GEOLUX®

By SOLMAX

INSTALLATION QUALITY ASSURANCE MANUAL

GEOLUX

Contents

1. INTRODUCTION

This manual provides an overview of the Solmax Installation Quality Assurance procedures consistent with industry accepted practices to ensure that the **GEOLUX**® products installed will best perform for its intended purpose. In addition, all installation work will be performed in strict accordance with the customer's specifications. Please read the procedures below completely before you begin. If you need further clarification, contact Solmax for assistance. Remember safety first and use safe practices always on every project.

2. UNLOADING PROCEDURES

Rolls stacked within container

Telehandler with carpet pole carrying GEOLUX

As with all lifting or unloading operations, appropriate equipment and experienced personnel should be employed along with proper safe handling methods. The party responsible for unloading the **GEOLUX** should contact Solmax prior to shipment, to determine the correct unloading methods and equipment, if different from the pre-approved and specified methods as described below.

Lifting **GEOLUX** rolls can typically be accomplished by using a 63–75 mm outside diameter steel pipe (preferably solid), with a wall thickness capable of providing sufficient beam strength to support the weight of the roll, which average less than 500 kg and the length is sufficient for the width of the material. This core pipe is inserted through the hollow center of the **GEOLUX** core. Heavy-duty slings, which are approximately 3.1 m long, are attached to each end of the pipe, which can be fastened to an I-beam spreader bar if required. Care should be taken to ensure that lifting straps do not rub, chafe, or otherwise damage the material.

A crane, backhoe, front-end loader, or other suitable piece of construction equipment can then lift the entire assembly. An all-terrain, extendable boom forklift, such as a Lull or Caterpillar Telehandler, can be fitted with a special, solid steel "carpet pole" or stinger, having an outside diameter of no more than 86 mm. The carpet pole can be inserted into the hollow cardboard core of the GCL roll. The roll should not be fully suspended until the pole extends through the entire length of the core tube or you run the risk that the core may break creating additional handling and unloading difficulties.

A properly structured and supported pole can be used to unload **GEOLUX** rolls onsite. As an alternative, straps that are appropriately rated can be used as a Solmax approved lifting method to unload **GEOLUX** rolls. Lifting straps are supplied on every roll. Each **GEOLUX** roll label contains roll weight information that should be consulted in determining appropriate lifting equipment and factors of safety.

The CQA inspector or owner's representative should verify that only appropriate handling equipment is utilized, i.e., equipment that does not pose any danger to personnel or undue risk of damage or deformation to the liner material.

All roll numbers should be recorded during the unloading operations and compared to shipping papers to ensure receipt of only project compliant materials.

3. SUBGRADE PREPARATION

The surface upon which the **GEOLUX** is installed should be smooth and free of major debris or obstacles such as wheel ruts, roots, sticks, deep grass, and large rocks.

4. DEPLOYMENT OF GEOLUX

As rolls are selected for deployment, the labels should be removed and recorded by the installer, along with any other pertinent information. The rolls should only be transported from the storage area using approved lifting equipment as described in section 2 and the rolls should be deployed properly as outlined below.

Supporting GEOLUX for deployment

1. Line the roll up at the start of where the geomembrane should be installed. The roll should be sufficiently supported and unrolled so that the white reflective surface is facing upwards.
2. Unroll the geomembrane using sufficient personnel or support vehicle depending on the weight of the material for the full length of the solar rows or until the roll is empty. Handholds can been cut using a sharp blade.
3. To cut the geomembrane across the width of the material, a sharp blade such as a Stanley knife is sufficient. If cutting through the diameter of the roll is necessary then a saw will be required.
4. When unrolling it may require several personnel to unroll, or if available **GEOLUX** can be attached to the rear of a vehicle, such as a quad bike or small truck, for quicker deployment.
5. If adjoining two pieces, use an overlap of at least 30 cm.
6. Once the geomembrane is in place anchoring should commence. The following shows installation utilizing Gripple pins, however regardless of the system chosen, the design should include wind uplift calculations to ensure the material is held firmly in place.
   a. It is recommended to use a team of at least four people per run of **GEOLUX**.
   b. Two people should place the pins and using a rubber mallet pierce the pin through the geomembrane to leave the pin partly into the surface of the ground.

Drilling pin through geomembrane using supplied Gripple pins and chuck attachment.

   c. The following two persons using the drill and chuck attachment as per the Gripple installation manual will then screw the pins into the ground.
   d. At overlaps additional pins can be used.
   e. Care should be taken in advance to ensure that there is no cabling beneath where the material is being anchored. It is recommended that insulating gloves and insulators for the drills are used.

5. REPAIRS

In the unlikely event that material is damaged, an additional section can be cut and pinned directly on top of the existing material. Care should be taken to ensure that all panels are pinned correctly. Overlap of the patch around the damaged area should be a minimum 30 cm in all directions.

Experience innovation with Geolux by Solmax

At Solmax, we've leveraged our 40 years of expertise in creating durable materials to develop Geolux—an advanced product with a brilliant white finish, designed to maximize the efficiency of bifacial solar panels.

Dedicated to your success

Our team is committed to ensuring your solar projects are both highly efficient and environmentally responsible. We recognize that every solar installation is unique, which is why we offer comprehensive, tailored services that support your project's success. From precise pin layout plans to detailed calculations of bifacial gain and ROI, we're here to help every step of the way. We also provide custom roll widths, ensuring every detail of your project is optimized for maximum performance.

Why choose us?

With a strong legacy of quality and innovation, Solmax is the ideal partner for your solar projects. Our global presence and industry-leading expertise allow us to deliver superior products and unparalleled service, empowering you to achieve your objectives with confidence.

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