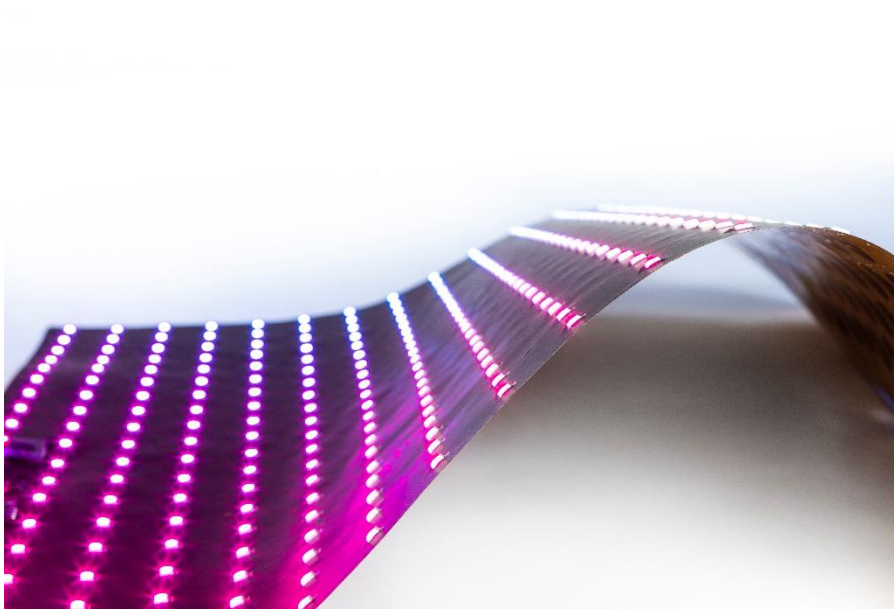


- ledTec.flex | wallpaper | P32 | 2500



## User and assembly instructions and safety guide V 1.3 EN

## Agenda

<b>INTRODUCTION</b> .....	2
<b>INSTALLATION REQUIREMENTS</b> .....	3
WARNING!.....	3
HANDLING THE DISPLAY.....	4
SYSTEM DIAGRAM.....	5
MOUNTING.....	5
<b>SYSTEM SETUP</b> .....	8
<b>SAFETY INFORMATION</b> .....	9
PROTECTION FROM ELECTRIC SHOCK.....	9
PROTECTION FROM BURNS AND FIRE.....	9
PROTECTION FROM INJURY .....	9
<b>CARE AND MAINTENANCE</b> .....	10
<b>SAFETY SYMBOLS ON DEVICE</b> .....	11

## INTRODUCTION

The **ledTec.flex | wallpaper P32 2500** is a thin and flexible LED based foil designed for media architectural and display applications. The foil is light weight and cuttable.

The ledTec.flex wallpaper P32 2500 has the following features:

- Pixel pitch 32mm
- 576mm x 576mm foil containing 36 x 36 pixels
- 5.4mm x 5.0mm x 1.6mm SMD RGB LEDs
- Controllable through **ledTec.flex | converter | advanced** and **ledTec.flex | converter | hdmi-artnet**
- Individually controllable pixels
- Adjustable brightness level and maximum brightness up to 2500ln/sqm
- Brightness dimming option available for nighttime which offers energy saving
- Operating voltage is 12V and the maximum power consumption is limited to 40W per foil

