

# T 531 cm-01

OFFICIAL METHOD – 1981  
CLASSICAL METHOD – 1986

CORRECTION – 1991

REVISED – 2001

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## Starch consumption in corrugated board (enzymatic/gravimetric method)

### 1. Scope

1.1 A simple laboratory test to measure the amount of starch present in the combining adhesive per unit area of corrugated board is described (*I*). The method can be used to isolate and measure the adhesive at the double-face and/or single-face locations.

1.2 A colorimetric adaption, *which yields significantly lower values*, is described in TAPPI T 532, “Starch Consumption in Corrugated Board (Enzymatic/Colorimetric Method).”

### 2. Summary

The starch in the corrugating adhesive is dissolved in a solution of an alpha-amylase enzyme; the dissolved solids from a specific area are filtered, dried, and weighed.

### 3. Significance

The test is a useful tool for: establishing the proper weight of adhesive per unit area for various board constructions; securing the optimum balance at each location; spot-checking consumption to maintain continued economy with performance; establishing critical limits of machine operation; investigating the uniformity of adhesive application; facilitating the investigation of complaint board; and for making development studies concerning the effect of operating conditions such as moisture in paper, waxing, machine settings, speeds, preheaters, showers, adhesive viscosity, and solids.

### 4. Apparatus

- 4.1 *Filtering flask.*
- 4.2 *Beakers, 250-mL, or aluminum dishes.*
- 4.3 *Paper cutter.*
- 4.4 *Mason jars, approximately 1 L, with rings and lids.*