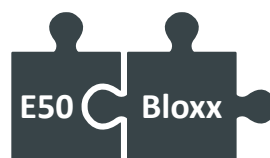
Delivery Units

Packaging unit	1 layer (1.33 sqm)
Layers per pallet	43
Sqm per pallet	57.19 / 54.66
Pieces per pallet	516
Pallet dimensions	105 x 135 x 229cm
Weight per pallet	560kg (inc. pallet)

Ideal to reinforce the likes of the following:

- Tree root protection
- Military applications
- Grassed fill parking
- Gravel fill parking
- Resin stone base
- Exterior warehousing
- Emergency access roads
- Horticulture
- Landscaping
- Lorry parks
- Light aircraft
- SuDS approved

Colour Options



Can be joined together for ground reinforcement



All EcoGrid products arrive on-site pre-locked in layers of 12 grids or 1.33 square metres, fitting is very swift and uncomplicated. All grids feature a unique patented locking system to ensure that they remain locked together even under the most demanding conditions.

EcoGrid S50

Our flexible grid, lightweight and strong from applications where elasticity is paramount.



Technical Specifications

Dimensions	330 x 330 x 50mm
Wall thickness	2.5mm
Carrying load	Up to 500 t/sqm filled
Weight (sqm)	6.84kg
Weight (pce)	0.76kg
Wall height	50mm
Material	100% recycled polyethylene
Pressure resistance	Up to 20t axle load (DIN 1072)
Dimensional stability	Temp range -50° to +80°
Deformation	0.5% (at normal temp as above)
Moisture absorption	0.01%
Solubility	Resistant to acids, alkalis, alcohols and petrol (de-icing salt etc)

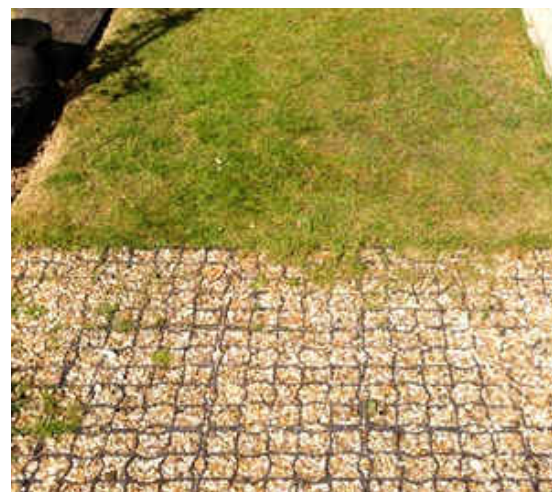
Delivery Units

Packaging unit	1 layer (1.33 sqm)
Layers per pallet	43
Sqm per pallet	57.19 / 54.66
Pieces per pallet	516
Pallet dimensions	105 x 135 x 229cm
Weight per pallet	398kg (inc. pallet)

Ideal to reinforce the likes of the following:

- Horse arenas
- Light aircraft
- Swales and ditches
- Emergency access roads
- Landscape construction

Colour Options



All EcoGrid products arrive on-site pre-locked in layers of 12 grids or 1.33 square metres, fitting is very swift and uncomplicated. All grids feature a unique patented locking system to ensure that they remain locked together even under the most demanding conditions.

The sturdy reservoir grid for equestrian applications and when there is a need for added rigidity.



Technical Specifications

Dimensions	330 x 330 x 40mm
Wall thickness	5mm
Carrying load	Up to 600 t/sqm filled
Weight (sqm)	7.5kg
Weight (pce)	0.83kg
Wall height	40mm
Material	100% recycled polyethylene
Pressure resistance	Up to 10t axle load (DIN 1072)
Dimensional stability	Temp range -50° to +80°
Deformation	0.5% (at normal temp as above)
Moisture absorption	0.01%
Solubility	Resistant to acids, alkalis, alcohols and petrol (de-icing salt etc)

Delivery Units

Packaging unit	1 layer (1.33 sqm)
Layers per pallet	43
Sqm per pallet	73.15
Pieces per pallet	660
Pallet dimensions	105 x 135 x 235cm
Weight per pallet	470kg (inc. pallet)

Ideal to reinforce the likes of the following:

- Animal compounds
- Commercial sites
- Equestrian arenas
- Resin stone based
- Shed bases



All EcoGrid products arrive on-site pre-locked in layers of 12 grids or 1.33 square metres, fitting is very swift and uncomplicated. All grids feature a unique patented locking system to ensure that they remain locked together even under the most demanding conditions.

EcoGrid Bloxx

The fully permeable housing for our concrete inserts. A unique combination system that is fully adaptable with EcoGrid standard grids.



Technical Specifications

Dimensions	330 x 330 x 50mm
Wall thickness	18mm (twin wall)
Carrying load	Up to 800 t/sqm
Weight (sqm)	85kg (with inserts)
Weight (pce)	9.44kg
Wall height	50mm
Material	100% recycled polyethylene
Pressure resistance	Up to 10t axle load (DIN 1072)
Dimensional stability	Temp range -50° to +80°
Deformation	0.5% (at normal temp as above)
Moisture absorption	0.01%
Solubility	Resistant to acids, alkalis, alcohols and petrol (de-icing salt etc)

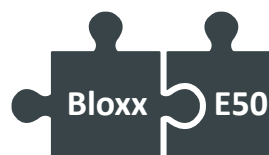
Delivery Units

Packaging unit	1 layer inserts / 1 layer housing
Layers per pallet	N/A
Sqm per pallet	24
Pieces per pallet	216
Pallet dimensions	105 x 135 x 235cm
Weight per pallet	2040kg (inc. pallet)

Ideal to reinforce the likes of the following:

- Courtyards
- Disabled access
- Parking systems
- Events
- Patios
- Driveways
- Walkways
- Public areas

