

LOCTITE LIOFOL LA 7780 / LA 6154

July 2021

PRODUCT DESCRIPTION

LOCTITE LIOFOL LA 7780 / LA 6154 has the following product characteristics:

Technology	Polyurethane
Product Type	Laminating adhesive
Condition	Solvent-free
Components	Two components - requires mixing
Application	Manufacture of flexible laminates
Performance	Medium-High
Cure	After mixing - curing at room temperature [RT]
Mix ratio	100 : 45
Base : Hardener	
Parts by weight	

Application area:

LOCTITE LIOFOL LA 7780 / LA 6154 is suitable for a wide range of transparent, metalized plastic film and foil laminates.

Suitable substrates:

- Polyester (PET)
- Metallized Polyester (PET)
- Polyethylene (PE)
- Slip film
- High slip film
- White pigmented Polyethylene (PE) film
- White pigmented Polyethylene (PE) EVA film (up to 9% vinyl acetate)
- EVA copolymer film
- Polypropylene (CPP, OPP)
- Metallized Polypropylene (CPP, OPP) film
- Polyamide (CPA, OPA)
- Aluminium foil
- Polyester (PET) with AlOx-coating
- Polyester (PET) with SiOx-coating

Films may be plain or printed. All films must have a surface tension of at least 38 mN/m (= dyn/cm). The use of an inline corona station can improve the anchorage of the adhesive to uncoated films.

Laminates made from suitable films can be subjected to the following processes:

- Pasteurisation (30 min at 90 °C) of plastic film laminates
- Pasteurisation (30 min at 90 °C) of foil containing laminates
- Boiling of plastic film laminates
- Boiling of foil containing laminates
- Deep draw of plastic film laminates
- Aggressive filling goods in plastic film laminates
- Aggressive filling goods in foil containing laminates
- Hot-filling

- Dry filling goods
- Liquid filling goods
- Microwavable packs (without receptor)

Product properties:

LOCTITE LIOFOL LA 7780 / LA 6154 offers the following properties:

- excellent machine runability
- excellent substrate wetting
- good protection from anti seal effects when using high slip PE, CPA, EVA or white pigmented PE films
- high thermal resistance plastic film laminates
- high thermal resistance in foil containing laminates
- excellent chemical resistance against aggressive filling goods in plastic film laminates
- excellent chemical resistance against aggressive filling goods in foil containing laminates
- fast PAA decay even in problematic laminates
- fast bond strength increase and further processing
- The cured adhesive film is transparent, elastic and resistant to ageing

TECHNICAL DATA

LOCTITE LIOFOL LA 7780

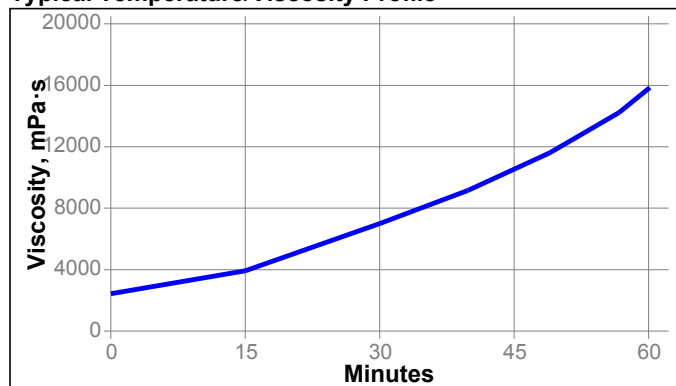
Component	NCO component
Solvent	none
Appearance (500 mL glass)	clear to turbid, colourless to yellow
Solid content, %	100
Viscosity at 40 °C, mPas	2,500 to 6,000
Density at 20 °C, g/cm³	1.15

Hardener LA 6154

Component	OH component
Solvent	none
Appearance (500 mL glass)	clear to turbid, colourless to yellow
Solid content, %	100
Viscosity at 20 °C, mPas	300 to 1,300
Density at 20 °C, g/cm³	1.1

Ready-to-Use Mixture

Viscosity at 40 °C, mPas	~2,300
Increase of Viscosity	
after 15 minutes, mPas	~4,000
after 30 minutes, mPas	~7,000
after 60 minutes, mPas	~16,000
Running solids, %	100

Typical Temperature/Viscosity Profile**Compliance with food packaging regulations:**

Under specific conditions LOCTITE LIOFOL LA 7780 / LA 6154 is suitable for the manufacture of food packaging materials under the applicable FDA, EU-provisions and/or BfR recommendations. A food contact statement with further details is available on request. The responsibility for compliance with the specific conditions lies with the converter and not with the adhesive supplier.

