

DL-FLEX-OD & DL-FLEX-OD-HO Outdoor LED Tape

What is it used for?

The simple answer to that question today is “almost anything”. JESCO Lighting was one of the first lighting companies to bring this type of product to the US market – we originally intended it to be used for display cases and also for cove lighting. Today [DL-FLEX-OD](#) & [DL-FLEX-OD-HO](#) Outdoor LED tape is used for a million applications – anything where a vanishingly small and very bright source of light is needed. The most common uses remain under/above cabinet, cove and display case illumination. Exterior uses include building feature delineation, exterior soffits and coves, paths and way-marking and exterior signage. We have created an impressive range of accessories to support code-compliant installation all of the different uses that this product can have. If you have an idea for a novel lighting use, this product line will allow you to achieve it.

What is unique about it?

[DL-FLEX-OD](#) and [DL-FLEX-OD-HO](#) is the exterior version of JESCO’s ever-popular [DL-FLEX-UP](#) product line. It is supplied with a waterproof flexible Epoxy covering to protect the LEDs and internal circuitry.

The important differences between JESCO DL-FLEX-OD and other similar-looking products are as follows:

- 1) **UL listing** – We have several installation options specifically aimed at US residential and commercial NEC code compliant specifications.
- 2) **Product design** – JESCO has the highest quality LED sources of our own specification. Our unique outdoor rated, plug-connected Flex system simplifies installation and is a favorite with installers across the country.
- 3) **Accessories** – JESCO offers a deep line of [accessories](#) with contractor hardwire and plug-connected installation options, mounting channels and light control accessories all intended to simultaneously satisfy the designer, the installer and the electrical inspector all while pleasing the owners bank account and eye.
- 4) **Depth of line** – With DL-FLEX, JESCO has created the widest variety of options in the industry for lighting power, lighting color, power supply type and lighting control means – a set of specifications much copied but rarely equaled.

Reliable, sophisticated, installation-friendly and code-compliant. All of which add up to a turnkey product line that remains the industry leader today.

Can I dim it?

Can I connect it to my building control system?

Yes. JESCO’s PWM (Pulse-width modulation) dimmer, the [LC-DIM-5A](#), offers full range dimming. Options within our dimming products facilitate indoor installation conditions ranging from a simple knob on a power cord (LC-DIM-5A), through to residential architectural wallplate dimming (LC-DIM-5A-HW & DS-DV-TV) and on through to the largest imaginable commercial building control systems (LC-DIM-5A-HW + any control system with 0-10V interface).

The DL-FLEX-OD prefers to be controlled by 0-10V capable building control systems, but it is also able to communicate to multiple other industry standard protocols if need be.



From the very simplest knob mounted under a counter through to interfacing with complex energy management systems JESCO has a solution – contact JESCO customer service for assistance with your next lighting control specification.

What is the standard operating voltage for the DL-FLEX-OD?

24 volts DC is the standard operating voltage for the product line. For the DL-FLEX-OD system we recommend our [DL-PS-xx/24](#) series of power supplies. We would like to specifically highlight our [outdoor LED power supplies](#). Refer to the specification sheets for JESCO's DL-PS line of LED power supplies and drivers for more information.

Typically the necessary power supply will install on a single 15 or 20 Amp circuit.

24V power distribution was selected in order to render the longest, brightest and most consistently lit fixture runs while at the same time complying with the complex UL and NEC code restrictions you will come across on job sites.

JESCO DL-PS power supplies can operate at 120 volts, 277 volts and other European and international power utility company supply voltages. Many of our DL-PS plug-connected power supplies also have the ability to accept world-market power cords (by others) permitting operation in multiple territories with one single product – one product for the entire world in other words.

If you are locating the power supply outdoors, the supply must be rated for your application and temperature range as well as being enclosed in a rated outdoor junction box. See specifications for details.

Can the DL-FLEX-OD series be stepped on or walked on?

No, although the DL-FLEX-OD is outdoor rated it is not walk-over or drive-over rated.

What is the maximum run length possible using the DL-FLEX-OD series?

For our DL-FLEX-OD, the maximum continuous installed run length is 30 feet per each home run to a power supply.

For our DL-FLEX-OD-HO high output series, the maximum continuous installed run length is 20 feet per each home run to a power supply.

Can I cut the DL-FLEX-OD series tape?

