

HOME TO ROOST: SEALING ALTERNATIVES CONTROL LEAKAGE FOR VALVE MANUFACTURER IN OFFSHORE INDUSTRY

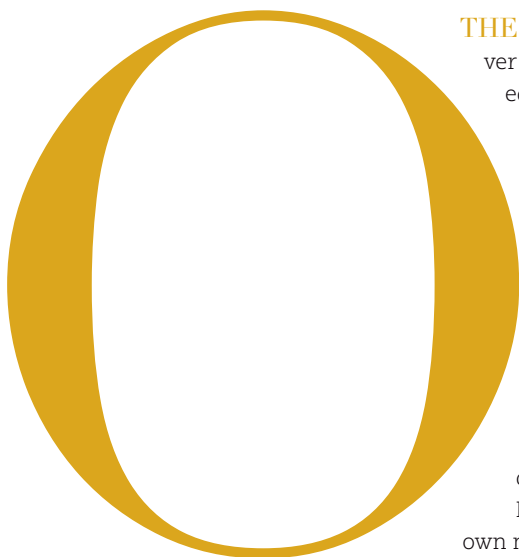
Submitted By Trelleborg Sealing Solutions

THE PROBLEM

Over the past ten years, offshore exploration in Russia has boomed. Many of the equipment suppliers are now homegrown. Plants that previously manufactured heavy industrial products have transformed into high-technology companies focused on supplying the offshore industry. Roost-95, a manufacturer of regulating valves, is one of these companies, developing out of the Krasney Proletary privatization initiative. It concentrates on the design and production of regulating valve units used in oil and gas equipment with a workforce comprised of metallurgists, designers and technologists.

“Our main principle is ‘quality products with the best service today is our guarantee for tomorrow,’” says George Varlmov, head of the design bureau. “We have everything we need to achieve this. We do our own steel fabrication along with mechanical production, utilizing the latest technologies. Valve assembly is combined with extensive test facilities, for which we produce all our own gauges and quality control instruments.”

Experienced designers within the company develop valves exclusively for the company’s own manufacturing. When engineering these valves, they needed a material for seals fitted in



the valve's throttle units that would withstand contact with petrochemicals, liquid polymers and gaseous chemicals. In these substances, standard elastomers deteriorate quickly, but PTFE (polytetrafluoroethylene) seemed the ideal alternative, as its inherent resistance to virtually all media means it can give extended life.

"We had heard about the spring-energized Variseal® and Trelleborg Sealing Solutions' proprietary range of products," said Varlmov. "Ten years ago though, when we started out, we could only buy the seals through a distributor. There was no real technical support from these in Russia. We didn't feel confident in using Turcon® Variseal® without the necessary back up.

"We therefore tried seals produced locally based on the same principle as Variseal®, but due to the standard of manufacturing or the material quality, leakage occurred. This was especially the case when the seals were first used. After a period of time, the seals bedded in and leakage stopped. In most cases, though, our customers found this turn on period unacceptable."

THE SOLUTION

The competitors seals were replaced, and leakage was controlled from the very first activation. "(The seals) have been so effective that we announced that we would only fit this product in our valves from now on," said Varlmov. "In addition, we are planning to use Turcon® Glyd Ring® T and Turcon® Stepseal® 2K on our new actuators. We are also working on a new series straight gas regulator. Tests show that these seals are performing well."

FOR MORE INFORMATION:

Trelleborg Sealing Solutions supports Roost-95 through its Russian marketing company. Visit www.trelleborg.com for more information.

MARINE/OFFSHORE INDUSTRY CASE STUDIES

HYDRAULIC CYLINDERS

Rod sealing of cylinders operating on open deck, inside the vessels or outboard in seawater, was proving problematic due to the corrosive/abrasive effects of salt crystals, silt and cargo dust. The increased use of ceramic-coated cylinder rods required high-performance sealing systems.

Solution: Zurcon Stepseal, Zurcon® Glyd Ring®, Zurcon® Excluder®

Result: Use of these high-performance materials engineered in patented sealing designs proved effective with ceramic-coated cylinder rods used for a wide range of marine applications. In the harshest working environments, the sealing systems proved long service life, reliability and sealing security.

PROPELLER SHAFTS

Under normal operating speeds, a water film separates the shaft from the bearing, ensuring minimal friction and wear. Designers required bearings for water-lubricated propeller shafts, ready equipped with water grooves.

Solution: Orkot® TLMM Marine bearings

Result: The excellent sliding properties ensure low friction from standstill and at low speed (when the water film is incomplete). Extended life is achieved for vessels frequently operated at low speed and undertaking reversing maneuvers.

LOADING SWIVELS

Loading swivels for offshore tanker mooring systems are very demanding sealing applications. Used as export/import terminals for offshore oil and gas, mooring systems operate in a slow oscillating motion at maximum pressures of 650psi (5MPa) and temperatures ranging from -40°F to 150°F (-40°C to 65°C). Leakage is an ongoing concern.

Solution: Turcon® Variseal® Face Seal

Result: The Face Seals provide low friction and long wear life. Chemical compatibility combines with these features to offer ideal sealing performance. Face seals from 19-77 inches (500-2000mm) in diameter are all successful for the operation.

