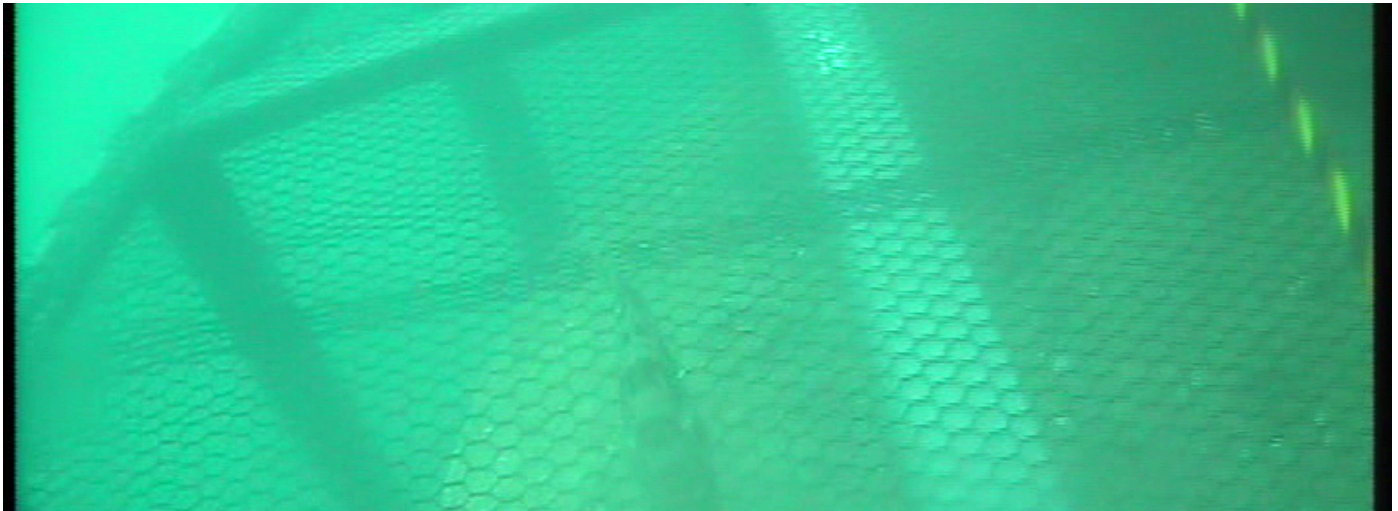


SEA WATER INTAKE FOR BOROUGE 3 PROJECT

RUWAIS, ABU DHABI, U.A.E.



TYPE OF PROJECT Fish Net Pens	YEAR OF CONSTRUCTION 2014	CLIENT TAKREER	CONTRACTOR Union Pipe Industry	DESIGNER Samsung
PROD. RELATED KikkoNet (12 Cages)				

Challenge

The seawater intake system at TAKREER’s Ruwais refinery in Abu Dhabi faced significant challenges due to fish intrusion and the rapid corrosion of traditional steel mesh cages. Fish entering the pipeline through the riser area caused operational inefficiencies, including blockages, increased maintenance, and potential damage to critical equipment. This not only disrupted the refinery’s operations but also raised environmental concerns, as the intake of marine life harmed local ecosystems and violated sustainability commitments.

Additionally, the steel mesh cages, designed to prevent fish intrusion, corroded quickly in the harsh marine environment, leading to frequent replacements, high maintenance costs, and environmental pollution from corroded metal particles. These issues highlighted the need for a more durable, cost-effective, and environmentally friendly solution to ensure the reliability and sustainability of the seawater intake system.



