

Binder

Lab

General Description

The quality of the pitch binder used during the electrode production has a strong impact on the final electrode quality. To characterize it, different solvents, mainly quinoline and toluene, are used for evaluating the composition of different fractions:

- Alpha resins: corresponding to the heavy fraction or the quinoline insoluble (determined with RDC-171 apparatus).
- Gamma resins: corresponding to the light fraction or toluene soluble (100% - toluene insoluble).
- Beta resins: corresponding to the intermediate fraction (calculated from the difference of the toluene insoluble and the quinoline insoluble).

The measurement is conducted with the RDC-172 apparatus. A given mass of a pitch sample is heated and dissolved in hot toluene, before being filtered under vacuum. After drying, the quantity of undissolved particles remaining on the filter is weighed to calculate the toluene insoluble content expressed as a percentage of the initial sample weight.



Technical Information

Standard Method	ISO 6376
Property	Toluene Insoluble [%]
Sample	1 g of pitch (< 0.25 mm)
Process Time	~ 3 hours
Installation	Workbench under fume hood
Dimensions (LxWxH)	50 x 30 x 100 cm
Weight	16 kg
Electrical Property	230 V 1/N/PE, 50 Hz 0.15 kW, 0.7 A
Fluid Property	Water : 100 l/h
Consumable	Toluene
Database Connection	No

Additional Recommended Equipment

Weighing scale with an accuracy of 0.001 g
Oven for cleaning (min. temperature 550°C)
Oven (min. temperature 140°C)
Crusher (< 4 mm)
Hot plate