

The information and data contained in this document were prepared by a technical working group of the Association. The working group and the Association assume no liability or responsibility in connection with the use of such information or data, including but not limited to any liability under patent, copyright, or trade secret laws. The user is responsible for determining that this document is the most recent edition published.

PLEASE NOTE: A TAPPI Useful Method (UM) is a document written to describe a test, procedure, or practice which may be proposed by a Working Group of no fewer than three TAPPI members not employed by the same organization and written in the same general style as a TAPPI Standard Test Method, but with the inclusion or exclusion of certain sections as deemed appropriate by the Working Group, and with minimum precision requirements that may be expanded at the discretion of the Working Group. A UM is written with no less attention to proper use of the language to describe the procedure using essentially the same elements of a TAPPI Standard Test Method, but in a less rigorous manner. TAPPI Useful Methods do not receive the same review through a rigorous process of openness, voluntary review, and consensus as do the TAPPI Standard Test Methods, and as such, are not intended to be used as referee methods as the TAPPI Standard Test Methods are.

CAUTION:

This method may include safety precautions which are believed to be appropriate at the time of publication of the method. The intent of these is to alert the user of the method to safety issues related to such use. The user is responsible for determining that the safety precautions are complete and are appropriate to their use of the method, and for ensuring that suitable safety practices have not changed since publication of the method. This method may require the use, disposal, or both, of chemicals which may present serious health hazards to humans. Procedures for the handling of such substances are set forth on Material Safety Data Sheets which must be developed by all manufacturers and importers of potentially hazardous chemicals and maintained by all distributors of potentially hazardous chemicals. Prior to the use of this method, the user must determine whether any of the chemicals to be used or disposed of are potentially hazardous and, if so, must follow strictly the procedures specified by both the manufacturer, as well as local, state, and federal authorities for safe use and disposal of these chemicals.

Green peel bond procedure at the corrugator

Scope

This procedure is to provide basic instructions for subjective testing of the corrugated bond at both the single facer and doublebacker glue lines. The combined board should be allowed to cool for approximately 10 minutes at the dry end of the corrugator before evaluation.

Safety precautions

Observe all corrugator safety rules. Wear hot surface protective clothing. Use knives that comply with plant safety procedures as well as appropriate hand protection when cutting the combined board.

Significance

The corrugated bond is formed when the starch adhesive is caused to gel in situ by the heat of the corrugator. Consistent bond is required over a range of running conditions, speeds, and materials. Our objectives are to (a) make commercially acceptable board, (b) be able to produce board at an established pin adhesive level (T 821 “Pin adhesion of corrugated board by selective separation” provides detailed information about pin adhesive measurements equipment and procedures), (c) use a simple objective technique to make bond evaluations at the time of manufacture that relate closely to laboratory pin adhesion test values, and (d) be able to reduce adhesive consumption levels without jeopardizing bond.

With just a few simple pieces of equipment, one can determine the approximate pin adhesion bond level of combined board. The green peel bond test is a technique of an objective value (on a scale of 4 to 10) to the amount of force required to tear the bond, on the singleface and double back side, on a 2-in. wide strip of corrugated bond. The following test takes just a few moments.

Approved by a Working Group of TAPPI in accordance with the Useful Method Guidelines

Apparatus

1. *Razor knife* or other suitable, plant approved cutting device
2. *Flat surface*

Inspection station

Check samples at the off-bearing station or stacker of the corrugator. We recommend setting up a table, waist high, for ease of testing.

Frequency

Check combined board samples from operator center and drive positions on all major order changes, flute changes, liner and medium grade changes, and any time a mechanical condition change may cause a potential bonding problem (see Fig. 1).



Fig. 1. Samples selected from operator, middle, and drive sides of corrugator.

Procedure

1. Take a sheet of combined board from each of the machine positions and mark the position.
2. Place the sheet on a flat surface with the sheet's width running from left to right when the sheet is placed directly in front of the tester (flutes running left to right).
3. Cut a 2-in. (50.8-mm) strip across the flute tips -- approximate length -- the circumference of the applicator roll 32 in. (812.8 mm). Cut through the top liner and the fluted medium. Be careful not to cut through the bottom liner. Cut two strips on each side of the combined board