Colour Options

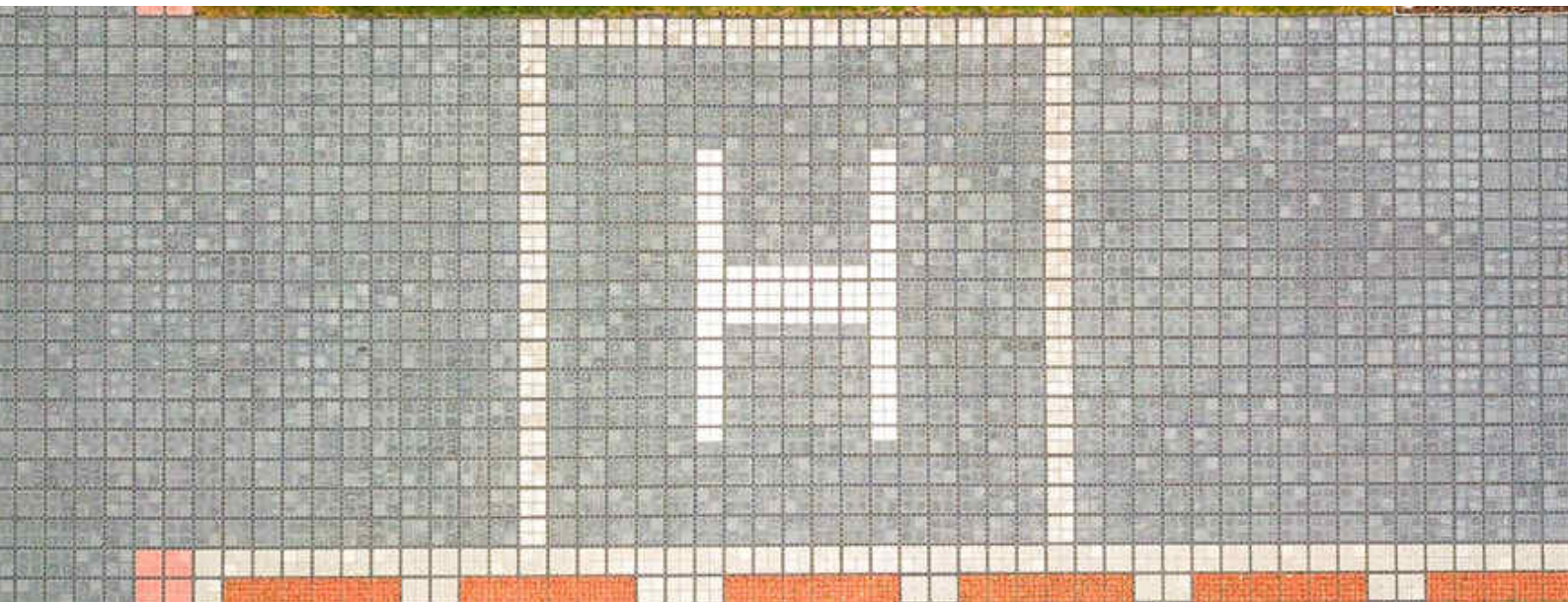


Can be jointed together for ground reinforcement



All EcoGrid products arrive on-site pre-locked in layers of 12 grids or 1.33 square metres, fitting is very swift and uncomplicated. All grids feature a unique patented locking system to ensure that they remain locked together even under the most demanding conditions.

Bloxx provides recessed plastic paving grid and permeable block paving in one package. A long lasting, aesthetic solution to manage surface water run-off in the likes of car parks, driveways, lawns, decorative pathways, and more.



Bloxx Granite



Granite inserts are manufactured from natural stone providing a solid hard standing surface with an aesthetically pleasing finish.

Dimensions	140 x 140 x 46cm
Weights (in a square metre)	Approximately 88kg

Bloxx Rubber



EcoGrid Bloxx with rubber inserts are manufactured from compressed rubber granules firmly bound together with a permeable resin system, providing a 'standalone', permeable, solid hard standing surface.

Dimensions	140 x 140 x 46cm
Weights (in a square metre)	Approximately 63kg

Bloxx Concrete



EcoGrid Bloxx with granite inserts, designed to be used in conjunction with grass or gravel filled grids, creates an aesthetic pleasing finish.

Dimensions	140 x 140 x 46cm
Weights (in a square metre)	Approximately 88kg

EcoGrid Resin Bound Stone

A decorative aggregates that produce an extremely strong and aesthetically pleasing stone surface which is fully permeable and SUDs compliant.



EcoGrid Resin Bound Stone

We supply complete kits to facilitate the installation of resin bound stone surfacing on an EcoGrid base. The kits comprise of: Membrane, EcoGrid, resin, aggregate and our EcoGrid flexible edge system.



Harvest Crunch



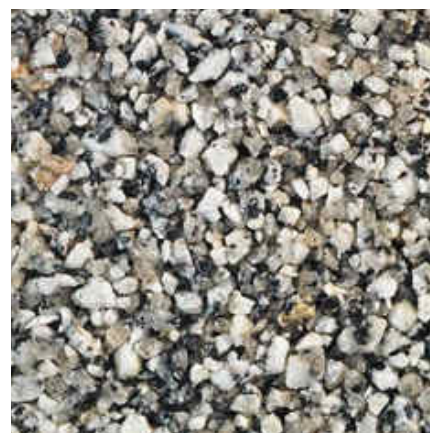
Maple Harvest



Hazelnut Latte



Midnight Blend



Silver Moon

EcoGrid Bodenmat

13

A ground mat to form a great non-slip surface without any spadework. Available for hire or purchase.