JESCO custom cuts all orders (in 4" increments in White, Blue and Green & 6" increments in Red and Yellow) free of charge. All custom cuts and connections are tested before leaving JESCO's facility. We do not recommend cutting the product in the field because faulty waterproofing would lead to water damage of the product. If cut in the field, the warranty would be voided and the installer would then be liable for the product's life. (Note- The DL-FLEX-OD is cut to length and is therefore considered custom and non-returnable.)



Can I submerge the DL-FLEX-OD series in water?

You cannot. This fixture is not UL listed as a submersible power supply system. In Europe we sell this product as “submersible up to xx feet”, but due to US code requirements (although the product would in theory operate perfectly well submerged) it would be impossible to power it and pass an electrical inspection here in the US. Further to this, pools and spas are treated differently to decorative water-features. JESCO does not have a pool and spa UL listing for this product.

Is the DL-FLEX-OD bendable?

Yes, it is bendable vertically but not horizontally – bends perpendicular to the plain of illumination. DL-FLEX-OD will not bend across the mounting plane. (No flat bends in track terms). The minimum bend radius is 1.5” for sharp bends. The addition of a mid-connection cable is recommended.

How do I mount the DL-FLEX-OD?

The DL-FLEX-OD comes standard with a waterproof, high strength, 3M™ tape backing. Just peel the tape cover off the back and firmly apply to any smooth, clean, dry surface categorized as having a high surface energy.

For surfaces that don’t meet that requirement, use our [DL-FLEX-OD-CH6](#) mounting channel. This rigid aluminum channel is 6ft long and field-cutable. We provide (12) DL-FLEX-OD-CLASPs that are to be clipped into the channel every 6” to guarantee our DL-FLEX-OD will always remain in place and not be affected by the vagaries of outdoor temperatures and conditions. The channel itself can be clipped into place using our [DL-FLEX-CH-CLIP](#). We recommend that clips be placed 24” apart. These clips are sold in pairs.

Why do you offer a DL-FLEX-OD-CH6 optional mounting channel?

The [DL-FLEX-OD-CH6](#) mounting channel furnishes a “finished” look to a visible installation. Although not a must-have, the field-cutable, 6’ mounting channels do provide a perfect surface for attaching the tape on installations where the mounting surface found at the jobsite is not smooth, clean, dry and/or categorized as not having a high surface energy.

Mounting channels may be attached to virtually any surface using Stainless steel clips. We recommend 24” distance between the mounting clips. They are sold as a pair.

The channel offers a contractor-friendly installation route – many contractors prefer to pre-install the DL-FLEX-OD product into channels on the bench prior to moving sections up the ladder for installation on the job site.

What do I need to specify in order to purchase the DL-FLEX-OD series properly?

We custom cut each length to meet your design requirements (in 4” increments in White, Blue and Green & 6” increments in Red and Yellow). There are 4 termination options for each end:

[DL-FLEX-OD-PT-M](#) which is a DL-FLEX-OD Outdoor input power male connector on the end with a length of 12 inches of wire. This is the connection recommended for plug and play systems.

[DL-FLEX-OD-PC-HW](#) which is the hard wire system connection for DL-FLEX-OD providing 12 inches of wire and bare wire power lead wires on the end.

[DL-FLEX-OD-EC](#) is an attached end cap which encloses the end of a run. Normally, most runs are terminated and not linked to other fixtures so this is a common option.

[DL-FLEX-OD-PT-F](#) is an Outdoor output power connector which connects to another DL-FLEX-OD run. It is a 12 inch wire with a female power connector on the end.



Can I plug the DL-FLEX directly in to a standard 120V US outlet?

Yes, we provide desktop or wall plug drivers that produce the 24V DC power which plug into a standard wall outlet. See JESCO [DL-PS-xx/24](#) series of plug and play LED drivers. Your installer will need to follow local and national guidelines for making a connection to an outdoor system.

What gauge wire do I run between the LED and the power supply?

In order to eliminate voltage drop, cables specifications of 14/2 AWG and up are typically used.

Your contractor will assist you in specifying the correct gauge of cable required to remotely locate the power supply relative to your fixture location and to determine how to eliminate voltage drop from remote supplies.

Typically you should think in terms of 20' – 50' max feeds to/from remote locations, although any distance is theoretically possible with your contractor's assistance in specification of correct supply cables.

What are the different color temperatures of the DL-FLEX-OD?

We offer our LEDs in Kelvin color temperatures of Warm White (3000-3400°K), Cool White (4500-5000°K) and Neutral White (3500-4000°K).