Frame Arrangement

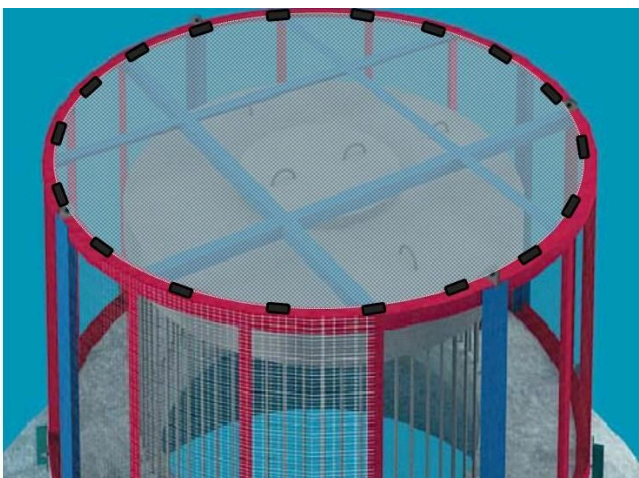


Side Panels

Solution

To address these challenges, TAKREER implemented Kikkonet, a high-performance mesh made from PET (Polyethylene Terephthalate) monofilaments. Unlike traditional steel cages, Kikkonet’s corrosion-resistant and biofouling-resistant properties ensured a long-lasting design life, significantly reducing the need for frequent replacements. The hexagonal weave provided high tensile strength and structural stability, effectively preventing fish intrusion while maintaining optimal water flow. The PET material was environmentally

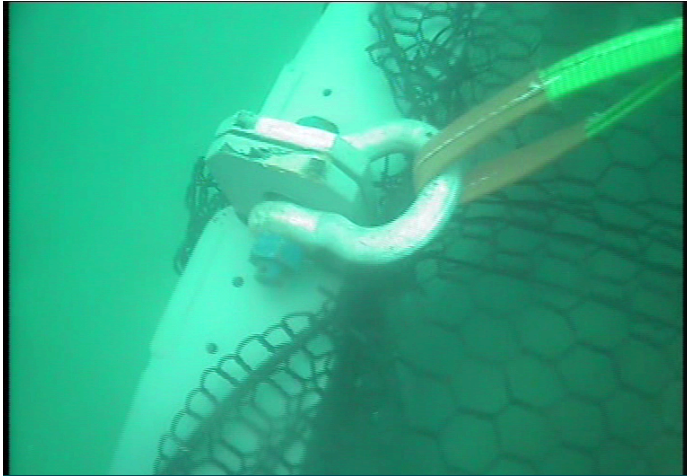
friendly, eliminating the risk of metal pollution and minimizing harm to marine ecosystems. Customized to fit the intake risers, the Kikkonet mesh was installed with minimal downtime, and its low-maintenance design further reduced operational costs. This innovative solution not only improved the efficiency and reliability of the seawater intake system but also aligned with TAKREER’s sustainability goals, demonstrating a commitment to environmental protection and responsible industrial practices



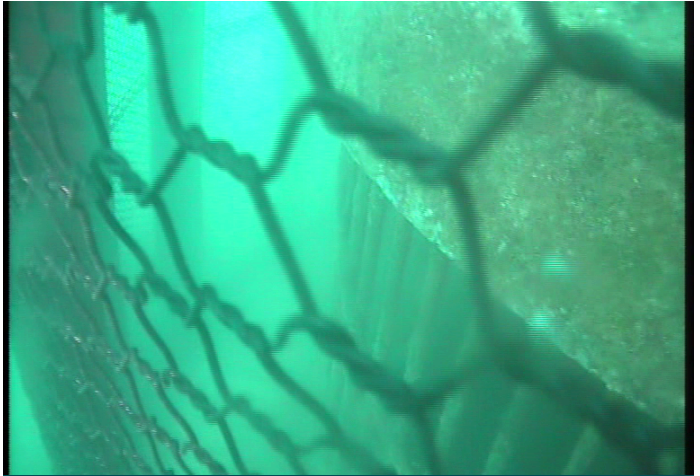
Completed Cage Design



Panel Lid



Underwater Installation



Kikkonet Underwater



OPEN GOOGLE MAPS



OPEN GOOGLE EARTH