

ECOLAD SL-815/ECOLAD SL-704

DESCRIPTION & APPLICATIONS

ECOLAD SL-808C/ECOLAD SL-704 is a solventless, two-component, general to medium performance polyurethane adhesive used for flexible packaging applications.

ECOLAD SL-808C/ECOLAD SL-704 is suitable for the lamination of transparent films, metallized films. The user must test the adhesive's compatibility with films and inks before running industrial trials. **ECOLAD SL-808C/ECOLAD SL-704** is suitable for films printed with NC, vinyl and PU-based ink. In case of changes in the ink, film, coating, preliminary treatment procedures, or additive (antifogging, antistatic, slip agent) levels in films, users must repeat all lamination trials and proper checks on the laminates are necessary before going into full scale production.

SPECIFICATIONS

	ECOLAD SL-808C	ECOLAD SL-704
Functionality	NCO	OH
Aspect	Yellow / Clear	Yellow / Clear
Solid Content [%]	100	100
Viscosity at 25°C [mPa.s]	3700 ± 800	750 ± 250
Specific Gravity @ 25 °C	1.14	0.96
Mixing Ratio (by weight)	100	75 - 80
Mixing Ratio (by volume)	100	89 - 95
Shelf Life @ 20-25 °C	12 months	12 months
Storage Temperature	25-30 °C	25-30 °C
Mixing ratio: 100/75 (weight ratio) for metalized structure		
Mixing ratio: 100/80 (weight ratio) for other structures		

COMPLIANCE WITH FOOD PACKAGING REGULATIONS

ECOLAD SL-88C/ECOLAD SL-704 is in compositional compliance with US FDA 21 CFR 175.105 and EU 10/2011. Under specific conditions of the FDA, EC and BFR regulations, the fully cured adhesive is suitable for the lamination of food packaging materials. A conformity letter with further details is available on request. The responsibility for compliance with the specific regulations is with the converter and not with the adhesive supplier.

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PROCESSING

ECOLAD SL-808C/ECOLAD SL-704 is designed for solvent-free laminating machines using multi-rollers application system and equipped with metering and mixing unit with continuous mixing of the components as per standard mix ratio. The adhesive should be preheated at 40-45°C prior to use to achieve correct mix ratio and uniform mixing with another component.

GAP MANAGEMENT

Gap between metering roller should be adjusted only after achieving set temperatures. The quantity of adhesive between metering rollers should be kept to a minimum level possible to maintain continuous supply of fresh adhesive during lamination.

APPLICATION TEMPERATURE

Mixing Unit	
NCO tank temperature	40 - 45 °C
OH tank temperature	30 - 35 °C
Metering roller temperature	35 - 45 °C
Coating roller temperature	40 - 45 °C
Laminating Nip temperature	45 - 50 °C

Laminating temperature should be set as per film properties. Temperature management is very critical as it influences pot life of the adhesive as well as wettability of the adhesive.

TYPICAL INCREASE IN VISCOSITY		
Time [min]	Ratio: 100/80 (by weight) [mPa.s] @ 25°C	Ratio:100/80 (by weight) [mPa.s] @ 40°C
15	1600	795
30	2600	2700
45	4500	7070
60	8200	15050

CURING

Curing time for rewinding & slitting is between 18-24 hrs. Complete cross-linking occurs within 7-10 days at ambient temperature (25°C). Storage at elevated temperature will reduce the curing time.

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APPLICATION WEIGHT

1.50–3.00 g/m² depending on the films, inks and end use application. Ideal coating weight of particular application has to be determined by lamination trials and has to be adjusted accordingly.

PRECAUTIONS

For optimum results, Polyolefins (polyethylene, polypropylene) or ionomer films must be subjected to corona treatment or equivalent treatment. Recommended surface tension is 38-40 dynes/cm for BOPP, 40-42 dynes/cm for PE. For PET, recommended minimum surface tension is 56 dynes/cm for chemically-treated PET and 48 dynes/cm for corona-treated PET.

Tension control must be precise and controlled to prevent delamination, tunneling and curling effect in the laminate due to excess stretching of substrates.

CLEANING

If the machine is stopped for more than 30 minutes, the application unit must be cleaned with ethyl acetate. Suitable precautions must be taken while cleaning the machine with ethyl acetate. Refer to the safety data sheet of the ethyl acetate regarding its proper handling.

HANDLING & STORAGE

ECOLAD SL-808C and **ECOLAD SL-704** have a shelf life of twelve (12) months when stored in cool, dry and adequately ventilated conditions. Storage beyond twelve months from the date of production does not necessarily mean that the product can no longer be used. Beyond indicated shelf life period, the properties required for the intended use must be checked and confirmed for quality assurance reasons.

ECOLAD SL-808C is very reactive to atmospheric moisture making the product turbid in appearance and if excessive moisture is present, this will lead to a significant increase in viscosity with polyurea precipitation or gelling. Partially used drums should be closed tightly and consumed within a short period of time (preferably within a week).