LOCTITE LIOFOL LA 7780 / LA 6154 contains aromatic isocyanates. Migration testing under conditions of use is required, particularly with high temperature applications, to demonstrate compliance with the limits of primary aromatic amines.

DIRECTIONS OF USE**Preliminary statement:**

Prior to application it is necessary to read the Safety Data Sheet for information about precautionary measures and safety recommendations. Please also refer to the local country-specific safety regulations pertaining to dangerous goods.

LOCTITE LIOFOL LA 7780 / LA 6154 contains isocyanates. To avoid the emission of volatile isocyanates into the working area, the coating unit has to be equipped with an extraction hood. Avoid skin contact. Local country-specific safety regulations with regard to handling of isocyanates have to be followed.

Dosing:

The adhesive is continuously added in the gap of the application station with a two-component dosing and mixing unit. The amount of adhesive in the gap should be kept at the lowest possible level. Use a static mixer which provides effective mixing. At the outlet of the dosing and mixing equipment, the adhesive has to be clear and homogeneous, not milky. A new static mixer has to be used after a longer dosing stop.

Working life:

Ready to use adhesive that has not been consumed after the time stated has to be discarded. In tropical conditions, i.e. high ambient temperatures and/or high humidity the working life of the mixed adhesive is shorter.

Application:

LOCTITE LIOFOL LA 7780 / LA 6154 can be applied on laminating machines with multi-roller application system.

Application weight:

Depending on the film combination and intended application of the laminate, the following coat weights (dry) are recommended.

Typical application weight, g/m² : 1 to 3

For printed laminates the application weight has to be adjusted depending on print coverage.

Processing temperature:

For optimal processing, adjustment of the processing temperature is necessary. In order to achieve the best possible flow and good wetting, we recommend to the following processing temperatures:

Dosing unit - LOCTITE LIOFOL LA 7780, °C:	30 to 45
Dosing unit - LOCTITE LIOFOL LA 6154, °C:	20 to 40
Tubes, °C:	30 to 45
Gap, °C:	35 to 45
Application station - application roller, °C: (dependent on line speed)	45 to 60
Nip roller, °C:	20 to 60

Working conditions:

Precise web tension control together with a suitable winding program help to avoid tunneling as well as telescoping and curling effects. High laminating temperature (suitable for the substrates in use) together with a high line pressure of the calander improve the bond strength and optical appearance of the laminate.

Curing:

Depending on laminate structure and end use, laminates may be subjected to further processing after the typical cure time mentioned below.

Triplex lamination after duplex lamination:	4 to 8 hours
Slitting / rewinding:	24 hours
Final performance:	3 to 5 days

The curing temperature should not fall below 18 °C, since the chemical crosslinking reaction may be delayed or stopped.

When manufacturing laminates for food and pharmaceutical applications, in addition to mechanical hardening, the time required to reach the applicable migration limits has to be taken into account. For further details, please consult the food contact statement.

Cleaning:

Application station and machine parts should be cleaned immediately after production with a suitable solvent such as ethyl acetate or methylethylketone (MEK). Cured adhesive can be removed with LOCTITE LIOFOL CL ECOPOWER. During machine stops, LOCTITE LIOFOL CL ECOPOWER can help to prevent the hardening of the adhesive and thereby increases the lifetime of rubber rollers. Technical data sheets for these products are available upon request.

When cleaning, observe the applicable safety regulations and the manufacturer's instructions.

STORAGE

Please refer to the Material Safety Data Sheet and the applicable local legislation for safe storage. Opened containers of LOCTITE LIOFOL LA 7780 or LA 6154 have to be reclosed tightly immediately after use and consumed within a short time span. When stored in a dry and cool place outside of direct sunlight in original unopened containers, the shelf life is as follows.

Shelf Life:

LOCTITE LIOFOL LA 7780, months:	9
LOCTITE LIOFOL LA 6154, months:	9
Recommended storage temperature, °C	-20 to 50

ADDITIONAL INFORMATION

Performance testing:

Before going into full scale production, practical testing is necessary, as substrates, additives, printing inks, filling goods and the final application can influence the quality and final performance of a laminate significantly.

Disclaimer

The information provided in this Technical Data Sheet (TDS) including the recommendations for use and application of the product are based on our knowledge and experience of the product as at the date of this TDS. The product can have a variety of different applications as well as differing application and working conditions in your environment that are beyond our control. Henkel is, therefore, not liable for the suitability of our product for the production processes and conditions in respect of which you use them, as well as the intended applications and results. We strongly recommend that you carry out your own prior trials to confirm such suitability of our product. Any liability in respect of the information in the Technical Data Sheet or any other written or oral recommendation(s) regarding the concerned product is excluded, except if otherwise explicitly agreed and except in relation to death or personal injury caused by our negligence and any liability under any applicable mandatory product liability law.

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