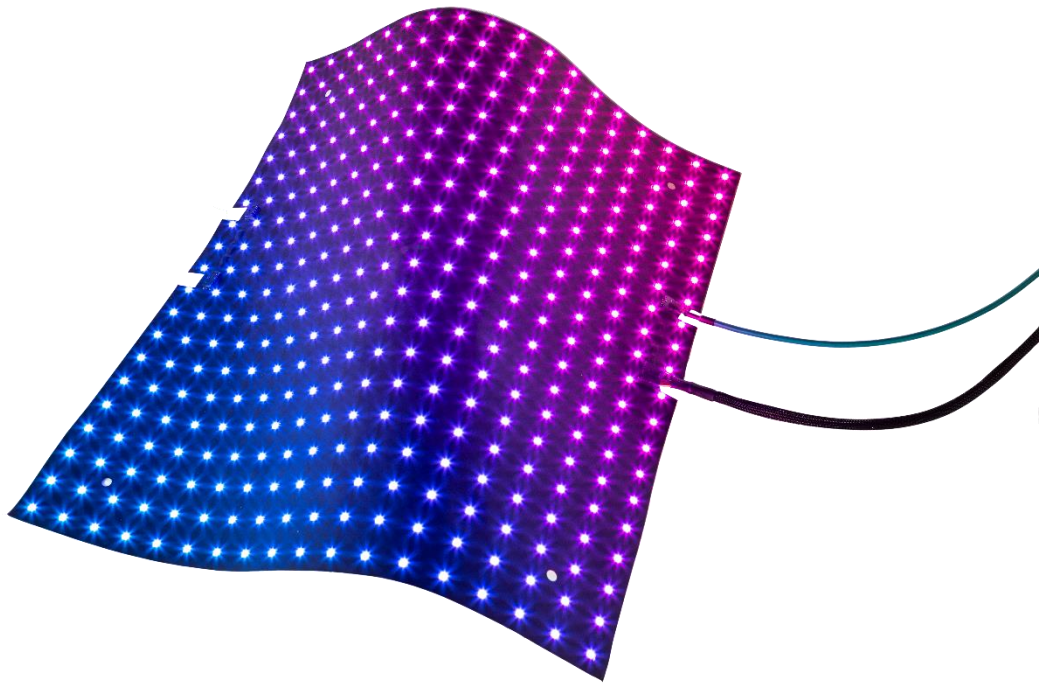


Figure 1: ledTec.flex | wallpaper P32 2500

## INSTALLATION REQUIREMENTS

### WARNING!

- Installation must be done in accordance with local and national electrical codes
- To ensure safety and correct installation, our foils should be installed by a qualified, licensed electrician
- The LED foil does not contain a fuse. A suitable fuse must be applied between the power supply and each connected LED foil. If several LED foils are cascaded, a suitable fuse must be applied between the power supply and the first foil of each cascade. Without a suitable power-supply protection device, dust or any partial circuit failure may cause overheating and/or burning, which may lead to injury. The fuse must be expertly selected and installed by a qualified, licensed electrician.

- An all-pole supply circuit breaker must be used in the building's electrical system which supplies the electrical power for the installed system.
- Power supplies should always be turned off during the assembly process. Do not connect or disconnect the power cables and connectors with power applied to module. This may cause damage to the module circuit.
- The power cord plug of the installed device must be easy to access at the site of installation, if needed to disconnect the device.
- This product is not suitable for use in locations where children can be present.
- This product is not suitable for use in locations which are easily accessible to the public. Access to the components must be restricted to trained personnel only.
- Do not expose the module to non-atmospheric gases because may cause mis-operation or defects.
- Installation and maintenance must be carried out by qualified personnel.

#### HANDLING THE DISPLAY

- To avoid damage to the foil/module, it must not be bent below a bending radius of 800mm. Furthermore, do not bend the foil at the cable input and outputs.
- Bending beyond the maximum allowed value may lead to kinking of the foil which can also result in poor viewing experience. See Figure 2 for reference.