Technical Specifications

Dimensions	1200 x 800mm
Thickness	22mm
Loadability	200t/m ² (DIN EN ISO 179)
Fire class	B1, low-flammable
Weight (each mat)	20kg
Material	100% recycled material
Interconnection	Slot and key system
Laying	Loosely laid, on solid ground

Delivery Units

Sqm per pallet	48
Pieces per pallet	50



Ideal to reinforce the likes of the following:

- Stall and Box
- Paddock
- Veterinary clinics
- Solar and heat spaces
- Turnouts
- Events
- Shop flooring

EcoGrid Ecosedum Tray

An all-in-one system containing plants from the sedum family, perfect for bringing greenery to all conventional roof types.



Suitable for the following places:

- Flat roof
- Lean-to roofs
- Garages
- Carports
- Roof terraces
- Garden offices
- Portable buildings
- Non-accessible areas

Technical Specifications

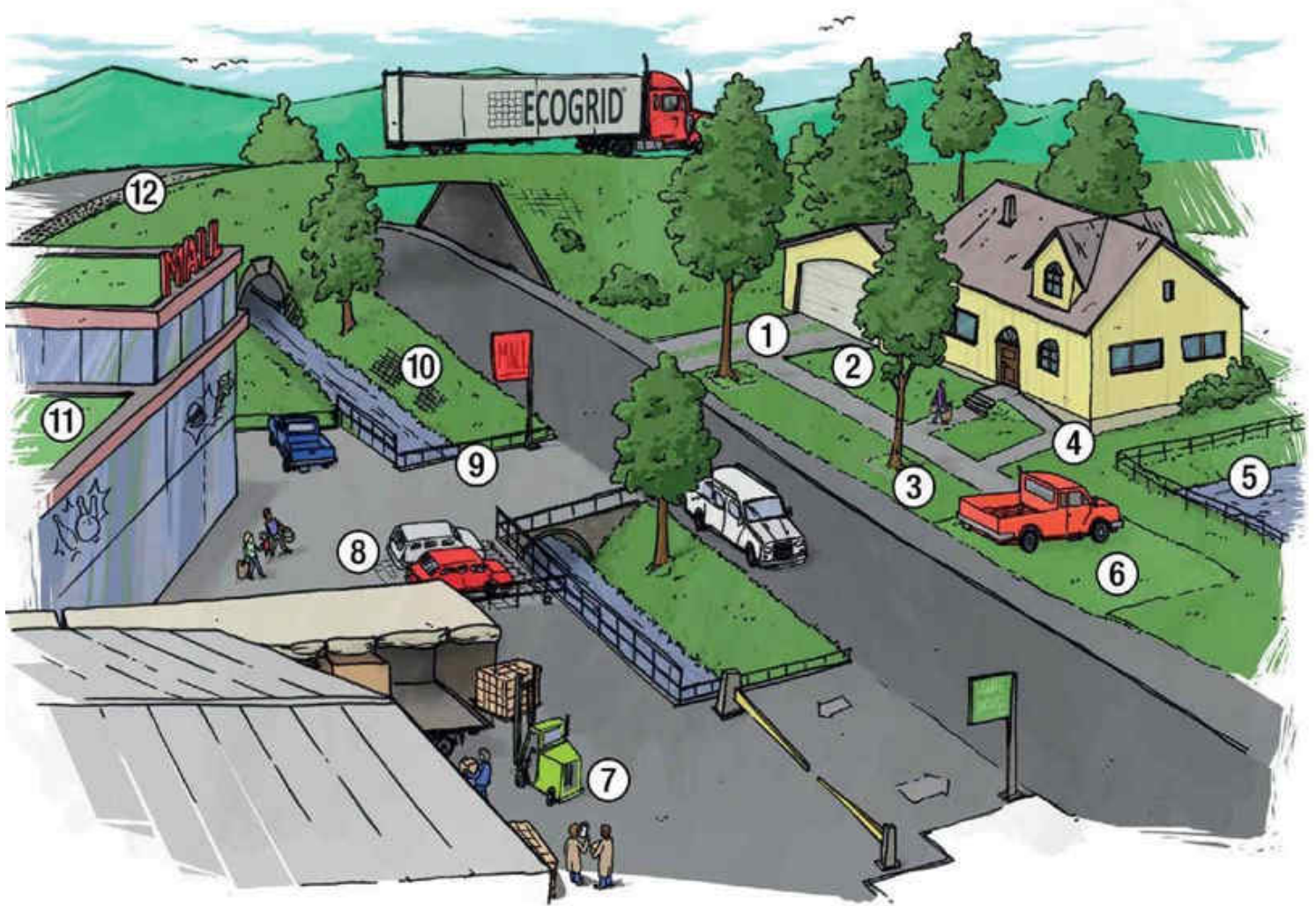
Material	100% recycled/ recyclable PE/PP
Colour	Grey
Area	400x600mm
Height	75mm
Water retention capacity	81/m²
Weight (at max. water content)	95kg/m²
Weight (at max. water content)	22.8kg/unit
Water retention capacity (at max. water content)	32 l/m²
Run-off coefficient	0,5

Delivery Units

Pre-planted tray volumes	Over 80% (4-6 sedum varieties)
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Follow this easy guide to find out what product suit your project the best.



