

## Compositional Analysis by Thermogravimetric Analysis (TGA)

ASTM E1131

### Scope:

In a Thermogravimetric Analysis, the percent weight loss of a test sample is recorded while the sample is being heated at a uniform rate in an appropriate environment. The loss in weight over specific temperature ranges provides an indication of the composition of the sample, including volatiles and inert filler, as well as indications of thermal stability

### Test procedure:

The inert (usually  $N_2$ ) and oxidative ( $O_2$ ) gas flow rates to provide the appropriate environments for the test. The test material is placed in the specimen holder and the furnace temperature is raised. Set the initial weight reading to 100%, and then initiate the heating program. The gas environment is preselected for either a thermal decomposition (inert - nitrogen gas), an oxidative decomposition (air or oxygen), or a thermal-oxidative combination.

### Specimen size:

10 to 15 milligrams

### Data:

A plot of percent weight loss versus temperature

