

TIP 0305-25

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Buying, storing, and handling flexo folder gluer/rotary diecutter adhesives

Scope

This TIP provides guidelines for ordering, storing and handling flexo folder gluer/rotary diecutter adhesives.

Safety precautions

The supplier should offer guidance in storing and handling their product and this information should be utilized by the plant and post appropriate hazard documents as required.

Buying adhesives

Relevant terms

Viscosity is determined by the type of glue applicator. Only the viscosity specified by the applicator manufacturer — not the adhesive manufacturer — should be used.

Open time is the time required between application and joining. The longer the folding section and/or the slower the production rate, the longer is the open time. The adhesive should remain wet and tacky during longest open times.

Tack time is the time required for the adhesive to develop enough initial strength to hold the two surfaces together. During this time, the box may be spanked (resquared). If the box then goes under a holding weight, the tack time is not critical. If there is very little holding weight on the box after spanking, the adhesive must quickly stick the surfaces together (short tack time).

Setting time is the time required between initial joining and permanent bonding of the box joint. During this time, the manufacturer's joint cannot be disturbed. Right angle counter ejectors generally require faster setting times than straight line counter ejectors.

Penetration time is the time required for the adhesive to penetrate the liners so that it can "set-up" and cure. Water-proof liners are more difficult to join than untreated kraft and may require special adhesives.

Supplier section

The following steps should be taken to ensure proper selection of supplier and adhesive:

1. Invite at least two suppliers to survey the plant and make recommendations.
2. Show them the glue applicator mechanism on the flexo folder gluer/rotary diecutter.
3. Inform them of the present average and maximum production rates along with any future anticipated changes.
4. Give them samples of all liners now being used — standard as well as specials (and from each mill).
5. Allow the machine operators to discuss their gluing experiences with each supplier.
6. Require the suppliers to present recommendations and quotes by letter, as well as samples for trial.

TIP Category: Automatically Periodically Reviewed (Ten years)



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The adhesive chosen must not reduce production rates nor increase scrap; therefore, performance, not price, must be the basis for selection.

The supplier chosen must be able to provide service when needed through direct visits or by telephone. Only if the supplier has become familiar with the machines, people, and products in a particular plant, can this be done.

NOTE 1: Unless all the flexo folder gluer/rotary diecutters in a plant have identical glue applicators and are of virtually the same configuration, it will not be possible to standardize on one adhesive without jeopardizing the performance of the equipment.

Storing adhesives

The supplier should furnish a copy of the adhesive specification for each adhesive, from which the following information can be obtained:

1. Storage temperature
2. Shelf life
3. Diluents
4. Wash up fluids.

Receiving personnel must inspect adhesive shipments and complete the following procedures:

1. Ensure that the adhesive number is correct.
2. Reject frozen adhesives.
3. Reject coagulated or separated adhesives.
4. Mark container with date received.
5. Replace covers tightly.

The following requirements must be met with regard to the special storage area:

1. Comply with local fire, safety, and health laws.
2. Maintain temperature of adhesives from 60 to 90°F.
3. Store and issue by date — first in, first out.
4. Do not use adhesives with expired shelf date.
5. Do not put used adhesives in storage; either filter and reuse immediately or scrap.
6. Always keep all covers on tightly.

NOTE 2: $T_c = 5/9 (T_f - 32)$
where:

T_c = temperature, °C
 T_f = temperature, °F

Handling adhesives

1. Do not use adhesive with expired shelf date.
2. Ensure that the adhesive number is the one specified for that particular flexo folder gluer/rotary diecutter.
3. Make sure glue reservoir, lines, wheels, applicators, etc., are clean before using.
4. Filter glue when filling reservoir to remove lumps, dried glue particles, and other foreign matter which may have fallen into the glue bucket.
5. Carefully set up and adjust glue mechanism in accordance with manufacturer's instructions.
6. CAUTION: Adhesives do not perform properly if atmosphere, glue, or board is less than 60°F or more than 90°F.
7. Avoid excessive glue application. This is expensive, extends tack and setting times, and generally drips off onto parts of the machine, the floor, and other boxes.