

SZ-Steel by Ovako retains properties for greater reliability in harsh sub-zero environments

As companies push the limits of performance in cold climates and harsh sub-zero Arctic environments, demand for strong, safe and well-proven materials is on the rise. Components like pipeline bolts, hydraulic parts and offshore lifting devices must offer greater reliability at -50°C or lower sub-zero temperatures.

SZ-Steel[®] by Ovako is proven to retain its properties in temperatures down to -40 °C and beyond and, in extreme cases, is well-tested to withstand temperatures down to -101 °C. As one of the Ovako attribute brands, SZ-Steel designates a grouping of steel grades across a range of products in the company's portfolio including BQ-Steel[®], IQ-Steel[®], M-Steel[®] and WR-Steel[®].

SZ-Steel, which stands for sub-zero, is a family of steel grades with low impurity levels and controlled grain size that are specifically developed, designed and produced for use in extreme environments with cold climate temperatures and exacting conditions. This helps to reduce risks of embrittlement and fracturing, and also safeguard natural environments while improving safety for workers and service crews.

"Some of our most demanding customers tell us that safety in cold climates is an increasingly urgent priority. Many are under pressure to comply with demanding oil and gas or shipbuilding standards. Nobody wants to see an accident or unscheduled maintenance when temperatures drop to -40 °C and below," said Göran Nyström, Executive Vice President of Group Marketing and Technology at Ovako.

Ovako tests and certifies a wide range of its steel grades according to sub-zero standards. At the Ovako plant in Imatra, eastern Finland, tests are performed at - 101 °C using cryogenic liquid nitrogen and methanol as a cooling media, under which conditions even otherwise well-made engineering steels can become brittle and fall apart.

"Ultimate safety and reliability of our high-performance engineering SZ-Steel is verified in a proprietary 'freezer box'. No other engineering steel company is as focused on highlighting the concerns surrounding sub-arctic operations as Ovako."

SZ-Steel grades meet and actually exceed key international safety standards, and their capabilities are proven in cases around the world whether the application is for stud bolts, hydraulic equipment, drilling tools, axles or valves used in oil and gas, mining, energy generation, marine, offshore or mobile machinery. Use of correct steels is imperative in these areas given the low temperatures, and SZ-Steel can be just the solution.

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