

CS 580 Applications

OIL, ASPHALT & RUBBER ANALYSIS

When analysing fuel oil and other heavy oils, the maximum sample weight is 100mg.

When analysing light oils the maximum sample weight is 50mg.

Set furnace temperature to 1450°C.

Press F5 to start the analysis cycle and very slowly push the boat into the furnace until you hear the ignition sound. At this point remove the boat pusher and make a reference mark on the pusher rod to provide a guide as to how far to insert the boat. A piece of coloured electrical tape wrapped around the rod works well. The reference mark is at the correct position when the sample takes 3 to 5 seconds before igniting. When analysing a sample push the sample to the marked position and observe the peak on the computer monitor, when the peak is decaying and has reached about 25% of the maximum peak height push the sample all the way in until it reaches the boat stop.

CAUTION: Always use this technique when analysing these types of samples. Never push them straight into the hot zone, because volatiles and fumes may be not completely combusted. These will contaminate the gas flow system requiring expensive repairs to valves, flow controller and IR cells.

ASH ANALYSIS

Set furnace temperature to 1450°C.

Sample weight 200 to 250mg weighed directly into the boat. Analyse as normal.

GRAPHITE ANALYSIS

Set furnace temperature to 1100°C.

Sample weight 350 to 400mg weighed directly into the boat. Analyse as normal.

CALCIUM CARBONATE ANALYSIS

Set furnace temperature to 1100°C.

Sample weight 200 to 250mg weighed directly into the boat. Analyse as normal.

LIMESTONE ANALYSIS

Set furnace temperature to 1250°C.

Sample weight 300 to 400mg weighed directly into the boat. Analyse as normal.

CEMENT ANALYSIS

Set furnace temperature to 1250°C for Carbon analysis. If Carbon and sulphur is required set the temperature to 1450°C. If purchasing a new instrument for this application we recommend an induction furnace instrument.

Sample weight 250 to 500mg weighed directly into the boat. Analyse as normal. If you experience low recovery of sulphur reduce the sample weight to 100mg and add 500mg of iron phosphate to the sample.

GYPSUM & DE-SULPHURISATION PRODUCTS ANALYSIS

Set furnace temperature to 1250°C for Carbon analysis. If Carbon and sulphur is required set the temperature to 1450°C. If purchasing a new instrument for this application we recommend an induction furnace instrument.

Sample weight 250 to 500mg (Carbon only) weighed directly into the boat. Analyse as normal. For sulphur analysis reduce the sample weight to 30 to 50mg and add 500mg of iron phosphate to the sample.

PLASTICS ANALYSIS

Sample weight 50 to 100mg.

Set furnace temperature to 1450°C.

Press F5 to start the analysis cycle and very slowly push the boat into the furnace until you hear the ignition sound. At this point remove the boat pusher and make a reference mark on the pusher rod to provide a guide as to how far to insert the boat. A piece of coloured electrical tape wrapped around the rod works well. The reference mark is at the correct position when the sample takes 3 to 5 seconds before igniting. When analysing a sample push the sample to the marked position and observe the peak on the computer monitor, when the peak is decaying and has reached about 25% of the maximum peak height push the sample all the way in until it reaches the boat stop.

CAUTION: Always use this technique when analysing these types of samples. Never push them straight into the hot zone, because volatiles and fumes may be not completely combusted. These will contaminate the gas flow system requiring expensive repairs to valves, flow controller and IR cells.

WOOD ANALYSIS

Set furnace temperature to 1300°C.

Sample weight 300 to 350mg weighed directly into the boat. Analyse as normal.