tempo® theatre

Guardian Step & Aisle Lighting System

STEP NOSE, CARPET/FLOOR, CARPET/CARPET INSTALLATION

INSTALLATION INSTRUCTIONS

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ELECTRICAL RATINGS

Low voltage systems, operating at 12V AC or DC power.

HARDWARE REQUIRED (BY OTHERS)

1) Soldering Kit
2) Handsaw and miter box or electric compound miter saw
3) 20 oz Sausage Pack Caulk Guns

WARNING:

Read and understand these instructions before installing.

This product must be installed in accordance with the applicable installation code by a person familiar with the construction and operation of the product and the hazards involved.

Turn off main power supply before you start installing your Guardian Step & Aisle System.

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SET UP PROCEDURES

The following illustrates a suggested checklist of items that a contractor or Tempo installer may need to confirm the condition of in order to have an efficient installation of Lighting Product at a typical project. The list of items has been created with input from contractors that have experienced difficulties on past projects. If knowledge of these issues were known earlier, extra expenses and wasted time could have been reduced. If the items below have not been taken care of, both the General Contractor and the Project Manager should be made aware of the specific situation which has occurred and how the installation may be affected.

A. Tempo Project Package - (G.C., E.E. or Project Manager should have a copy)

1. LED Product Specifications Packet (not included with non-lit 2300 Series Step Nose)
2. Project Product Descriptions Packet (Color-coded).
3. Product Layout Drawings (Color-coded)
4. Electrical Requirements Packet
5. Installation Instructions Packet

B. Check for Adherence to Tempo Electrical Requirements

1. Junction Box Locations:
    a. One junction box for each group of steps. (With 4 wires per junction box)
    b. One junction box for each continuous wall run. (With 2 wires to each junction box)
2. Preferred wire colors:
    a. In junction box for Step areas with 4 wires
        Tread Circuit = 1 each black & 1 each white (Do not share commons)
        Riser Circuit = 1 each red & 1 each gray (Do not share commons)
    b. In junction box for Aisle lighting with 2 wires
        Aisle Circuit = 1 each black & 1 each white (Do not share commons)
3. All pairs of wires from each junction box to Transformer are to be dedicated pairs (2 wires) and are to be treated as home runs to the Transformer. (Do not share commons)
4. Do not share commons under any circumstance.

C. Auditorium Preparation

1. Auditoriums should be clear of boxes and anything that would interfere with installation.
2. All scaffolding work should be complete. (Ceiling tile installation, curtain installation, sound panels, etc.)
3. Wall carpet should be installed.
4. All hoist and lift work should be complete. (Screens, etc.)
5. Seat installation should not overlap Tempo installation.
   (Make sure that seat installers are well ahead of or behind Tempo installation)

D. Step Nose Dimensions and Additional Measurements

1. If Step Nose Dimensions were provided by a third party, verify that initial dimensions are unchanged.
2. You may be responsible to provide additional measurements to Tempo for product not manufactured or measured at the time of original dimensioning.

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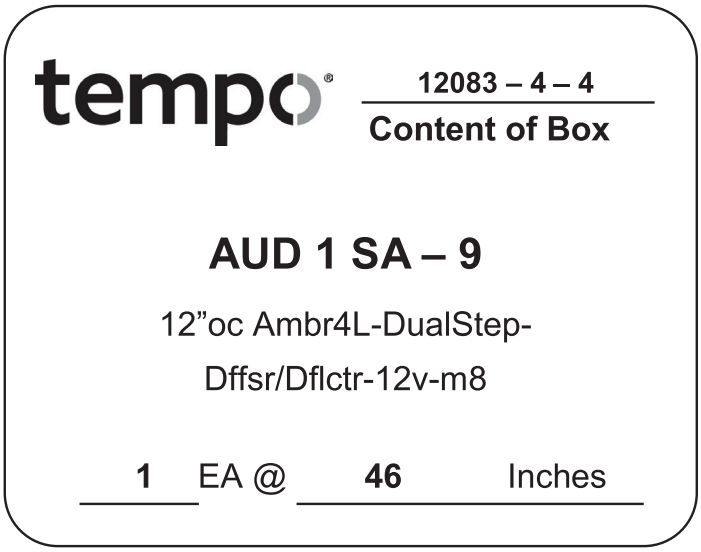
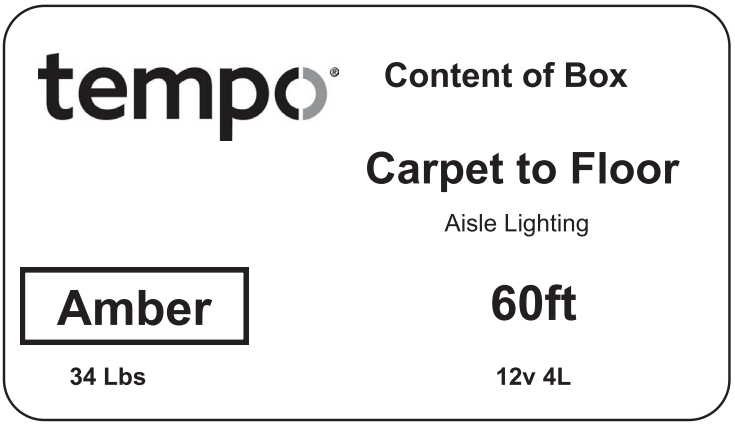
RECEIVING AND STORAGE