- | | | | | | | | |
|-----------------------------------------|-----|------------|-------|-------------------------------------------|-----|-----|----------------|
| 1. Gravel filled parking systems | E40 | E40
XXL | E50 | 7. Exterior warehousing and storage | E50 | | |
| 2. Artificial turf, resin stone bases | E30 | E40 | E50 | 8. Under concrete pavers for parking lots | E30 | E40 | E40
XXL |
| 3. Tree root protection | E40 | E40
XXL | E50 | 9. Roads and bridges | E50 | | |
| 4. Accessible pathways (Disabled) | E30 | E40 | Bloxx | 10. Erosion control | S50 | | |
| 5. Infiltration ponds, drainage ditches | S50 | | | 11. Green roofing | E40 | E50 | Ecosedum Trays |
| 6. Grassed parking systems | E40 | E50 | S50 | 12. Soft shoulder reinforcement | E50 | | |

Showing the build-up layers



Gravel Filled Car Park



EcoGrid Combination System Car Park:
Grass Fill and EcoGrid Bloxx



EcoGrid Additional Infiltration Systems



EcoGrid Tree Root Protection

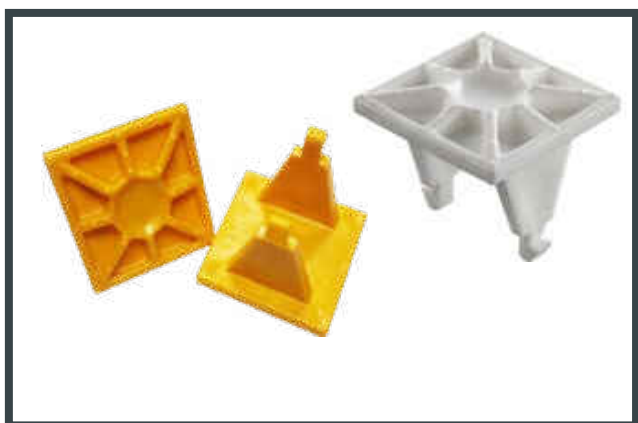


EcoGrid Lorry Parking Systems



EcoGrid Lorry Parking With Added Ground Spikes

EcoGrid Accessories



EcoGrid Bay Markers: Raised profile

Our EcoGrid bay markers with a raised profile are fully UV stable and firmly clip inside and underneath the grid tile. Raised markers are best with grass filled applications. Markers can also be used to show disabled symbols, or any shape required.



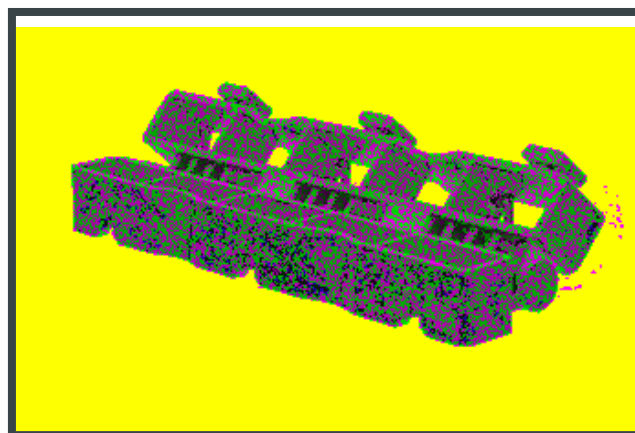
EcoGrid Bay Markers: Flat profile

Our EcoGrid bay markers with a flat profile are fully UV stable and firmly clip inside and underneath the grid tile. Flat markers are best with gravel filled applications. Markers can also be used to show disabled symbols, or any shape required.



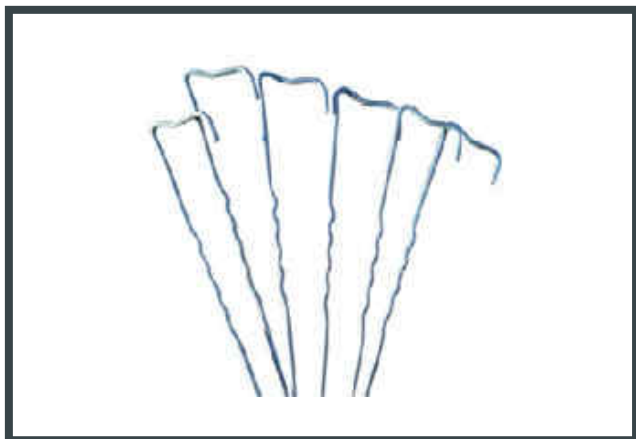
EcoGrid Curving Units

Our EcoGrid curving unit allows the making of any curved shape without the need for cutting. Any curve, even a full circle can be achieved.



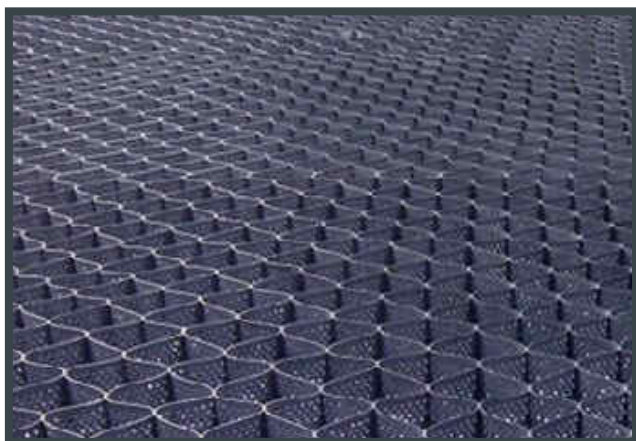
EcoGrid Angular Section

Our EcoGrid angular section allows the laying of grids from the horizontal to the vertical. Great for embankment, dunes or bunds.



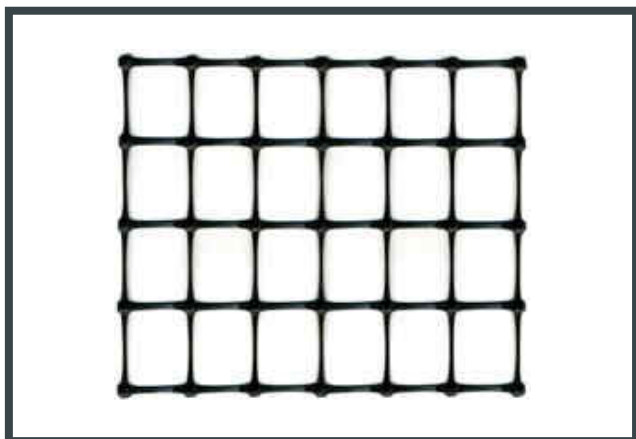
J Pins

This Steel Fixing J pins are used to add a security measure to installations where stability may be in-doubt. For example, steep gradients. Pinning the EcoGrid down will avoid potential movement issues. The frequency tends to depend on the situation, but three pins per square metre will usually suffice.



