

# SURFACE AND CORROSION PROTECTION FOR EXTREME AMBIENT CONDITIONS



Geared motors from NORD with nsd tupH are the optimal choice for use in challenging ambient conditions.

## NO PAINT, NO FLAKING

Painted geared motor after 12 months of use in a damp and salty environment



Geared motor with nsd tupH surface treatment after 12 months of use in a damp and salty environment



## nsd tupH

### Sealed Surface Conversion System

- Easy to clean surfaces
- Resistant to acids and alkalis (wide pH range)
- No blistering, even if damaged
- Cannot flake
- Corrosion-resistant - prevents contact corrosion
- Alternative to stainless steel
- Complies with FDA Title 21 CFR 175.300
- Free from chromates



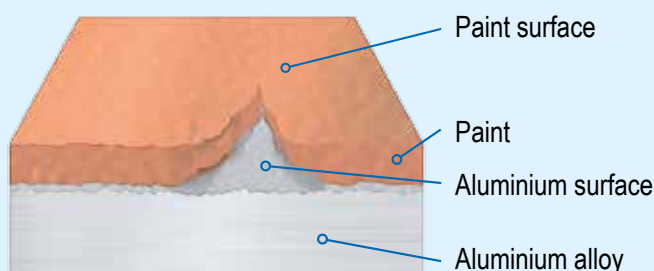
# SURFACE AND CORROSION PROTECTION FOR EXTREME AMBIENT CONDITIONS



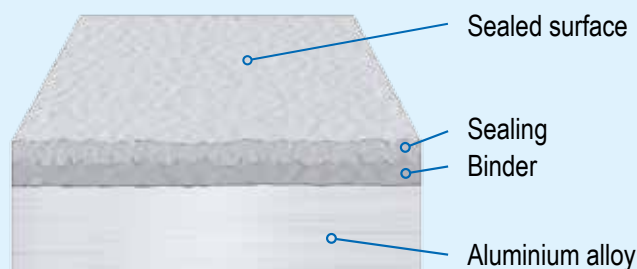
## nsd<sup>tupH</sup> – reduced costs, less weight, better process reliability

NORD DRIVESYSTEMS now has an answer for drive technology for extreme ambient conditions. Available for a wide range of familiar standard geared motors products - but with the resistance of stainless steel and an excellent price-performance ratio: nsd<sup>tupH</sup> surface treatment.

### How the nsd<sup>tupH</sup> Sealed Surface Conversion System works:



Paint is applied to the surface and can even conceal porous surfaces. Because the paint does not form a permanent bond with the material it can flake off, even with little use.



The nsd<sup>tupH</sup> process uses a binder which forms a permanent bond with the aluminium alloy and creates a perfect basis for bonding with the surface treatment. This combination provides extreme resistance and a harder surface than untreated aluminium.

### Extensive tests with nsd<sup>tupH</sup>:



Sprinkling of the products with hot water at 38 ° – 45 °C.



Foaming of the products with cleaning agents as well as 1.56 % acid.



Soaking time of 10 - 30 min. for each cleaning cycle.



Spraying with hot water at 38 ° – 45 °C under high pressure. Spraying with cleaning agents with 0.26 % concentration.\*



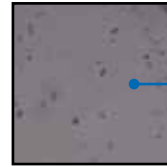
Spreading of corrosion in the region of a scratch test on a conventional painted surface.



Gravelometer test for flaking resistance on a painted surface according to ASTM D3179.



Example of an nsd<sup>tupH</sup> surface after a scratch test without spreading of corrosion.



Gravelometer test for flaking resistance according to ASTM D3179 on nsd<sup>tupH</sup>.

\* A comprehensive list of the tested cleaning agents can be requested by e-mail.

### The complete solution for extreme conditions

- nsd<sup>tupH</sup> Surface-treated housing component
- DIN and standard components made from stainless steel
- Washdown housing (gear unit and motor)
- Stainless steel shafts
- Special shaft sealing rings
- Food-compatible oil

### nsd<sup>tupH</sup> for extreme requirements

- Food and beverage industry
- Dairies
- Pharmaceutical industry
- Water and sewage plants
- Car washes
- Offshore and coastal areas
- Cleaning with chemicals (washdown, wide pH range)

### NORD products available with nsd<sup>tupH</sup>:



Motor starter  
SK 135E



Frequency inverter  
SK 135E



Smooth motors



Helical gear unit



Bevel gear unit  
SK 93x72.1



SMI worm gear unit



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