

Orion Energy Systems, Inc.
APOLLO™ LIGHT PIPE INSTALLATION GUIDELINES
FULLY ASSEMBLED UNIT

WARNINGS!

1. Read before proceeding with work. Orion Energy Systems, Inc. assumes no responsibility or obligation regarding application of its products to building structures by others. It is the responsibility of the building owner, their specification agents, contractors, suppliers and others involved with the use of APOLLO™ Light Pipes to determine suitability of application, including but not limited to the structural integrity and code compliance of the roofing system during and after installation.
2. The Orion Energy Systems, Inc. product warranty DOES NOT COVER roofing materials, labor or workmanship related to the installation of APOLLO™ Light Pipe units. It is solely the responsibility of the installing Contractor to guarantee preservation of any existing roofing system warranty or to create a new warranty with the end-user/Owner directly PRIOR TO INSTALLATION.
3. Some of the materials used in the Light Pipe assembly contain sharp edges due to the material thickness available, so care must be taken to wear appropriate protection.
4. Some of the individual materials in the Light Pipe are highly reflective and may focus sunlight before installation is complete; causing intense glare or visual impairment, heat or potentially fire if near combustible materials. Caution must be used in handling and installing these materials.
5. Flame or Torch-Down flashing materials used in contact with the flashing ARE NOT ALLOWED. If you have a low-temperature application technique and would like to discuss it with our technical staff, please consult the factory for details.

INSTALLATION PROCESS

1. The work associated with installation of the APOLLO™ Light Pipe units shall be executed in accordance with all applicable Federal, Provincial, State and Local codes, laws and regulations, including but not limited to occupational health, safety, welfare, accident prevention, safety equipment, and roofing system warranty requirements.
2. Do not begin installation until all locations have been verified for appropriate placement. Take all necessary precautions and field verify that installed units will not interfere with roof top units, accessories, hatches, vents, stacks, access to equipment requiring maintenance, etc..
3. Field verify that the APOLLO™ Light Pipe units will not be blocked from direct sun light due to changes in roof height, firewalls, parapets, equipment, etc.. If a potential conflict arises, resolve with owner's representative prior to installation.
4. Field verify inside the facility, that no obstructions are within the roof structure or facility below the unit location(s) including but not limited to structural members, gas lines, water or sanitary pipes, suspended HVAC equipment, electrical distribution, owner process equipment, conveyors or any other item that may interfere with safe and effective installation.

5. When installing an array of Light Pipes, care should be taken to strike a consistent and square grid so the units align cleanly in the facility where possible. If an obstruction is encountered requiring an off-set from the array, please consult with the owner's representative to confirm location(s) prior to proceeding.
6. Do not begin installation until substrates have been properly prepared to acceptable conditions in accordance with roofing system manufacturer's requirements.
7. Coordinate installation of APOLLO™ Light Pipe units with substrate, vapor retarder, roof insulation, roofing system, and flashing as required by roofing system manufacturer to ensure that each element of the Work performs properly and that combined elements are waterproof and weather tight.
8. Do not remove Light Pipe assembly or components from shipping box until located on roof. No scratches or foreign materials are acceptable on the collector dome, no dents or deformation of the flashing or Light Pipe is allowed.
9. Disassembly of the unit is not allowed in the field. No additions or subtractions from the unit are allowed. Do not paint or coat the Light Pipe. Do not substitute fasteners installed on the pre-assembled unit.
10. Light Pipe seals are tested prior to shipment; if any seals are broken or damaged, entire unit must be replaced. No field repairs of any components are allowed except dome replacement. Instructions for dome replacement are shipped with replacement domes.
11. Removal and preparation of roof openings shall be in accordance with all safety requirements and best practices to eliminate any and all foreign materials, personnel or otherwise from falling into the facility. In addition, secure off work areas within the facility below all working areas as required.
12. Finished roof opening to be a maximum diameter of 23". Larger openings can expose cold roof or Light Pipe components to warm moist air from inside the building. WARNING: This cannot be allowed or condensation and heat gain/loss will occur in some installations. The installer will assure no condensation can occur and installer will be responsible for any damage caused by condensation due to improper installation.
13. The roofing system, vapor retarder, insulation and substrate integrity must be maintained around the entire opening. Dry fit the Light Pipe into the opening to allow for appropriate clearance around the unit, do not force unit into the opening.
14. Finish the interior face, external and interior edges of the roof opening for long-term stability and finish appearance in accordance with roofing manufacturer's requirements.
15. Prepare roof surface material thoroughly around the opening to be free of any and all debris, moisture or other adverse conditions prior to permanently placing the unit into the roof system. This includes removal of any metal debris or shavings created from making the hole, as these will rust and deteriorate the roof system integrity. Recommended practice is to thoroughly vacuum up loose particles and debris around the entire perimeter of the opening a minimum of 24" beyond the O.D. of the roof flashing flange.
16. Place three (3) concentric 3/8" beads of appropriate roofing sealant on the underside of the roof flashing mounting flange prior to installation. BE CAREFUL NOT TO SCRATCH OR DAMAGE THE CLEAR DOME. PROTECT SURFACE FROM DAMAGE.

17. Fasten the aluminum roof-flashing unit or steel roof-flashing unit in the case of HVHZ (High Velocity Hurricane Zone) to the roofing system with (*fasteners by roofing Contractor*) per roof system requirements using all of the pre-punched hole locations as a fastener spacing for membrane or built-up roofing systems. Attachment to metal roof systems requires a 1.5" fastener spacing. Use round head fasteners to avoid sharp edges under the waterproofing to be applied over the flashing unit. Do not use any steel fasteners in exposed locations no matter the coating or treatment.
18. Do not attach the unit to building structure. The Light Pipe shall move with the roofing system for long-term seal integrity.
19. Waterproofing material must be applied over and around the entire roof-flashing unit to form a seal similar to boot flashing used around cylindrical vent stacks. Roll the waterproofing material up 5" onto the vertical face of the roof flashing unit and a minimum of 6" past the horizontal flange on the roof to create a continuous waterproof seal with the roofing system.

NOTE: Do not block breather/weep holes on underside of dome clamp.

20. No water damming (blocked flow) or ponding (sitting water) is allowed around any portion of the Light Pipe units.
21. Testing Agency: At owner's request, engage a qualified testing agency to perform tests and inspections to ensure a waterproof installation has been achieved.
22. Work will be considered defective if it does not pass tests and inspections per owner requirements.
23. Additional testing and inspections, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
24. Clean exposed dome surfaces using a soft damp cloth and water as required.
25. Remove all packaging, materials and debris from rooftop to leave the job site in a clean and professional manner.
26. Each installation shall be done in a consistent and professional manner. All Light Pipe installations shall be and look substantially the same.
27. Your installation is complete.

