

ADHESIVE TAPE used in LEDIL lenses

All LEDIL lenses use the same double-sided foam bonding tape (unless otherwise mentioned in the datasheet), specially selected for this application. The foam is a polyurethane (PU) material. There is an acrylic pressure-sensitive adhesive coating on both sides.

TECHNICAL PROPERTIES

- Maximum recommended weight load: 15g/cm²
- Service temperature: -40°C ... +120°C
- Application temperature: +10°C ... +40°C
- Minimum 20 % compression required to effect a water seal
- Excellent conformability
- Good resistance to dilute acids and alkalis
- Very good UV light resistance
- Resistance to abrasion, corrosion and moisture
- Suitable for indoor and outdoor environments
- Never should be pressed down more than 20% of the nominal when assembled manually or automatically
- Strong pushing may break the tape structure (closed full cell) and may also break LEDs which in some cases are very close to the lens surface
- 1 year expected shelf-life from purchase from LEDIL

STANDARDS & APPROVALS

Conforms to European Directive 2000/53 EC (lead, chromium VI, mercury, cadmium free)

Approved to ESK-M3G162, WSG-3G184-A4, RES22LA06

Lens surface covers
top side to 100%,
holder invisible

RESULTS

TEST	Unit	Nominal Value
10 min 180° peel adhesion	N/25 mm	11
500 h static shear (stainless steel)	kg/cm ²	0.16
Tensile strength	N/cm ²	220
Elongation at break	%	350
150 h static shear at 70°C	kg/cm ²	0.2

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EXPECTED LIFETIME

The expected lifetime of the adhesive tape is over 20 years. The tape has been manufactured for over two decades and no signs of premature aging of the product have been found.

GENERAL INSTRUCTIONS OF USE

Assembly to the surface must be made straight, so the tape bonds constant and balanced with fastening surface. Slanted assembly might cause unbalanced bond to the surface.

All surfaces where tape is applied must be clean, dry and free from grease and dirt.

If cleaning of PCB surfaces is needed, please follow strictly the cleaning instructions of your LED manufacturer - this is important as cleaning shall under no circumstances damage LEDs or other electronics components on the PCB.

Further note that optical components shall not be cleaned with any chemicals - only micro fiber cloth may be used to remove fingerprints or other traces from handling.

Remember to ascertain the compatibility of the different substrates. Note that humidity and temperature fluctuation weaken the adhesiveness of the tape.

In order to ensure the best possible bond, the product must be clamped to the circuit board for 1 to 5 seconds depending on the material of the circuit board and the ambient conditions. The tape will reach its final strength in 72 hours, again, depending on the material and the ambient conditions.

We request the customer to ensure the suitability and sufficiency of the bond in the end product. For example, mechanical stress, vibration and holes on the surface of the circuit board weaken the strength of the tape.