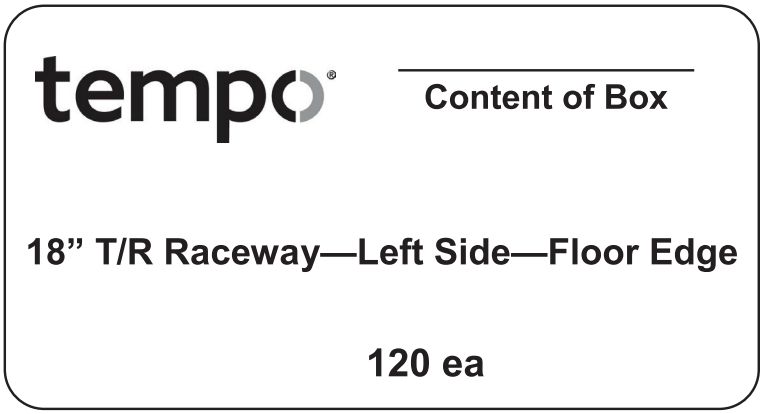
Typical Step Product Label





Typical Aisle Product Label

Typical Accessory Product Label



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Set&Step

ADVANCED HYBRID ADHESIVE

APPLICATION

Set&Step™ is a one component, fast grab adhesive designed to secure Tempo floor safety products. The multipurpose elastomeric sealant has high green strength for quick adhesion. When fully cured, this unique VOC compliant formula offers UV stability and a steadfast bond to concrete, wood, metal, painted surfaces, and many other common substrates.

FEATURES & BENEFITS

- Alternative to mechanical fastening
- Black material color to match Tempo products
- High green strength/elastic with fast cure
- Flexible & durable, will not shrink or crack
- Can be sanded & painted
- Adhesion to Kynar®
- Odorless & non-corrosive
- VOC compliant
- Contains no solvents or Isocyanates
- Color stability and UV resistant (ASTM G26)
- Non-yellowing/staining
- Resistant to most chemicals

PRODUCT USAGE

- LPS Step Nose (24' per sausage pack)
- LPS Raceway (50' per sausage pack)
- Guardian Step Nose (16' per sausage pack)
- Guardian Aisle CC (60' per sausage pack)
- Guardian Aisle CF (50' per sausage pack)

MEETS SPECIFICATIONS

ASTM C920 Type S, Grade NS, Class 25, Use NT, A, M

P/N: ADH-BOND-S

PHYSICAL PROPERTIES		TEST METHOD
Cure System	Hybrid, Moisture Cure	
Movement Capability, %	± 25%	ASTM C-719
Modulus	Medium	ASTM D-412
Physical Properties (Cured)	Rubber	
Specific Gravity	1.55	
Extrusion Rate, g/min.	100	ASTM C-1183
1/8" orifice @ 50 psi		Modified
Temperature Range	-75° F to 225° F	
Intermittent Temperature Range	250° F	
Accelerated Weathering (10,000 hrs.)	No Change	AUV Weatherometer
Skin Over Time (min)*	20	MNA Method
Tack Over Time (min)*	35	ASTM C-679
Cure Rate*	1/8" per 24hrs.	MNA Method
Tensile Strength (psi)	287	ASTM D-412
Elongation %	250	ASTM D-412
Durometer Shore A	55	ASTM C-661
Shelf Life (months)	18	
Volatile Organic Content	> 26 gr./litre	

* All properties derived from lab conditions (77°F at 50% relative humidity). Test results are averages obtained under laboratory conditions. Reasonable variations can be expected.

