

Equipment & Testwork

JKTech's testing, equipment and laboratory services ensure globally reliable results.

JKTech's highly specialised flotation and ore characterisation tools provide cutting edge technology to gain competitive advantage and increase productivity and metal recovery.

JK Drop Weight Tester

The JK Drop Weight Tester is the global industry standard with the SMC Test® - the most widely-used comminution test in the world for AG/SAG Mills, HPGRs and Crushers. More than 50,000 tests have been performed.

The JK Drop Weight Tester is the authorised specialist equipment required to conduct the JK Drop Weight Test, SMC Test® and the Integrated JK Drop Weight/SMC Test® - all proven global industry standards for ore breakage characterisation.

It provides ore-specific breakage parameters which are used in the JKSimMet Mineral Processing Simulator software to design comminution circuits and analyse and/or predict AG/SAG mill performance. The same test

procedure also provides ore type characterisation for the JKSimMet crusher model.

To ensure ease of accessibility for the industry, 35 commercial laboratories globally are licensed to carry out JK Drop Weight Test and SMC Test® on a commercial basis. JKTech manages a round robin exercise every two years to ensure all JK Drop Weight Tester owners and operators are meeting our high standard of testing.

JK Gas Hold-Up Probe

The JK Gas Hold-Up Probe measures the amount of air contained in the flotation cell for optimum gas utilisation.

The gas hold-up is the volume fraction of air contained within the pulp phase of the flotation cell. Generally, increasing the gas content within a cell results in more bubbles per unit area and more available surface area for particle bubble interactions to occur, producing improved kinetics.



JK Batch Flotation Cell

The JK Batch Flotation Cell is at the forefront of flotation characterisation. It is a bottom driven cell that provides accurate, reliable and reproducible results for laboratory flotation tests.

It is the authorised specialist equipment to conduct the JK Floatability Index test, enabling prediction of full-scale flotation performance based on laboratory scale flotation tests, as well as assessing different operating conditions, process flowsheets and reagent schemes.

Anglo Platinum Bubble Sizer

The Anglo Platinum Bubble Sizer is a portable device to measure both the bubble size distributions and superficial gas velocity directly within a flotation cell.

The unit can be used to calculate gas velocity by measuring the time taken to displace a known volume of water by air bubbles in the perspex tube above the viewing chamber.

JKTech is the global distributor of the unit, which is manufactured in South Africa.

JK Samplers

JKTech's range of slurry samplers enables easy and representative sampling of industrial scale flotation cells and slurry streams for the purposes of comprehensive plant surveys or simple circuit analysis.

The JK Dip Sampler can be extended up to a length of 3 meters to sample inside even the largest of industrial scale flotation cells. Sample containers of 1L and 2L can be accommodated.

The JK Stream Cutter can be supplied in various sizes and handle lengths to facilitate easy and safe sampling of open slurry streams.

The JK Lip Sampler captures flotation cell overflow from the lip of flotation cells.

Equipment & Tests

Licensed to JKTech for sale to the industry:

- JK Drop Weight Tester
 - Full JK Drop Weight Test
 - SMC Test®
 - Integrated Drop Weight/SMC Test®
- Steel Media Wear Test Methodology
 - Steel Wheel Abrasion Test
 - Corrosion Test
- JK Batch Flotation Cell
 - Batch Flotation Testing
 - JKFi Testing
- Anglo Platinum Bubble Sizer
- JK Gas Hold-Up Probe
- JK Dip Sampler
- JK Stream Cutter
- JK Lip Sampler
- JK Bond Ball Mill Test
- Bond Ball Mill Work Index Test
- Bond Rod Mill Work Index Test
- Point Load Test
- Equotip Test
- HPGR Test
- Flotation Testing

The Integrated JK Drop Weight and SMC Test®

A new form of test has been developed which enables both JK Drop Weight and SMC Test® parameters to be determined using a simplified procedure.

The major advantage of the new 'Integrated Test' for clients is being able to obtain both JK Drop Weight and SMC Test® parameters using a reduced amount of sample when compared to performing both tests separately.

Laboratory services

JKTech's laboratory specialises in delivering high quality, cost effective, and leading characterisation of ore and waste material using testwork programs that are fit for purpose.

Characterisation can be undertaken at various scales from small scale geometallurgical measurements and tests on drill core or chips to bench tests or pilot plant trials.

Our technicians can also be deployed to sites for plant surveys and metallurgical testwork programs. They can assist in:

- Training site staff in the details of procedures
- Training site staff on the use of JKTech specialist equipment
- Undertaking or supervising testwork and surveys on site

Our laboratory and consultants will advise and guide clients on the best tests and testwork programs to meet objectives and budgets.

Quality Assurance

JKTech conducts regular quality control testing of the laboratories licensed to perform JK Drop Weight, SMC and JK Bond Ball Mill Tests to ensure that results are all within acceptable statistical limits.

This means that clients can be confident that results are accurate whichever laboratory performs the testwork. Also, all results from these tests are reviewed and analysed by JKTech staff to ensure results are consistent.

JKTech's range of powerful simulation software applications complement our equipment and testwork capabilities.

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