

Svendborg Brakes provides a one-stop-shop for copper mine hoist braking systems

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As key resource in the manufacture of electrical goods, global demand for copper is high. To ensure productivity, copper mines need highly reliable equipment, which includes the large service hoists used to transport apparatus and miners down to the face. A major mine hoist OEM contacted Svendborg Brakes when it required reliable low-speed and high-speed braking systems for a double-drum, 20-ton system designed for a copper mine hoist.

Stop and park

On a hoist, two braking systems are usually present. High-speed service brakes are installed on the high-speed side of the hoist's drive motor. These brakes hold the hoist in place when the motor isn't generating torque, offering parking functionality. A low-speed braking system delivers stopping power in all conditions, including power loss.

Achieving a gradual stop is very important. Sudden braking can cause disturbance to the equipment or personnel loaded on the hoist, which must be avoided. Therefore, integrated controls are required to ensure a 'soft stop' during braking.

A reliable partner

To source these multiple systems for its hoist design, an expert mine hoist OEM approached long-term partner Svendborg Brakes.

A leading brand of Altra Industrial Motion Corp., Svendborg Brakes is a global provider of intelligent braking systems. The company has a proven track record supplying brakes for hoists used in harsh mining environments. Furthermore, it offers highly responsive global maintenance support for customers, helping to promote equipment uptime. With a shared history of success, both businesses collaborated to specify a solution for the 20-ton hoist.

Put the brakes on

In terms of the low-speed braking system, Svendborg Brakes supplied pedestal-mounted Model BSFH 512 spring-applied, hydraulically released, dual-spring calliper brakes, each with 96,000 N braking force. The brakes act on two 12 ft. diameter discs installed on the 10.5 ft. diameter rope drum.

For the high-speed side of the motor, pedestal-mounted Model BSFI 3100 spring-applied, hydraulically released, mono-spring calliper brakes were chosen. Offering of 80,000 N braking force, the brakes are applied on a 47.5 in. disc.

Stopping softly

To deliver the soft stop needed for the application, Svendborg Brakes provided customised SOBO® iQ hydraulic power units. These and the braking systems are operated by a single SOBO iQ control.

The SOBO iQ braking controller is flexible and durable, ideal for mine hoists and conveyors. Using a state-of-the-art dual-loop proportional integral (PI) control

system to measure hydraulic pressure and speed, pressure control is applied with reference to speed and hoist deceleration. Braking torque is controlled by comparing actual hoist speed feedback against a pre-determined speed ramp. Consequently, braking is smoothed throughout operation.

Coming to a complete stop

Selecting a provider that can deliver complete braking systems with associated controls is a big advantage for a hoist OEM. First of all, the interoperability of the systems means increased performance and reliability in application, essential for equipment that will often carry personnel.

Maintenance is also simplified and expedited. Spares and service support are available from a single source, which ensures a faster response and reduced downtime. All braking systems on the hoist can be maintained by a single knowledgeable team, so high quality repairs and instant familiarity with the system can be expected.

A one-stop-shop

Choosing an established global brake OEM has its benefits too. With its braking system design and manufacturing expertise, Svendborg Brakes is a one-stop-shop for complete solutions for individual hoist designs. Brakes, HPUs and controls can all be tailored to exactly meet hoist performance requirements – delivering an optimal solution for customers.

Ensuring uptime for mining equipment is paramount for safeguarding global copper supply, choosing highly reliable braking systems is very important for mine hoist OEMs. With the all-encompassing braking solutions offered by Svendborg Brakes,

this mine hoist OEM has promoted reliability, as well as the security of equipment and personnel travelling deep into the earth.

Image captions:



Image 1: Svendborg Brakes is a one-stop-shop for complete solutions for individual hoist designs. Brakes, HPUs and controls can all be tailored to exactly meet hoist performance requirements.



Image 2: To ensure productivity, copper mines need highly reliable equipment, which includes the large service hoists used to transport apparatus and miners down to the face.

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About Svendborg Brakes

Since 1989, Svendborg Brakes has been recognised as a leading global expert in intelligent braking solutions for industrial applications. Extensive application knowledge, innovative design, fast prototyping and exhaustive testing ensure that customers get the most technically advanced, most durable and safest braking systems to meet their specific requirements.

Svendborg Brakes offers a wide range of highly engineered products including hydraulic brakes and power units, thruster brakes, soft braking controls and couplings. Svendborg Brakes braking solutions are hard at work in key markets including renewable energy, mining, hydropower, cranes and oil & gas, mining, and marine & offshore on applications such as wind and tidal turbines, overland conveyors, propulsion systems, deck equipment, hoists, drawworks, elevators & escalators and dam turbines.

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