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Set&Step

ADVANCED HYBRID ADHESIVE

IMPORTANT NOTES:

1. This adhesive is Moisture Curing. When applied to sealed or painted surfaces you must apply water from a spray bottle before securing the Step & Aisle lighting product to ensure proper adhesion.

2. Only use Caulk Guns designed to use 20oz sausage packs.

3. DO NOT exceed 45 psig. when used in air powered caulking guns.

USING SAUSAGE PACKS

• Remove dirk, grease & moisture from surface and allow to dry thoroughly.

• Make a 1" slit close to the crimp on one end of sausage pack.

• Load the pack into the applicator barrel (slit side out) and place the rounded end of sausage nozzle onto the slit end of pack and fix with retaining ring. Then cut nozzle to desired size and shape.

• Push sealant ahead for uniform bead. Section thickness should be limited to 1/4" (6mm) or less.

• Spread sealant immediately before skin forms.

• Skin time is 20 minutes. Bonding must occur within the first half of skin time.

• Tack time is 35 minutes. Curing time is 24 hours.

Note: Length time of full cure depends on thickness of application, temperature and humidity.

Manual 20oz sausage gun
Recommended minimum thrust: 18:1

Electric or Cordless 20oz sausage gun

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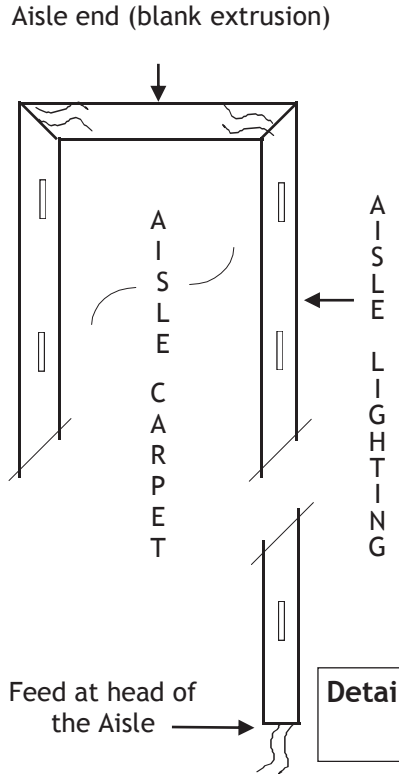
Guardian Step & Aisle Lighting System

SERIES 2000 & 2100



Detail: **Aisle End and Feed point**
(Not to Scale)

A) Lay-out and maximum continuous run lengths:

1 Each Aisle must be fed at the head of the aisle.
2 The Aisle runs can be fed through the blank extrusion with a wire feed at the aisle's end.

B) Maximum continuous 12"oc (305mm oc) LED board spacing feed thru is 180 feet (55 meters).

(See chart below for other LED spacing maximum feed through.)

1 More than one aisle may be connected to a circuit breaker, as long as the maximum number of LED boards connected to each breaker does not exceed 180 LED boards.

Maximum continuous feed thru by LED spacing			
US	Metric	US	Metric
4"oc	102mm	60 ft.	18M
6"oc	152mm	90 ft.	28M
9"oc	229mm	135 ft.	41M
12"oc	305mm	180 ft.	55M
18"oc	457mm	270 ft.	82M

C) Wiring Methods:

1 A Junction box or feed conduit should be located as close to the beginning of an aisle run as possible.

Wire size from transformer to beginning of an aisle run: Up to 100 ft. (30M) use 12 gauge wire.

2 All wiring must be in a suitable raceway.

3 Wire may be placed under carpet **(consult local code).**

Padded Carpet – the pad must be cut around the wire to allow for a smooth carpet base.

Glue Down Carpet – the floor must be saw-cut to allow for a wire raceway and must be properly patched.

Wire under carpet should be a minimum of 12 gauge jacketed.