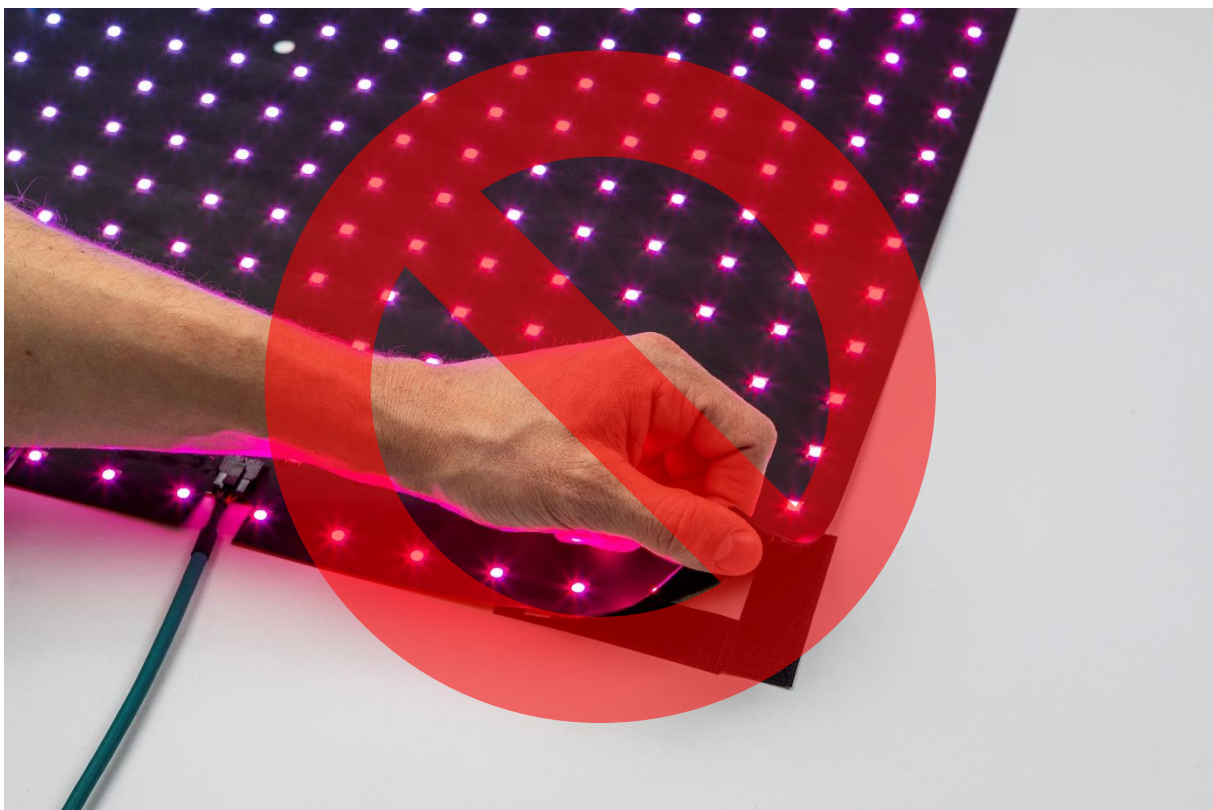


Figure 2: Excessive bending of ledTec.flex wallpaper must be avoided

## SYSTEM DIAGRAM

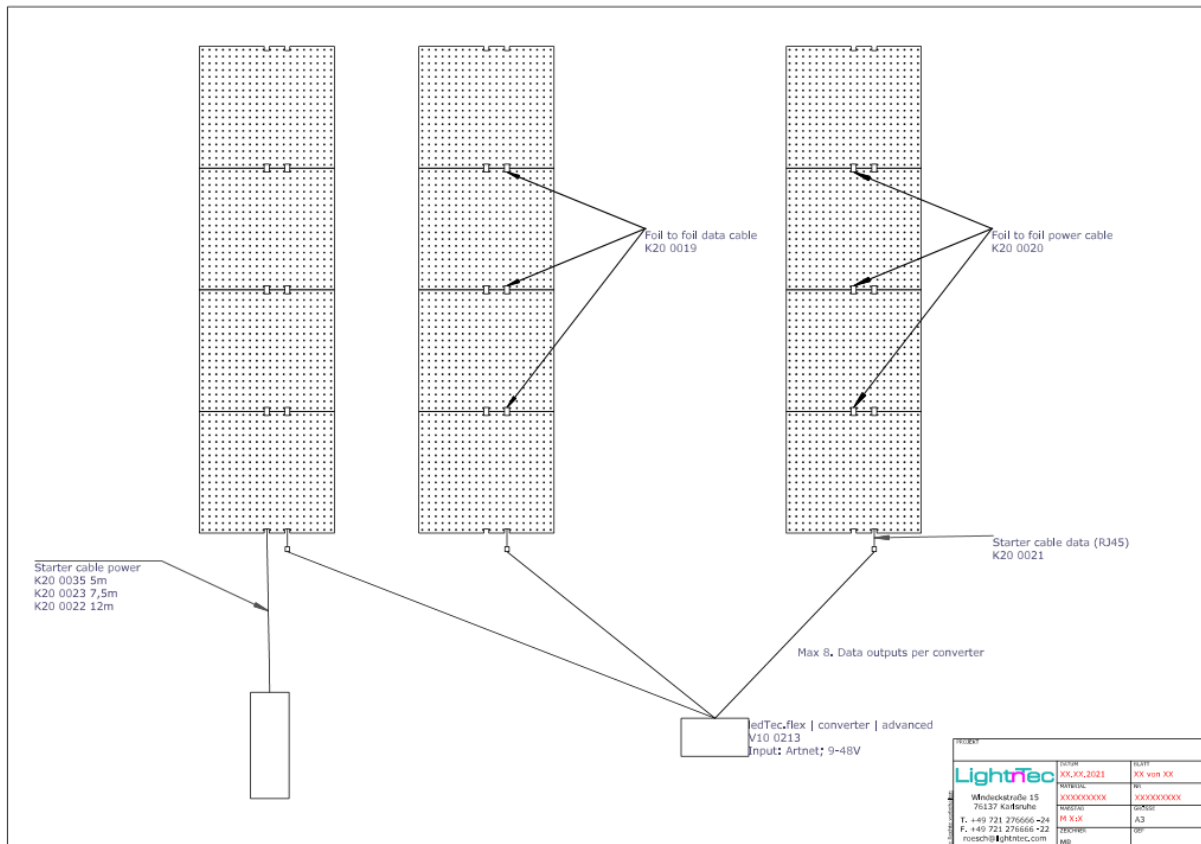


Figure 3: Example configuration of a standard system

## MOUNTING

The ledTec.flex wallpaper are typically mounted on an aluminum dibond surface using hook and loop tape, where the hook side is fastened on the mounting surface and the loop side is attached on the rear side of the foils.

To prepare the aluminium dibond plate for installation, follow the steps in Figure 4.

To install the ledTec.flex wallpaper to the aluminum dibond surface, follow the steps below:

Step1: Clean the aluminium dibond plate with a universal cleaning solvent, eg. Isopropanol

Step2: Attach the horizontal hook stripes on the mounting surface, keeping the correct distance in between

Step3: Attach the short vertical hook stripes on the mounting surface, keeping the correct distance in between

Step4: Attach the shorter horizontal hook stripes on the mounting surface, keeping the correct distance in between

Step5: To ensure strong adhesion between the tape and the plate, apply moderate pressure with a small roller

Figure 4: Installation of self-adhesive hook tape on aluminium dibond plate for mounting ledTec.flex wallpaper

