TIP 0304-24

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TIP Category: Automatically Periodically Reviewed (Five-year review)
TAPPI

Calibration and maintenance of the burst tester

Scope

The burst tester is commonly used when performing bursting strength tests on paper, paperboard, linerboard,
corrugatedboard and solid fiberboard.
Bursting strength of corrugated board is a requirement of various carrier regulations and federal specifications.
Bursting strength of linerboard is critical because paper mills use this property to control their process in order to
conform to the regulations and specifications mentioned above. The burst test is relatively simple to perform, but is
susceptible to serious errors if the instrument is not properly maintained.
The burst tester consists of the following:
1. A means of clamping the test specimen between two annular surfaces.
2. A molded diaphragm.
3. A means of forcing liquid into the pressure chamber directly below the diaphragm.
4. A gauge or pressure transducer system capable of reading bursting pressure.
This Technical Information Paper will outline the procedures used to change the diaphragm, check the burst tester
calibration and will also provide a list of typical errors and probable causes for error in the burst tester. This TIP does not
discuss calibration procedures for the pressure gauges or transducers used with the burst tester.

Safety precautions

There are no Safety precautions at this time.

Content

Diaphragm replacement procedure

1. With power on return control handle to right and release it when plunger has fully retracted.
2. Lower the upper platen until it is bearing against the lower platen with as much pressure as normally used
during test to hold specimen in place.
3. Loosen the retaining nut used to hold the lower platen in place with the spanner wrench provided by the tester
manufacturer.
4. Raise the upper platen and remove the nut, the lower platen and the old diaphragm.
5. Wipe the diaphragm seat (area with annular ridges) clean using dry cloth or paper towel.
6. Check the level of fluid in the cylinder. Add extra fluid if necessary to ensure the level is even with or forms
a slight meniscus above the surface of the diaphragm seat. Make sure no air bubbles are suspended in the fluid.