The ISASMELT™ Test Hub lets you explore options, test feeds and accelerate critical decisions

GLENCORE TECHNOLOGY

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Get a process certificate in 28 days for exactly what your smelter feed can produce for you.

Glencore Technology's ISASMELT™ Test Hub at the University of Queensland in Australia is a new service offered in conjunction with the renowned PYROSEARCH group. Using a dedicated F600 furnace to pilot your ideas, the service is thorough, low cost, fast, clean, and safe.

The Test Hub takes as little as twenty-eight days after the arrival of your samples to deliver the results. A standard five-test service costs around $USD 93,000.

At a glance

- → Reduce the time, effort and money to get your ideas tested and proven for the real world.
- → Allows metallurgical plants, mineral processing companies, engineering companies, consultancies and universities to test new processes.
- → Two spheres of research in one: pilot plant testing using the ISASMELT™ Test Hub; thermodynamic and laboratory testing by our colleagues at PYROSEARCH.

ISASMELT™ TEST HUB

For more:

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How the ISASMELT™ Test Hub Works

We take your feed specifications and desired or potential product specifications and provide two spheres of research: pilot plant testing using the ISASMELT™ Test Hub; as well as thermodynamic and laboratory testing by our colleagues at PYROSEARCH.

Consultation helps us design the pilot testing campaign to produce the clearest and most practical array of options for your feed and potential products.

Before the testing begins, we design our process chemistry and predict outcomes of the planned tests to determine:

- Slag fluxing targets;
- Element distribution;
- Fuming rates; and
- Fuel requirements.

We use effective tools for the planning like FactSage (UQPY) for slag chemistry design and to predict the behaviour of different elements; and HSC SIM to create batch and steady state models to predict the fuel and coolant requirements.

Our analytical techniques can include:

- Bulk Chemical Analysis – XRF/ICP;
- Phase Identification (crystalline) – Powder XRD;
- Element Distribution/Phase ID – SEM-WDS/EDS; and
- Identification of processes occurring on heating – TGA/DSC.

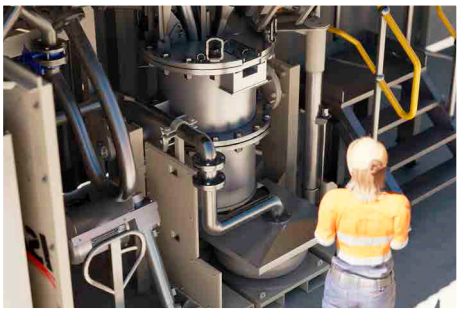
Further analysis by PYROSEARCH can include:

- Slag microanalysis;
- Slag crystallisation kinetics;
- Slag viscosity;
- Dust characterisation; and
- Brick analysis.

At all times it's our metallurgical engineers who are leading the work.

A wide array of services and equipment can be deployed for you – our F600 furnace, feed preparation equipment, off-gas cleaning system, lance-control system and sampling systems.

We can also use tube furnaces, muffle furnaces, viscosity furnaces, brick saws, thermodynamic simulation computers and compositional analysis equipment and processes including EPMA, LA-ICP-MS, ICP-MS, XRF and XRD.



What the ISASMELT™ Test Hub delivers

The ISASMELT™ Test Hub lets you to explore concepts, test new feeds and bring forward critical financial decisions.

The service allows material to be tested for how it behaves when smelted, what products that can be generated, the elemental distribution, fuming factors the slag quality, and many other factors.

Any non-ferrous feed that is mostly solids can be tested, including any primary ores, concentrates and post-consumer materials. Some limits may apply to some hazardous substances and an MSDS is required for transport and testing.

Glencore Technology's Test Work Certificate, final product samples and Test Hub Report provide evidence that you can take to a management committee, board or bank to advance your project. It 'certifies' the material can be smelted in an ISASMELT™ and describes how it may behave in other bath smelting technologies.

Elemental assaying will be performed using techniques suitable for the materials being processed – XRF and ICP are the assaying techniques which are most likely to be suitable. We will also help you determine a path forward to realise your smelting objective.

Glencore Technology will sign an NDA with you for IP protection. If you're geographically close, you are welcome to observe testing.

In your packaged Glencore Technology Test Work Certificate Report, you can expect:

- Flowsheet design;
- Equipment selection;
- Element distribution ratios;
- Element fuming rates;
- Slag chemistry assessment; and
- Slag operability assessment.

A standard five-test service, including elemental assays, will apply to most test needs. Unusual or complicated test briefs are welcome but may change the price.

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Glencore Technology

Glencore Technology develops innovative products that help mining operations extract more from their flowsheet. ISASMELT™, IsaKidd™, IsaMill™, Jameson Cell and Albion Process™ have been developed in the real world and proven in more than 500 operations across every continent.

Many of our technologies have been developed and proven at our own sites, like ISASMELT™ and IsaMill™, which were pioneered by Mount Isa Mines and helped revolutionise mining and smelting processes all over the world.

Our approach is premised on a technology partnership to provide a full product and service offering, including process flow design, engineering, equipment supply, commissioning and operational expertise, and ongoing process and maintenance support.

Glencore

Glencore is one of the world's largest global diversified natural resource companies and a major producer and marketer of more than 90 commodities. The Group's operations comprise around 150 mining and metallurgical sites, oil production assets and agricultural facilities. With a strong footprint in both established and emerging regions for natural resources, Glencore's industrial and marketing activities are supported by a global network of more than 90 offices located in over 50 countries.

Glencore's customers are industrial consumers, such as those in the automotive, steel, power generation, oil and food processing sectors. We also provide financing, logistics and other services to producers and consumers of commodities. Glencore's companies employ around 146,000 people, including contractors.

Glencore is proud to be a member of the Voluntary Principles on Security and Human Rights and the International Council on Mining and Metals. We are an active participant in the Extractive Industries Transparency Initiative.

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