

# Bond Work Index Capability in Tarkwa

Intertek's Bond Work Index (BWI) capability is designed to help you optimize your mill investments and achieve your operational goals.

**Bond Work Index testing delivers a defensible measure of ore grindability to support comminution design, energy forecasting, and throughput optimisation.**



## What is Bond Work Index?

The Bond Work Index is a measure of the energy required to grind a ton of ore to a specific size, commonly used in the mining industry to determine the efficiency of grinding circuits. The Bond Work Index (BWI) is calculated using the following equation:

$$Wi = \frac{44.5}{(P1)^{0.23} \times (Gbp)^{0.82} \times 10 \left( \frac{1}{\sqrt{P2}} - \frac{1}{\sqrt{F2}} \right)}$$

Where Wi is the work index, P1 is the screen test size in microns, Gbp is the net grams undersize per revolution, P2 is the 80% product passing size in microns and F2 is the 80% feed passing size in microns.

## What are the Benefits?

- Predictive grinding efficiency: BWI helps predict the energy required for grinding, allowing for more accurate design and optimization of grinding circuits.
- Improved process control: BWI testing provides valuable insights into ore grindability, enabling better process control and optimization.
- Reduced energy consumption: By understanding the energy required for grinding, operators can optimize energy consumption and reduce costs.
- Increased throughput: BWI testing helps identify opportunities to increase throughput and improve overall plant performance.
- Enhanced equipment selection: BWI data informs equipment selection and sizing, ensuring optimal performance and reducing maintenance costs.
- Better ore characterization: BWI testing provides valuable information on ore characteristics, enabling more effective ore handling and processing.
- Cost savings: By optimizing grinding processes, operators can reduce costs associated with energy, maintenance, and equipment wear.

## About Intertek Minerals

From grassroots exploration to final product shipment, Intertek Minerals provides geochemical assay and testing services, minerals inspection and trade services to support the minerals and mining supply chain globally.

In a world of deeper anomalies, remote exploration projects and mines, complex ore bodies and increasing cost pressures, industry leaders such as Intertek can provide the innovative bespoke solutions needed to support our clients meet these challenges. With industry recognised technical expertise and an established global network, Intertek offers end to end Total Quality Assurance across our clients' entire resource development chain.

## Learn More

Contact us to learn more about our Bond Work Index capability and how our Tarkwa I laboratory can support your project from early studies through to operations.