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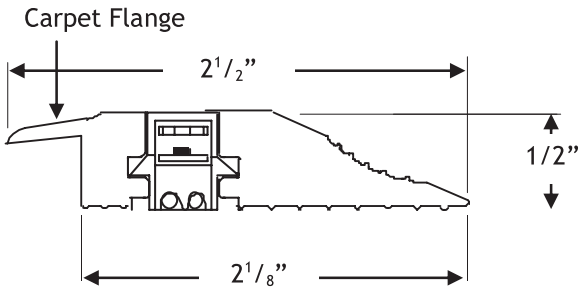
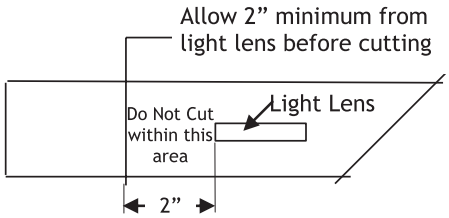
Guardian Step & Aisle Lighting System

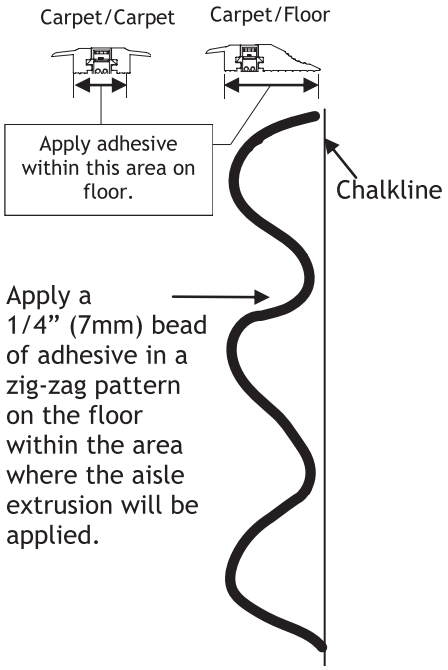
SERIES 2000 & 2100 (continued)



Section: Aisle Extrusion
Not to Scale
(Dimensions may vary slightly)



Topview: Aisle Extrusion
(Not to Scale)



D) Aisle Installation

1 Unroll aisle extrusion from spools so the carpet flange is on the proper side of the aisle.

2 Lay out all the runs making necessary modifications.

You must allow at least 2” minimum distance from a light lens before cutting.

3 Make all electrical connections.

Solder and heat shrink tube are suggested where connectors are removed.

4 Butt-Splice connectors can be used but should be staggered to avoid fitment issues inside wireway.

E) Adhesive and Final Application

Only Use Tempo Set & Step Adhesive or a Tempo authorized equivalent

1 Sweep floor or mop if necessary for preparation of surface as per requirements on adhesive cartridge.

2 Run chalk line for aisle runs.

3 Read application instructions and requirements for proper application on adhesive cartridge.

4 Apply a 1/4” (7mm) continuous bead of adhesive in a zigzag pattern on the floor within the width of the area where the aisle extrusion is to be applied.

5 Lay aisle light extrusion on to adhesive; following the chalkline.

Apply sufficient pressure with a slight circular motior to evenly spread adhesive.

Adjust for straightness.

Place weight as required for transition areas and splices.

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Guardian Step & Aisle Lighting System

SERIES 2300

1 Make sure the steplight is the correct length for the desired area. Make necessary modifications before attachment. A chopsaw is necessary to make required cuts.

2 Connect lead wires from step extrusions to junction box or conduit feed point at the end of the step.

3 Apply Tempo supplied Set & Step adhesive or Tempo approved equivalent to underside of steplight extrusion.

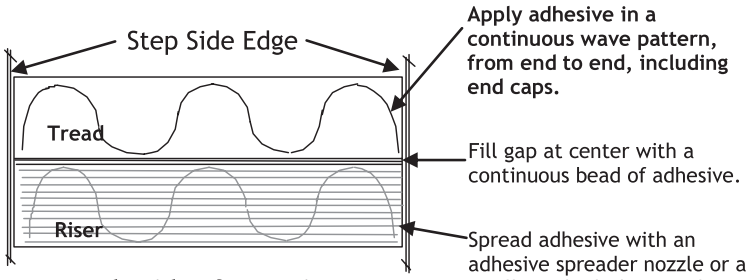
Adhesive must be applied to tread, riser and the interior center gap of the extrusion. Coverage must be from end to end, including End caps (see details below). Apply to clean surface.

