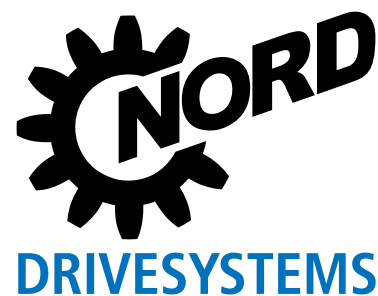


DRIVE SYSTEMS FOR CONVEYOR LINES

CASE STUDY: KRIJN VERWIJS



Resilient Solution

Withstanding harsh conditions



Salty Atmosphere

Conveyor lines that shed corrosion



Robust, Economic & Easy to Clean

Smooth surfaces and no cavities



nsd^{tupH} Surface Conversion

Protection on a molecular level



Smooth Surface Gear Motors

Easy washdown with no corrosion



In the Krijn Verwijs shellfish production center, rapid drive corrosion due to the seawater infused atmosphere has long been a major concern. Aluminum NORD systems with a specially treated surface now provide an economical solution to resolve this issue.

PROJECT CHALLENGE



Food Industry
Conveyor Lines



Geared Motors
Smooth Surface Motors
with nsd tuph treatment



Surface Conversion
nsd tuph protection

Krijn Verwijs is one of Europe’s foremost suppliers of shellfish products; blue mussels in particular. Fresh catches arriving at the factory are put into large basins with a constant flow of clean salt water, which keeps the product in good health while sand is thoroughly rinsed out. Provided that live mussels are conveyed wet as they come and the close proximity of these containers to the humid, salty atmosphere, all processing lines throughout the factory are inevitably exposed to harsh conditions.

Aggressive environment – The harsh environment leads to swift corrosion for all sorts of unprotected metal parts across all of the automated processes throughout the factory. In the case of conventional cast iron gear units, rusty spots first appear on brand-new systems in a matter of weeks, units generally need to be

replaced after only a year or two. Even special coatings or varnishes merely delay the onset of corrosion. Stainless steel drives never qualified as a solution either, since they proved not only very costly but impractical due to the required cool-down periods before every cleaning cycle.

Resilient, affordable, easy to clean – Frequent drive replacements used to be extremely common at Krijn Verwijs until the company learned of a new approach for drives installed in aggressive environments. The nsd^{tupH} surface conversion was introduced by NORD DRIVESYSTEMS enabling aluminum gearmotors – which are smooth bodied, light and very easily cleaned – to achieve levels of corrosive resistance similar to stainless steel.

FOCUS ON THE CUSTOMER



Krijn Verwijs Yerseke B.V. was established in 1880 as a breeding company for oysters. This family business has developed over the course of time into one of the largest players in the European crustacean and shellfish market. The company supplies mussels to supermarket chains and catering wholesalers in Europe under the brandname “Premier” and under private labels. Krijn Verwijs also offers a complete assortment of oysters, lobsters and various other types of shellfish.





“This new NORD solution means we no longer have to worry about drives all the time. We expect nsd^{tupH} systems to last at least five times as long as the old geared motors.”

**BRAM DE VISSER,
KRIJN VERWIJS TECHNICAL SERVICE**

APPLICATION SOLUTION

Krijn Verwijs has begun implementing nsd^{tupH} drive systems in order to provide a considerably longer service life in the salty atmosphere. Though these aluminum units come at a premium compared to the price of cast iron units, both the lab trials and extensive real-life testing at the factory in Yerseke indicate that nsd^{tupH} systems will last for the better part of the typical 10-year lifetime of a conveyor line, or even outlast the line. Krijn Verwijs will no longer have to purchase five to ten replacement drives for every unit, nor bother with the expense and effort for associated maintenance work.

Physically ingrained protection – The nsd^{tupH} option is not an applied coating, but rather a surface conversion where the base layer is permanently bonded to the substrate. Based on an electrolytic process, this treatment renders aluminum cases as unsusceptible to corrosion as stainless steel.

The scratch-resistant surface becomes more than six times as hard as untreated alloy, and a thousand times as hard as paint during the conversion process.

Smart alternative to stainless steel – Featuring a very lightweight, compact, and self-draining design, nsd^{tupH} systems may be easily washed down. They are impervious to common chemical cleaning agents. Neither rinsing them with acids or alkaline solutions nor applying high-pressure cleaners will do any damage to the surface. In addition, nsd^{tupH} surface treatments are available for all NORD aluminum products – unlike many stainless steel geared motor series, which most manufacturers limit to just a few model types.



Unaffected. – In contrast to standard cast iron gearmotors, nsd^{tupH} systems endure almost no corrosion.

FOCUS ON THE PROJECT

The salty atmosphere everywhere in the Krijn Verwijs Yerseke production center makes this seafood factory a textbook case for adverse environmental conditions – several hundred 1.5 kW class gearmotors in various conveyor lines have long suffered from rapid corrosion. A full transition to resilient nsd^{tupH} systems is now underway: in the months and years to come, every drive at Krijn Verwijs will eventually be replaced by an extra-durable NORD gear unit.



Resilient – a nsd^{tupH} system (left) vs. a regular cast iron geared motor (right).



**MORE REFERENCES AND
CASE STUDIES MAY BE FOUND AT :**

▪ www.nord.com/references



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Global Vision, Local Support

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