

SDmatic 2 VS. Enzymatic Method

Choose the Fast, Accurate Method for Determining Starch Damage Content

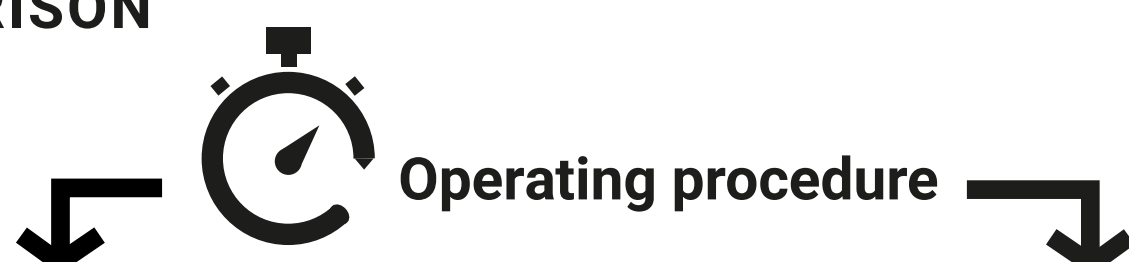


OVERVIEW

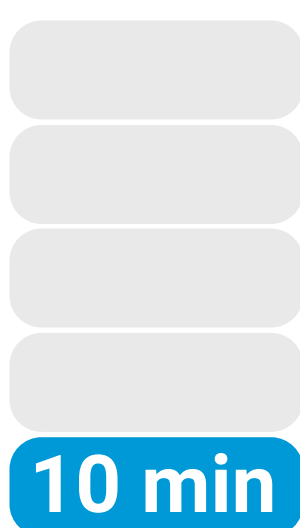
The SDmatic 2 method (AACC 76-33.01) is a standalone amperometric method to quantify starch damage. But how does it compare to traditional enzymatic measurement methods (AACC 76-31.01) on speed and simplicity?



COMPARISON



SDmatic 2 AMPEROMETRIC METHOD AACC 76-33.01



ENZYMATIC METHOD AACC 76-31.01



SDmatic 2 AMPEROMETRIC METHOD AACC 76-33.01

1. Prepare the solution
2. Place the solution on the reaction bowl
3. Weigh 1g of flour in the spoon
4. Insert this spoon in the SDmatic 2
5. Configure the test and press Test
6. Get the results in approx 5 minutes in 5 different units

ENZYMATIC METHOD AACC 76-31.01

1. Prepare 100 ± 10 mg of flour in a 12 ml tube
2. Pre-balance at 40°C for 2 to 5 min
3. Add 1.0 ml of fungal alpha amylase solution (50U/ml) pre-balanced at 40°C
4. Homogenize using a vortex stirrer
5. Incubate at 40°C for precisely 10 min
6. Stop the enzymatic reaction by adding 8.0 ml of diluted sulphuric acid (0.2 % v/v)
7. Centrifuge at 3000 rpm (1000 x g) for 5 min
8. Take 0.1 ml of overlying liquid
9. Add 0.1 ml of amyloglucosidase solution
10. Incubate at 40°C for 10 min
11. Add 4.0 ml of GOPOD reagent
12. Incubate at 40°C for 20 min
13. Measure absorbance at 510 nm (spectrophotometer)
14. Convert the absorbance measured as a % of damaged starch



40 Minutes Saved
with the amperometric / SDmatic 2 method!



RESULTS

The results obtained from each method are different in terms of values and units; however, they are highly correlated. Specific calibrations can be developed (and integrated into the instrument) to transform SDmatic 2 results into AACC 76-31.01 or Farrand equivalents. This allows operators to simply, rapidly, and accurately measure damaged starch with the SDmatic 2 without changing their reference methods.

Test results	
Protocol:	STANDARD
Test ID:	SDMATIC-20230613-162922
Test Name:	Flour 1 Test 2
Mass of Flour:	1.015 g
Iodine Absorption	
Ai%	92.32
UCD	16.5
UCDc	16.1
Vabs (T80%)	59 s
AACC 76.31	4.65
Farrand	14.11
Moisture:	12.40 %
Protein (dm):	11.30 %

Contact KPM Analytics today for more information!
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