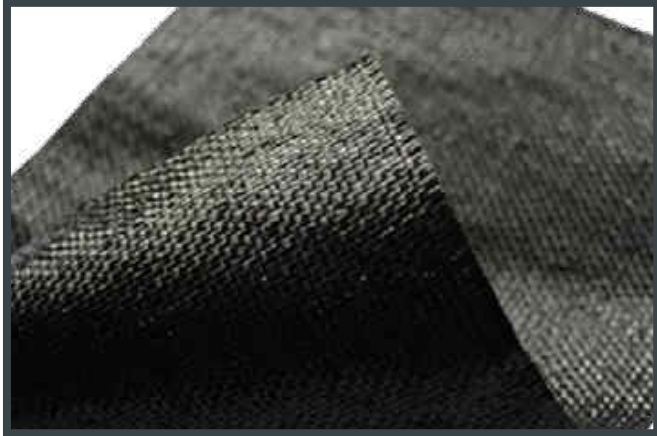
EcoCell Tree Root Protection

Our EcoCell products come in 100, 150 and 200mm depths and are used in conjunction with an EcoGrid surface either grass or gravel filled when there is a need for tree root protection on a site or access road.



Open Weave Geogrids

Our open weave membranes are employed when the excavated layer is soft or the CBR is low. These layers act as a fully permeable support layer.



Woven Membranes

Our EcoGrid woven membranes come in any size to suit your application or in full roll sizes 4.5 x 100 metres. Woven membranes are generally used as a primary layer in an installation prior to the build-up layers.



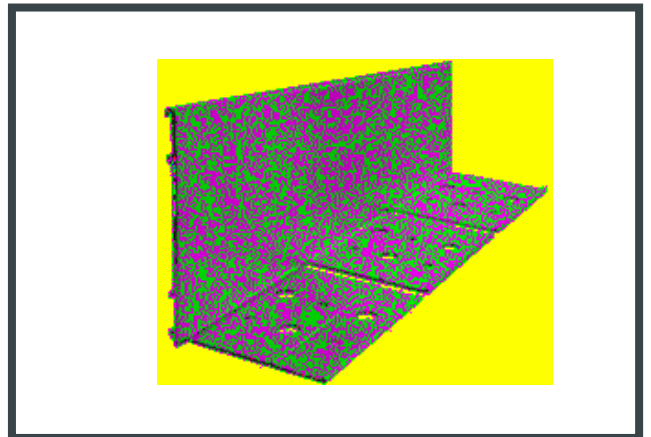
Non-Woven Membranes

Our EcoGrid non-woven membranes come in any size to suit your application or in full roll sizes 4.5 x 100 metres. We stock a wide range of geotextile membranes to suit all application from 80g to 650g.



EcoGrid Recessed Inspection Chamber Covers

Our EcoGrid recessed inspection chamber covers come in variety of depths and styles. We offer bespoke covers for specific projects and are the sole suppliers of the GrassTop range to the UK and Ireland.



Alusthetic AluFlex Edging

Our Alusthetic aluminium edging is easy to fit and provides a professional finish to any installation, ideal for resin bound stone, gravel and grass fill applications.





EcoGrid is a forward-thinking company, providing a comprehensive turnkey approach by amalgamating quality goods and service with value and efficiency. A true 'one stop' approach to projects.



ECOGRID®

Installation Guide

Gravel Fill

Why EcoGrid?

- ✓ Quick and easy to install (100sqm/person/hour)
- ✓ Low handling and transportation costs (E30 94 sqm/pallet)
- ✓ High loading capacity (E50-800t/sqm)
- ✓ Patented safety locking system
- ✓ Surface reinforcement with natural drainage
- ✓ Extremely versatile (sloping and curving elements, markers range)
- ✓ Minimal maintenance
- ✓ Weatherproof and environmentally friendly
- ✓ Non-slip and crackproof
- ✓ Frost proof and UV stable
- ✓ Easy to cut with supplied edges available