We also offer the DL-FLEX-OD series in monochrome colors – red, blue, green and yellow – see our specification sheets for details.

Does the DL-FLEX-OD have a color changing option?

Yes, we offer the [DL-FLEX-OD-RGB](#) which allows the light output to be varied and also programmed, including appropriate Pantone© PMS colors, etc. allowing for the highest level of lighting sophistication.

What are the recommended applications for the DL-FLEX-OD?

Recommended applications for the DL-FLEX-OD series include coves, offices, stores and restaurants, architectural features, outdoor signage applications, lighting toe-kick areas, home gardening accents, drive way illuminations, path and contour marking, pool or patio area effects.

How long do your LEDs last?

JESCO LEDs in the DL-FLEX family are designed to meet or exceed a Rated Lumen Maintenance Life or L_{70} of 50,000 hours (Meaning the LEDs will maintain at least 70% of their original light output after the fixture has been on for 50,000 hours).

That being said, exceeding the operating temperature values may damage the LEDs by reducing the lifespan, lumen output, and/or adversely impact color consistency. It is recommended that adequate airflow and heat sinking be taken into consideration in the installation and application of this product. Improper thermal management may lead to premature product failure and void the warranty. See the product specification sheets for more information.



Do the colors of your LEDs vary?

We offer LEDs in specific white color temperatures. All our LEDs are designed to maintain their color over time and across the maximum length of a run.

That being said, inherent to any commercial strip/tape product, individual LEDs within a strip may vary slightly but the overall color temperature of the strip/tape will fall within our tight specifications listed above.

Why choose LED over any other type of lighting?

LEDs have caused a revolution in lighting. JESCO has helped lead that revolution.

We were one of the first manufacturers to make the shift to the LED light source many years ago. Our LEDs are of the highest quality and they are time-tested to be dependable.

There are many reasons to make the switch to LED products. Some of the reasons include:

Technological Impact

LEDs are solid state, light emitting chips that are not encased in fragile glass enclosures or use delicate and inefficient filaments. LEDs are vibration resistant. They also do not need to warm up as they are an instant-on light source. LEDs currently offer life expectancy of 50,000 hours, on average. LEDs offer much more control of correlated color temperatures and provide the option to add color(s) either monochromatically or through RGB technology. The chips are miniscule in size which allows manufacturers to design much smaller fixtures and allows designers and end users much greater flexibility incorporating and installing these fixtures on their projects.

Financial Impact

The long life expectancy means a higher rate of return on investment – installed fixtures can last, at least, 10 years (depending on the design, the lifespan of the power source and the duty cycle of the fixture) with no maintenance. No maintenance means no labor costs and no replacement lamp costs associated with installed fixtures and lamps over the life of the fixture. Fixtures mounted in high or hard-to-reach locations are the prime candidates for LED lighting. LEDs are very efficient light sources and are cool to the touch unlike incandescent light sources which release 90% of their energy generated as heat. Due to the inherent cooler running temperatures of LEDs, HVAC system design loads can be scaled down. LEDs use much less energy per fixture than standard light sources guaranteeing savings in electrical costs far into the future. Lastly, many local energy providers are currently offering rebates to customers making the switch to LED fixtures.

Environmental Impact

LEDs are easily recyclable. They contain no mercury or lead which require special handling and disposal. LEDs do not emit harmful UV/IR which discolors fabric, furniture and artwork. The U.S. Department of Energy [estimates](#) that rapid adoption of LED lighting in the U.S. by 2027 could deliver savings of about \$265 billion, avoid the building of 40 new power plants and reduce lighting electricity demand by 33% in 2027.

All or even one of the above stated reasons may be the right reason for you to choose a fixture with an LED light source.

The last important factor when choosing an LED fixture is scrutinizing the manufacturer of the LED chip and the incorporation of this chip into the design of the lighting fixture. As the United States EPA and DOE Energy Star program states on its website “Bad design can lead to a wide range of problems, some immediately observable and some not. Poorly designed products often come with exaggerated claims while failing to deliver on the quality specifications provided.” Our LED products are designed around the LED light source and not the other way around making for a well-designed, color consistent and extra long-life fixture with a proven track record. With all our LED products, JESCO offers layout assistance and technical support helping make specification, as well as installation, simple.



Therefore, always look for reputable and trusted sources of LEDs and LED fixtures - be it JESCO Lighting or anyone else.