Do Not Hook Directly to 120 VOLTS

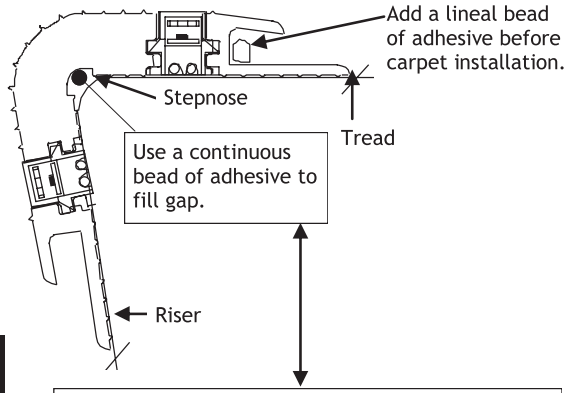
The standard system is 12 Volts!

(See Aisle/Step Transformer Detail Sheet for further information.)

All wiring should be done in accordance with the requirements of the recognized local code authority.



Underside of Extrusion.
See corresponding section to right.



Note: Because the radius of a step can vary, a sufficient amount of adhesive must be used to fill the gap between the stepnose and the extrusion to ensure a firm attachment.

Note: The edge of the step extrusion must align with or be inside the SIDE edge of the step.

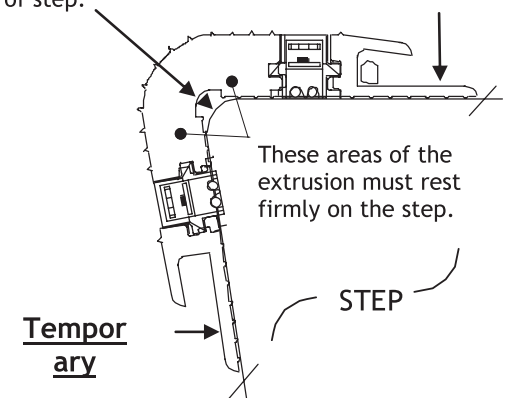
Do Not Let the Extrusion Overlap the Side Edge of the Step.

4 Use the adhesive spreader or a small tile trowel to spread the adhesive across the tread and riser underside of the extrusion. Immediately apply the stepnose extrusion to the step. Treat and apply each step individually and immediately. **Failure to do so will result in an improper installation**.

5 Place the step extrusion on the stepnose. The inside center of extrusion must align with nose of step. The system has a hinging action that must be properly closed by applying firm pressure on both tread and riser over the entire length of the step. **Failure to apply sufficient pressure to both areas will result in an improper installation**.

6 While the adhesive cures, hold the step extrusion in place by using a temporary fastener, such as duct tape on the flanges. **Allow 2 hours curing time before carpet installation and 24 hours before the extrusion can be walked on**.

A Temporary fastener, such as duct tape, may be used on flange, **while adhesive cures.**



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END OF PROJECT

The last part of any project is the Punch List. This short checklist should help to minimize the amount of Tempo related work that may be included on your project Punch List.

A. Reducer Insert Material -

Invariably there seem to be areas where this product has not been installed and will leave behind an unfinished look as well as a dangerous trip hazard for patrons.

B. LED operation at 100% -

Typically with the abuse that this product can take before and during installation there may be LED boards which have come loose from connecting pins or may have been damaged.

C. Check to be sure that Step Product is directionally correct -

It is important to be sure that the Lenses on all Step Treads are in fact the Diffuser Type and that all Lenses on the Riser face are of the Deflector Type. See Product Specification Sheets for explanation if needed.

D. Check to be sure that the Dual Dimming System is operational -

(Unless Single Circuit System was installed)

Most projects are set up with the Dual Dimming option of the Tempo Lighting as being required. Check to see that the system is dimmed to the correct light levels as specified in the Electrical Requirements Package. This may include checking to be sure that product is dimming correctly by section. For example; all Treads of Step Nose product are connected to the same power circuit.

E. All products should be securely adhered to floor -

Products that have been adhered to the floor without full surface area coverage of adhesive on the underside of the product will have a tendency to slowly peel away from the floor surface. This can cause a dangerous trip hazard as well as expensive return trips to re-glue affected areas.

F. Check for exposed wires -

Exposed wiring seems to lead to a temptation to unplug or disable lighting which again may lead to a trip hazard and possibly a costly trip to re-plug a connection.

G. Fill excessive gaps -

Areas where gapping is quite noticeable may be noticed by those in charge of making the Punch List. Black silicone may be used as a quick remedy to this situation.

H. Product should be powered at time of carpet installation -

This would help to be sure that any cut wiring or unplugged connections can be quickly noticed and taken care of without requiring troubleshooting at the Opening Event.

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