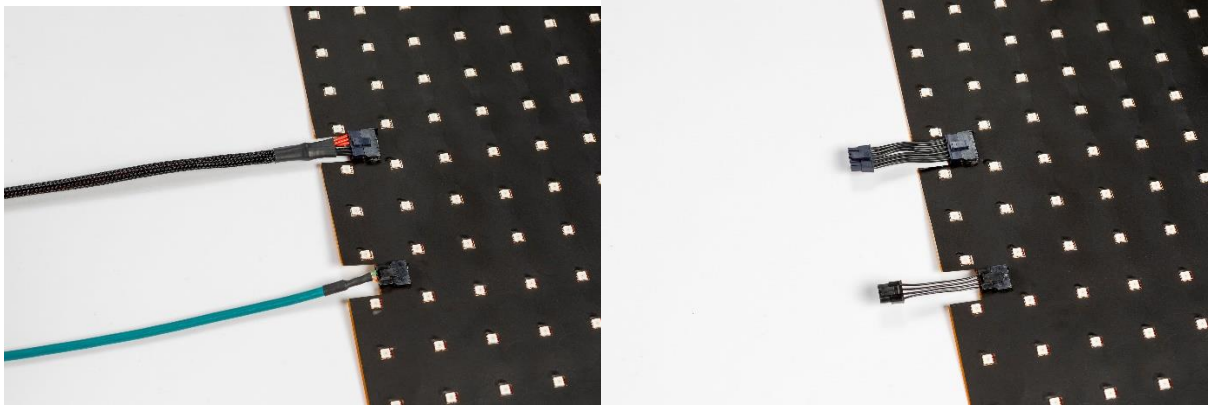


Figure 5: Self adhesive loop tape on the rear side of ledTec.flex wallpaper

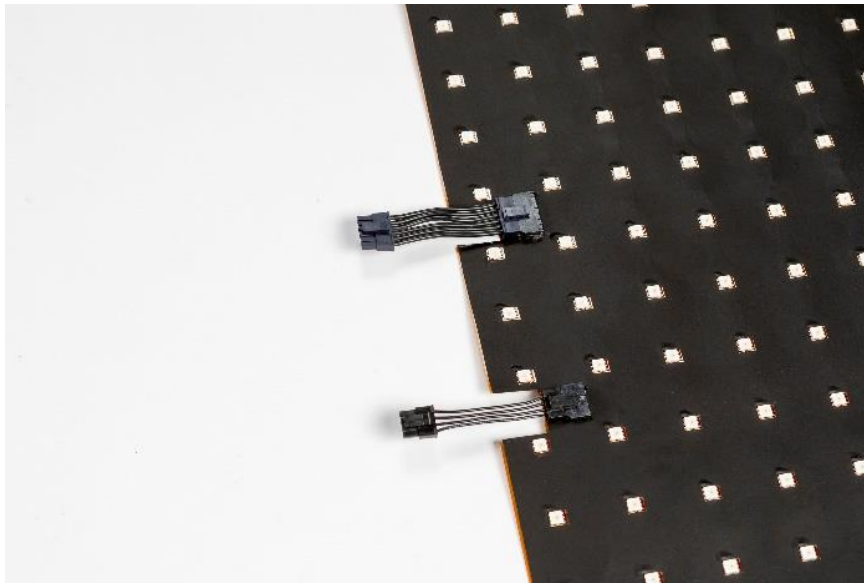
- While mounting the foil units, start installing from the top row.
- Attach the loop side on foil to the hook side on surface. Make sure after mounting each foil, there is 25mm width on the hook tape where the next foil will be installed.

Make sure that there is no overlapping between individual foils. This will ensure proper viewing experience of the module and prevent undefined operation conditions which might lead to failures of the product (e.g. overheating due to insufficient airflow, or short circuits in case of externally imposed damage to the protective coating of the foils).

- Proper alignment of the foils on the surface can be achieved by using the LED alignment tool. Once the correct positioning is confirmed, apply gentle pressure along the edges of the foil to ensure reliable mechanical connection between the hook and loop.

Connect the output connector of foil 1 to input connector of foil 2 and repeat, if applicable (based on starter cable length). See Figure 8 for reference. Ensure that the connectors are properly locked with their corresponding counterparts, e.g. by trying to pull them apart. If they are properly connected, it is not possible to pull them apart without releasing the lock.

- Add suitable strain reliefs for all foils cables, to prevent the weight of the cables from putting excess stress on the cable inlets on the foils.



*Figure 6: Cable connection and cascading multiple foils*

- The output connector cap of the last foil in a cascade should be closed with the attached end cap. This will prevent humidity or water droplets during rainfall from going into the connector and thus prevent any corrosion and electrical failure issues.
- The installation of ledTec.flex should involve at least 2 people.
- During mounting or unmounting the ledTec.flex, handle with care in order to avoid kinking of the foil.

## SYSTEM SETUP

For a complete overview of the system setup, please refer to Figure 3

- Connect the converter hdmi to the computer or media player via HDMI. The converter advanced has 8 Art-Net output ports.



Figure 7: Converter | hdmi-artnet



Figure 8: Converter | advanced

- Connect the output of the Converter hdmi-artnet to the converter | advanced with an ethernet cable, where each LPIX2/LPIX3 output of the latter can be connected to a cascade of 4 foils with a starter cable of up to 20m length.



## SAFETY INFORMATION

### PROTECTION FROM ELECTRIC SHOCK

- Read and follow the directions given in the user manuals of all the devices that you intend to connect to the ledTec.flex wallpaper, particularly the instructions, warnings and limits that apply to:
  - system layout
  - connections to other devices
  - specified cables
  - maximum cable lengths
  - maximum number of devices that can be connected.
- Use only cables specified by LightnTec GmbH for the devices concerned to interconnect them. If the specified cables are not long enough for an intended cable run, consult LightnTec GmbH for assistance in finding or creating a safe alternative solution.
- Do not allow the total length of the cables to exceed 20m (for up to 4 foils) from the 12 VDC power source.