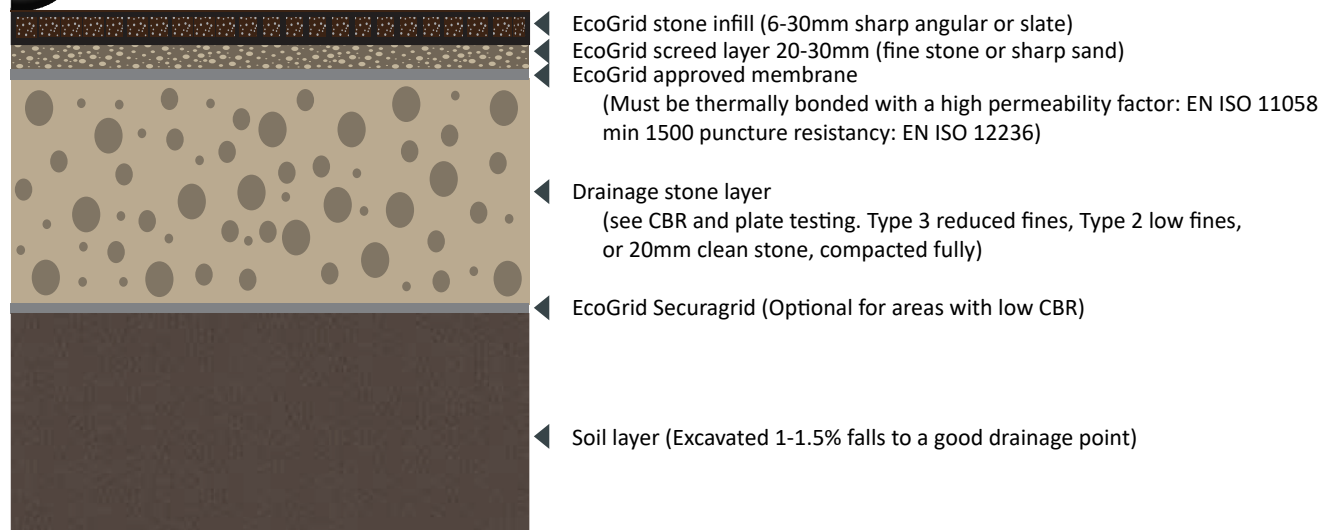
Preparations

Before determining the volume of stone infill for the grids you need, you must calculate the total area and if you are to over-fill the grids. At standard fill rates, infill calculations are:

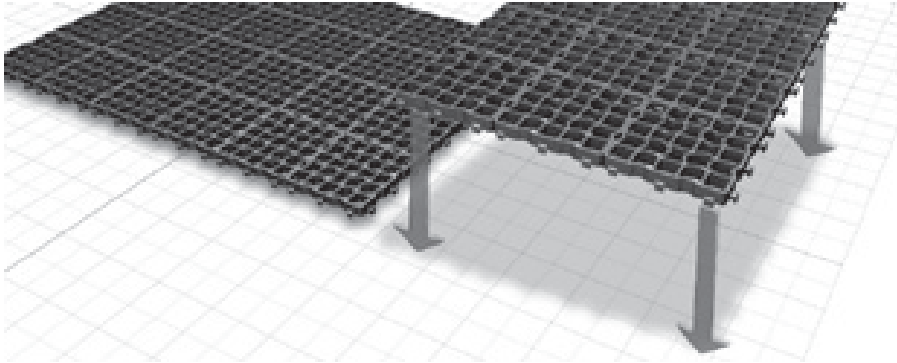
- 0.051 tonnes per square metre for 30mm grids
- 0.068 tonnes per square metre for 40mm grids
- 0.085 tonnes per square metre for 50mm grids

If you choose not to build a base layer for your installation, the natural movement of the soil layer can cause unevenness. EcoGrid significantly increases the loading capacity of any surface, we always advise to follow the manufacturer's guidelines.

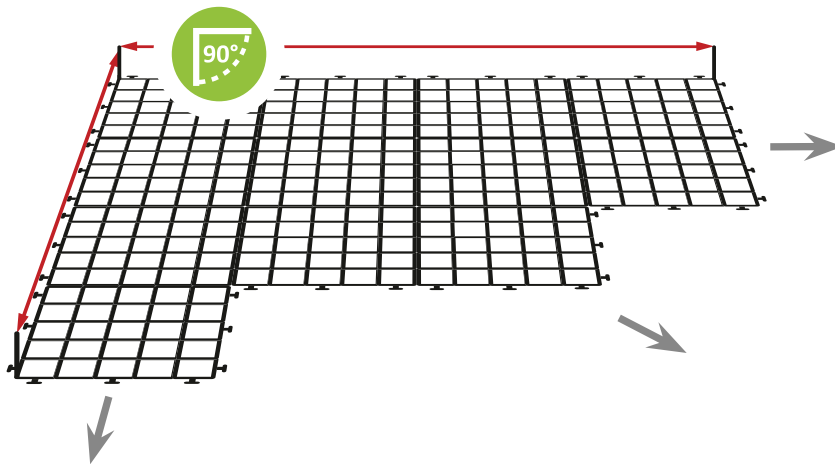
Example Car Park with Sharp Angular Stone



EcoGrid Installation Guide



EcoGrid is both swift and easy to lay without the need for specialised machinery. The system is delivered in palletised form in layers of 12 grids or 1.33 sqm pre-locked together. These layers are taken off the pallet by one person, offered to the ground, the next layer simply snaps firmly in to place with foot pressure.



Laying

To lay the grids, start in one corner of a wall or building and work out to the ingress/egress point or set a string-line to ensure a 90-degree angle to the house or building. NEVER lay from two different directions as this will create problems ensuring the sections join correctly.

Disconnecting

The pre-connected sheets can be taken apart, if necessary, place a line of grids, piece of timber or screed rail under the male side of the grids and press firmly down on the female side. It may also be necessary to ensure the grids are kept close together to minimise the effect of the safely locking system.

Cutting to size

It is very easy to cut the grids. The ideal method is with an angle grinder which will cut at a walking pace. A circular saw or jig saw can also be used as can a hand saw although progress would be slow.

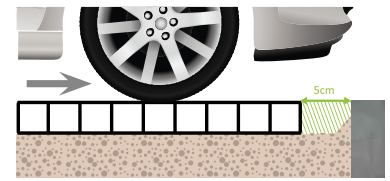
Accessories

Curves: The EcoGrid system can form any curve from shallow to a complete circle with the use of our unique curving accessory.

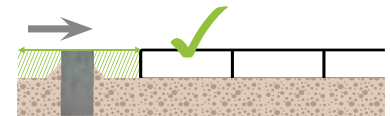
Angles: The EcoGrid angle section can take any surfacing from the horizontal to the vertical.

Markers: We have both raised and flay markers to delineate parking bays, disabled symbols etc.

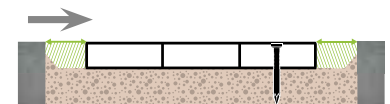
Edges: We have both plastic and Aluminium edges to form raised straight or curved edges.



