INTERNATIONAL MOLYBDENUM ASSOCIATION
THE VOICE OF THE MOLYBDENUM INDUSTRY

More than meets the Eye

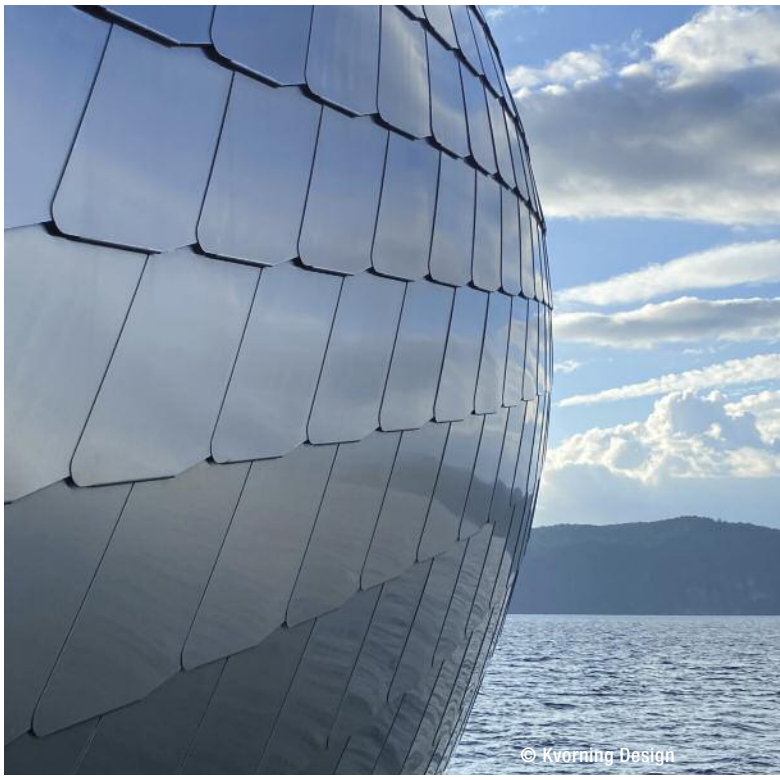
Norway is the world's leading producer of farmed salmon. The Salmon Eye, a floating event center, is dedicated to the sustainable development of this industry. 6% molybdenum stainless steel is the secret behind the structure's unblemished metallic finish.

Floating in view of the rugged, mountainous coastline of Norway's Hardangerfjord, the Salmon Eye looks like it was warped in from another dimension. Silver, ellipsoidal, and 26 meters in diameter, it's been described as "UFO-like". In fact, the Eye is officially registered as a boat. Viewed from above, the structure is an anatomically accurate model of the eye of a salmon. Danish firm, Kvorning Design, brought the fjord-dwelling flying saucer to life.

Only accessible by boat from the nearby town of Rosendal, the Salmon Eye lives tethered to the seafloor with three long ropes. Molybdenum is indispensable in maintaining the iconic appearance of this installation in the great rust maker of the sea. Technically, Hardangerfjord is an inlet, carved by glaciers, connected to the open ocean. Its salinity varies seasonally, being low when snow and ice are melting, but comparable to seawater several months out of the year.

Sustainable aquaculture

The world's stocks of wild fish are under extreme pressure. The share of fish populations that are overexploited has more than doubled since the 1980s. Nearly 90% of the world's fish stocks are fished at or beyond their limits. Farming seafood, or aquaculture, is a growing alternative. 50 years ago, aquaculture was uncommon. But now over half of all fish consumed are farm raised.



Overlapping shingles that follow the Salmon Eye's elliptical shape brave the harsh environment with minimal upkeep.

Two electric shuttle ferries are key to ensuring a sustainable expedition for all visitors.

Inside the Salmon Eye, visitors experience an installation designed to explain the impact of aquaculture and its production techniques, with an immersive audio-visual display spanning four levels. At night the Eye becomes a restaurant featuring ingredients hand-foraged on dives just meters away.

Of course, growing seafood as livestock isn't inherently sustainable: farmed fish raised in natural bodies of water often cause significant pollution, spread disease, and rely on wild fish catch for feed. With the spectacular visitor attraction and art installation, Eide Fjordbruk, the local aquaculture company that commissioned the Salmon Eye, wants to draw attention to all aspects of aquaculture and how it can be improved to feed more people with less impact on the planet.

Stainless salmon scales

To mimic the appearance of fish scales, the ellipsoid structure is clad with 9,250 overlapping shingles made of 6% molybdenum stainless steel (UNS S31254). This high addition of molybdenum helps make this stainless steel one of the most corrosion resistant available, able to withstand immersion in seawater. The grade is often used for extreme applications like desalination and chemical processing. In addition to supreme resistance against pitting and crevice corrosion, 6% molybdenum stainless steel offers at least 50% higher strength than standard austenitic grades. Despite being licked by salt-laden waves daily, these "scales" require minimal maintenance and will not loosen, warp, or rust over time.

The choice of materials for Salmon Eye also reflects the environmental intentions behind the project. The highly alloyed stainless steel will not release any harmful substances into the water and will last centuries in the marine environment. At the end of its long service life, stainless steel is also fully recyclable. As it stares forever unblinking into the sky, the Salmon Eye and its stainless steel scales call for a closer look into the future below the surface. (Martina Helzel)