### PROTECTION FROM BURNS AND FIRE

- The ledTec.flex is cooled by convection. Ensure that there is enough airflow on the front side of the module (eg. no enclosure) to prevent overheating of the LEDs and consequently avoid any damage to the product.
- Do not operate the ledTec.flex wallpaper at full brightness if the ambient temperature ( $T_a$ ) exceeds 30°C (86°F). For operation at temperatures above 30°C (86°F), a derating needs to be applied to ensure that component temperature limits are not exceeded.
- Do not modify the ledTec.flex wallpaper in any way or install anything other than original parts.
- A suitable fuse and fuse holder must be installed between the power supplies and connected ledTec.flex modules.
- Care must be taken to ensure that the LED-foil-segments are neither bent nor any edges of the foil damaged or deformed. This also includes torsion, i.e. twisting of the foils in any direction. Damaged LED-foil-segments (e.g. with tears, kinks or deformations) must be replaced and must not be put into operation. The installation instructions are to be followed, in particular the installation of a suitable fuse.

### PROTECTION FROM INJURY






- When installing the ledTec.flex wallpaper above ground level, ensure that the installation hardware and supporting structure can the weight of all the devices they support.
- In an overhead installation or where the device may cause injury if it falls, block access below the work area and work from a stable platform whenever installing, servicing or moving the ledTec.flex. As soon as work is completed, check that all hardware and components are securely in place and fastened to supporting structures.

## CARE AND MAINTENANCE

LightnTec GmbH products are of superior design and quality and should be treated with care. The recommendations below will help fulfill any warranty obligations and gain good use and longevity from the products.

- Do not attempt or use the product(s) until you read and understand the installation instructions. Failure to adhere to these instructions could result in serious injury or property damage.
- Only use cable types as specified by LightnTec GmbH.
- Do not exceed the maximum power rating of the power supplies.
- The maximum number of foils to be cascaded is limited to:
  - 4 foils by a starter cable up to 20m
- Do not use the product if the ambient temperature exceeds the maximum temperature as specified in the datasheet. Ensure there is sufficient airflow and use cool air circulation if required.
- Do not use product(s) if cables are damaged.
- Do not connect cables and connectors when wet or in wet areas. Moisture on bare connectors can cause electric shock and damage to product(s).
- Exposure to humidity and dust for the ledTec.flex and cables must be limited to levels compliant with.
- Exposure to humidity and dust for the ledTec.flex | converter, ledTec.flex | converter hdmi and ledTec.flex | switch must be limited to levels compliant. Exposure of the cables to direct sunlight must be avoided as well.
- Do not drop, knock or shake the product(s). Rough handling can damage the electronics and void the warranty.
- Do not use harsh chemicals, cleaning solvents, or strong detergents to clean products. Wipe with a damp cloth on housings and a dry cloth on electronics to remove dirt or dust.
- If you need to cut the foil inside for special installation, we offer cutting to size in our production facility. We will provide you with special training and approval for cutting the foil during installation. In the event of damage or cuts, the film must be recoated with our sealing lacquer (ledTec.flex | insulation cut edge adhesive) on the damaged and cut edge.
- Do not attempt to service or repair the product(s) unless done by an authorized service personnel. If the product is not working as specified, please contact your nearest authorized service center or LightnTec GmbH office for assistance.
- Lightntec GmbH bears no liability for damage caused by inappropriate handling or application of the product.

## SAFETY SYMBOLS ON DEVICE

Symbol	Explanation
	<p>ATTENTION! High Voltage! Must be handled by qualified personnel only!</p>
	<p>The product has been assessed to meet high safety, health, and environmental protection requirements according to the European Economic Area (EEA).</p>
	<p>The product does not contain certain hazardous substances typically found in electrical and electronic products, according to RoHS regulations.</p>
	<p>The product must not be disposed in unsorted municipal waste at the end of life and should be taken to a designated waste collection points for electrical and electronic products.</p>
	<p>The manufacturing process of the product is free of hazardous chemicals specified by the REACH regulations.</p>