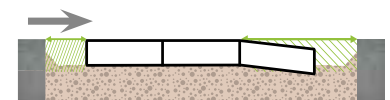
If there are kerb stones in-situ, ensure a gap of 5cm min is left for expansion.



The EcoGrid system should be laid level to surrounding kerbs, edges.



To avoid surface distortion at the edges caused by shear forces of vehicles, the EcoGrid system can be fixed with ground anchors.



As an alternative to J pins, you may also just press down the rear section of the grid.

EcoGrid CBR Guide (California bearing rate)

A CBR is a guide to the amount of sub-base you will require relative to ground conditions and the proposed traffic.

Application loading	CBR strength of sub-grade soil	DoT sub-base thickness
Fire trucks, coaches and occasional HGV access	>6	100
	=4<6	200
	=2<4	190
	=1<2	380
Light vehicle access and overspill car parking	>6	100
	=4>6	100
	=2,4	135
	=1<2	260

Field guidance for estimating sub-grade strengths

Consistency	Indicator			Strength	
	Tackle (feel)	Visual (observation)	Mechanical (test)	CBR CU	SPT % KN/sqm
Very soft	Hand sample squeezes through fingers	Man standing will sink >75mm	<2	<1	<25
Soft	Easily moulded by finger pressure	Man walking sinks 50-70mm	2-4	1	2
Medium	Moulded by moderate finger pressure	Man walking sinks 25mm	4-8	1-2	25-40
Firm	Moulded by strong finger pressure	Utility trunk ruts 10-25mm	8-15	2-4	40-75
Stiff	Cannot be moulded but can be indented by thumb	Nil	15-30	4-6	75-150

EcoGrid Things to bear in mind



If it is likely that heavy goods vehicles will be performing tight turns on an EcoGrid surface, it is advised that the grid system is over-filled by a minimum of 20mm to counteract a high degree of lateral loading. Speak to us for guidance on HGV turning areas.



Do not lay from different areas as this may cause the jointing pattern to be offset.
Do not fill the grids until the whole installation is complete. This can cause spreading and make successive jointing difficult.



Standard construction techniques with regard to expansion and contraction joints should always be observed. EcoGrid can expand substantially in hot weather conditions.



Care instructions a hand pulled rake can be used to keep areas tidy, for larger areas a mechanical sweeper can be used.

Still unsure..... No worries.

We have a technical team ready and able to answer any questions that you may have.

Give us a call 0151 639 4281 or email sales@ecogrid.co.uk



Installation Guide **EcoGrid Bloxx**

Why EcoGrid?

- ✓ Quick and easy to install (50sqm/person/hour)
- ✓ Low handling and transportation costs (E30 94 sqm/pallet)
- ✓ High loading capacity (E50-800t/sqm)
- ✓ Patented safety locking system
- ✓ Surface reinforcement with natural drainage
- ✓ Extremely versatile (sloping and curving elements, markers range)
- ✓ Minimal maintenance
- ✓ Weatherproof and environmentally friendly
- ✓ Non-slip and crackproof
- ✓ Frost proof and UV stable
- ✓ Easy to cut with supplied edges available

Preparations

For determining the volume of screed layer and or sub-base, you need to follow the following calculation:

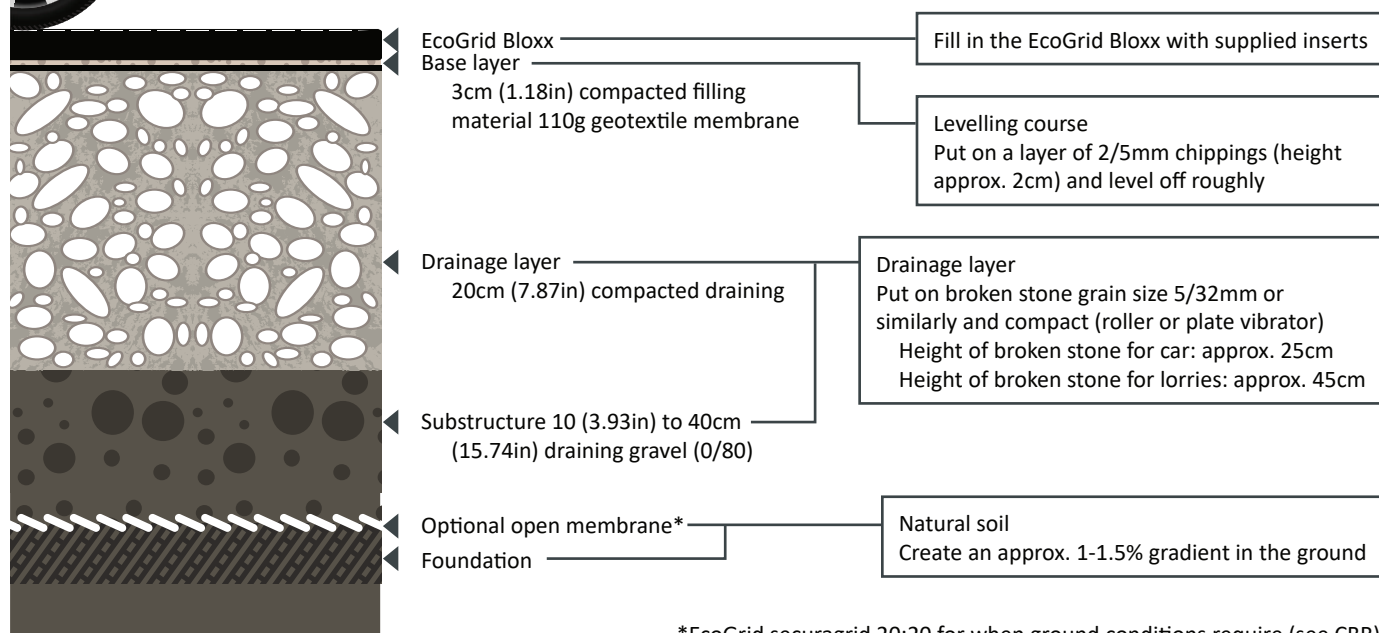
10 square metres of 30mm screed = 0.55 tonnes of fine stone

10 square metres of 100mm sub-base = 2.2 tonnes of type 3 reduced fines

If you choose not to build a base layer for your installation, the natural movement of the soil layer can cause unevenness. EcoGrid significantly increases the loading capacity of any surface, we always advise to follow the manufacturer's guidelines.

