TECHNICAL DATA SHEET

Characteristics for conversion process & subsequent use

SL – SM NCO 373 / SM OH 707

SM NCO 373 & SM OH 707 is a solvent-less, two-component, polyurethane adhesive system which is specially designed as lamination adhesives for flexible packaging.

Field of application

SL – SM NCO 373 / SM OH 707 is suitable for the lamination of Polyester, Polyethylene, Cellophane, BOPP, Aluminum foil and various types of paper. Films should be printed with suitable ink for Lamination.

Product Specification	**SM NCO 373**	**SM OH 707**
Solid content	100	100
Viscosity, Brookfield viscometer @ 30 degC	800 – 1400 mPaS	400 - 700 mPaS
Specific gravity	1.17 ± 0.02 g/cm 3	0.99 ± 0.02 g/cm 3
Colour & Clarity	Clear to Slight Yellow	Clear to Slight Yellow
Odour	Odourless once dried	Odourless once dried
Mixing ratio Parts by weight	100	60 - 100

Suggested Substrates:

Metalized Films, Oriented Polyamide Film (OPA) or Oriented Nylon (BON), Polyester (PET), Polyvinylidene di-chloride (PVdC) coated substrate, Structures containing aluminum, Treated Polyethylene PE (Including EVA-Types), Treated polypropylene (PP) (minimum 38 dynes/cm).

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Processing:

This system has to be used with a laminating machine designed for solventless lamination, equipped with a suitable adhesive application unit and a tension control system suitable for winding laminated films with low initial tack.

For trial runs it is recommended to prepare no more adhesive than can be used within 15-30 minutes. The mixing of the two components must be done in such a way as to obtain a homogeneous mixture.

For regular production, it is indispensable to use a mixing & dosing device or pump, which continuously mixes the adhesive in the chosen mix ratio, controls the feeding to the application unit, and stops automatically in case of machine standstills.

When processing the adhesive, the precautionary measures normally applied to work with isocyanate have to be observed.

Mixing Ratio:

Product Specification	SM NCO 373	SM OH 707	Application
Mixing ratio Parts by weight	100	100	Ecomomical Laminates
Mixing ratio Parts by weight	100	90	OPP
Mixing ratio Parts by weight	100	80	Metalize Substrate
Mixing ratio Parts by weight	100	70	LDPE/HDPE
Mixing ratio Parts by weight	100	60	Foil, Hot Filling

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Recommended Application Weight:

Apply 1.5 to 3.5 g.m2 dry, depending on substrate, printing & application.

Nip Temperature:

The adhesive can bond with room temperature pressure nip rollers, however heating the rollers up to 40 to 50 deg C would be recommended for most application.

The rubber roll in the nip with hardness of 85 shore A or greater is recommended.

Slitting / Rewind Time:

Slitting and rewind is possible after 24 hrs at 20 to 25 Deg C.

Curing Time:

Converters should verify appropriate cure times and conditions for their individual applications.

It is necessary to wait until complete curing has taken place before the laminate is fit for use.

The curing process is normally completed 10 days after lamination at 25 deg C and may be influenced by the type of film used, applied weight and by the storage conditions.

Suggested Cleanup Guidelines:

A proper cleaning procedure should be implemented and practiced as part of the machine operation. If the machine is stopped for more than 30 minutes, the mixing device and the application rolls should be cleaned before the adhesive becomes insoluble due to progressive curing.

Ethyl Acetate is a suitable solvent for curing. Other solvents such as MEK or Acetone may also be used.

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If the adhesive has become cured on the application rolls, a suitable chemical cleaner may need to be used to remove the residue.

Storage and Shelf Life Guidelines:

The expiry date of each product is the date reported on the label of the package. The product may be stored up to stated expiry date provided is stored in a dry and cool, well-ventilated place between 5 – 35 deg C unopened in the original shipping container.

Opened containers should be used as quickly as possible. Opened shipping containers, especially those of NCO-containing products, should be fitted with desiccant drier tubes to minimize moisture contamination.

F D A Status

The composition of **SL – SM NCO 373 / SM OH 707** conforms to the positive list of the American FDA regulations, chapter 21, Section 175-105 for laminating adhesive.

B G A Status

The composition of **SL – SM NCO 373 / SM OH 707** conforms to the positive list of the German BGA regulations, chapter XXVIII, Cross-linked polyurethanes as adhesives for packaging material.

E E C Status

The individual monomers used in the manufacturing of **SL – SM NCO 373 / SM OH 707** are listed in the plastics directive, Section 1, Part 1 (Authorized Monomers).

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