

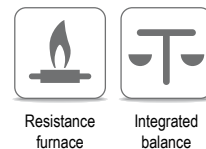
Moisture and ash determination in flour

Suitable analyzers

- TGA Thermostep

Used accessories

- Ceramic crucible (26063)
- Spatula (23111)



Settings	Step Moisture ----->	Step Combustion (1) ----->	Step Ash
■ Temperature:	105 °C	450 °C	600 °C
■ Speed:	0 °C (= automatic)	0 °C (= automatic)	0 °C (= automatic)
■ Type:	Stop by deviation	Stop by time	Stop by deviation
■ Time:	0 sec	01:00:00 h	0 sec
■ Deviation:	0.001	–	0.001
■ Gas:	None	None	Oxygen

Formulas

- Moisture: $(X[0] - (X[1] - Y[1])) / X[0] * 100$
- Ash (as analyzed): $(X[3] - Y[3]) / X[0] * 100$
- Ash (dry base): $(X[3] - Y[3]) / X[1] * 100$

Procedure

- Prepare and clean the ELTRA analyzer (e.g. remove ash from the crucibles)
- Check pressure of the oxygen bottle
- Prepare the application according to the recommended settings
- Select this application in the TGA software; log in the sample names and fill in the samples
- ELTRA recommends to use 2 g of flour for best repeatability

-> **Now start with the actual analysis.**

Typical results (1 g sample weight)		
Flour type 405		
Weight (g)	Moisture (%)	Ash dry (%)
1.0158	12.70	0.455
1.0114	12.79	0.405
1.047	12.75	0.417
1.1628	12.75	0.405
1.1807	12.71	0.429
1.0908	12.69	0.432
1.0444	12.75	0.401
1.0243	12.73	0.392
1.0445	12.77	0.401
1.295	12.70	0.431
Average values		
	12.738	0.417
Deviation		
	0.032 / 0.253 %	0.020 / 4.716 %

Typical results (2 g sample weight)		
Flour type 405		
Weight (g)	Moisture (%)	Ash dry (%)
2.0345	12.60	0.403
2.1365	12.63	0.399
2.0013	12.59	0.410
1.9958	12.60	0.409
2.2140	12.61	0.400
2.0037	12.65	0.397
2.2247	12.59	0.401
2.1409	12.60	0.412
2.0123	12.62	0.404
2.2035	12.60	0.405
Average values		
	12.612	0.404
Deviation		
	0.018 / 0.141 %	0.005 / 1.268 %