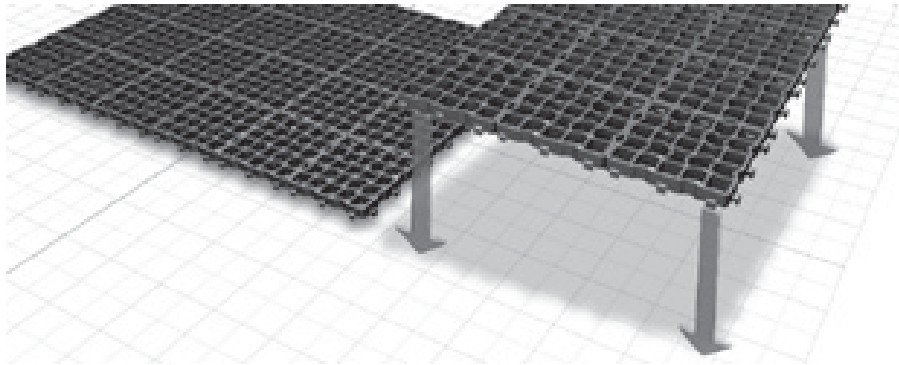


EcoGrid Bloxx Installation

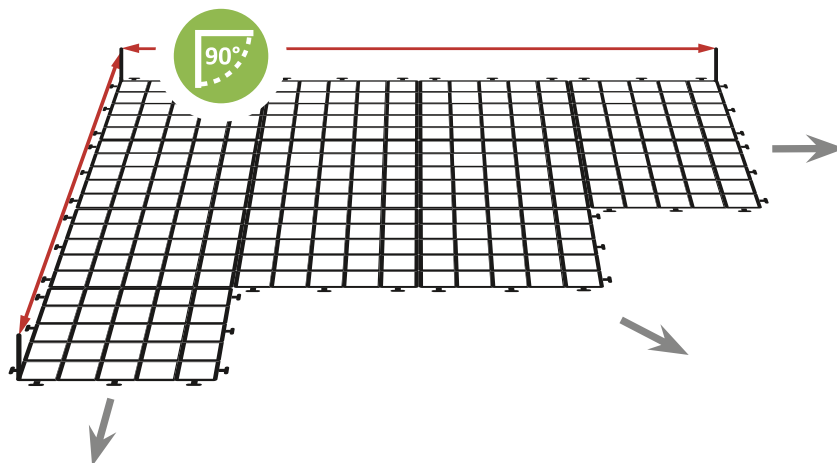


*EcoGrid securagrid 20:20 for when ground conditions require (see CBR)

EcoGrid Installation Guide



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Laying

To lay the grids, start in one corner of a wall or building and work out to the ingress/egress point or set a string-line to ensure a 90-degree angle to the house or building. NEVER lay from two different directions as this will create problems ensuring the sections join correctly.

Disconnecting

The pre-connected sheets can be taken apart, if necessary, place a line of grids, piece of timber or screed rail under the male side of the grids and press firmly down on the female side. It may also be necessary to ensure the grids are kept close together to minimise the effect of the safely locking system.

Cutting to size

It is very easy to cut the grids. The ideal method is with an angle grinder which will cut at a walking pace. A circular saw or jig saw can also be used as can a hand saw although progress would be slow.

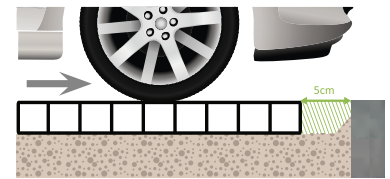
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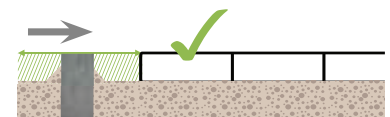
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Markers: We have both raised and flat markers to delineate parking bays, disabled symbols etc.

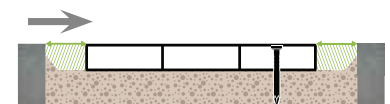
Edges: We have both plastic and Aluminium edges to form raised straight or curved edges.



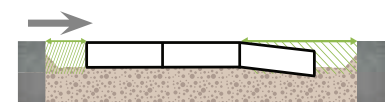
If there are kerb stones in-situ, ensure a gap of 5cm min is left for expansion.



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Firm	Moulded by strong finger pressure	Utility trunk ruts 10-25mm	8-15	2-4	40-75
Stiff	Cannot be moulded but can be indented by thumb	Nil	15-30	4-6	75-150

EcoGrid Things to bear in mind



If it is likely that heavy goods vehicles will be performing tight turns on an EcoGrid Bloxx surface, we would advise ground pins every square metre. Speak to us for specific guidance.



Three different EcoGrid Bloxx housings are available and a minimum of four different concrete insert colours with more colours becoming available often.



Standard construction techniques with regard to expansion and contraction joints should always be observed. EcoGrid can expand substantially in hot weather conditions.



Do not lay from different areas as this may cause the jointing pattern to be offset.
Do not fill the grids until the whole installation is complete. This can cause spreading and make successive jointing difficult.

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