

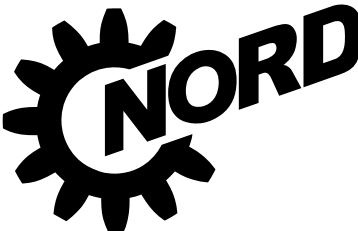
Perfect protection for your drive unit

Intelligent Drivesystems, Worldwide Services



(GB)

Surface protection for your drive unit



NORD
DRIVESYSTEMS

Optimal in every respect

Where the paintwork is always perfect

During operation, gear units and motors are subject to many environmental influences such as fluctuations in temperature and humidity or chemical and dynamic stresses. Optimal coatings and paints protect the surfaces to fulfil special requirements, particularly in sensitive areas, and blend in with the aesthetic appearance of the plant and the company. This is especially true for NORD drive solutions.

With innovative processes, certified quality and consistent fulfillment of a wide range of functions, we enable the durable, environmentally friendly and rapid implementation of your individual requirements. Right from the first glance, NORD DRIVESYSTEMS offers a unique variety of products and uniform quality standards throughout the world.



Always nearby worldwide

Our network of assembly and service facilities in 35 of the most important industrialised countries as well as 60 representatives throughout the world enables us to provide support close to the project, high availability of the necessary drive technology and rapid implementation of customers' individual requirements.



Protecting the environment – with high-solid paints

Less solvents and greater efficiency

We use the latest generation of high-solid paints, which reduces the emission of solvents far below the legally required limits. By complying with the VOC balance we make an important contribution to protecting the environment.

High solid paints contain a high proportion of solid material - up to 80% - and with a low solvent content of only approximately 20%, contribute considerably less environmental pollution than other industrial paints. The high-solid paints which we use combine the emission benefits of hydro paints with the functionality of solvent-based coating materials.

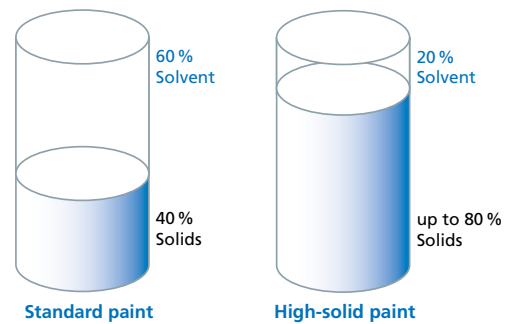
In addition, the lower solvent proportion allows very short drying times in production - a decisive advantage over water-based paint systems. The substrates materials for water-based paint systems have to be cleaned and de-greased with solvents before they are painted.

Ultimately, our customers benefit from faster production and delivery times.

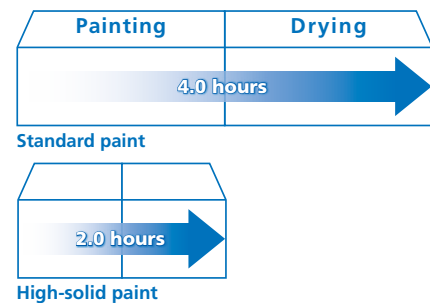
Energy efficiency as a company philosophy

NORD drive solutions are especially valued for their great energy efficiency. We also use the same optimisation standards for production in our factories.

SOLVENT REDUCTION



PROCESS OPTIMISATION








Coping with contamination - with the right coating system

Optimum protection for every application

NORD drive solutions are prepared for coating for individual installation by the customer. Our coating systems have been successfully tested by an independent laboratory - including:

- Cross cut test according to DIN EN ISO 2409 to test the adhesion of the paint system.
- Salt spray test according to DIN EN ISO 9227 to test corrosion resistance.
- Evaluation of degree of delamination according to DIN EN ISO 4628-8.

Coatings and their fields of application

Coating according to WN 3-080-02	Cast components	Approx. layer thickness	Layer thickness incl. pre-treatment	Field of application, achievable corrosion protection class
0	Pre-treated, primed			
1	Pre-treated, primed 2-pack spray primer	60 µm	60 – 100 µm	
2	Pre-treated, primed 2-pack top coat	50 µm	50 – 90 µm	C2 as per EN 12944 Indoor installation 
3.0	Pre-treated, primed 2-pack spray primer 2-pack top coat	60 µm 50 µm	110 – 150 µm	C2 as per EN 12944 For indoor installation and protected outdoor installation (e.g. open, unheated halls) 
3.1	Pre-treated, primed 2-pack spray primer 2-pack top coat 2-pack top coat	60 µm 50 µm 50 µm	160 – 200 µm	C3 as per EN 12944 Outdoor installation, city and industrial atmosphere with low contamination 
3.2	1-pack dip primer 2-pack EP primer 2-pack spray primer 2-pack top coat 2-pack top coat	50 µm 60 µm 50 µm 50 µm	210 – 250 µm	C4 as per EN 12944 Outdoor installation, city and industrial atmosphere with moderate contamination 
3.3	1-pack dip primer 2-pack EP primer 2-pack EP primer 2-pack top coat 2-pack top coat	50 µm 50 µm 50 µm 50 µm	200 – 240 µm	C5 as per EN 12944 Outdoor installation, city and industrial atmosphere with high contamination, filling of all screw heads, holes and gaps. 
Z	additional to selected coating (except 3.3) Filling			Filling similar to coating 3.3
A	additional to selected coating 2-pack clear lacquer	40 µm		Antimicrobial coating
22	additional to selected coating 2-pack spray primer	60 µm		additional for colours with poor colour coverage

The coating structures are similar to those for the DIN EN ISO 12944 corrosion categories. This makes it easy for users to select the correct coating structure according to the ambient conditions at the operating site.

Clean appearance - in your colour

Globally valid quality for your corporate identity

Throughout the world, NORD DRIVESYSTEMS offers you a uniform series of standard colours as well as preferred colours. In addition we also implement individual solutions according to your specifications, which optimally match the corporate design of your company.

Standard colours are held in stock in our painting facilities throughout the world and are therefore always available:

RAL 7031 Blue-gray
RAL 5010 Blue

Preferred colours are also available for your gear units and motors almost immediately:

RAL 5009 Sky-blue
RAL 6011 Reseda green
RAL 7032 Satin
RAL 7035 Light gray
RAL 9005 Deep black
RAL 996P White aluminium

RAL 7031 Blue-gray structured paint
RAL 7043 Traffic gray B structured paint

RAL 7802 Light gray primer
RAL 9110 White primer

Special colours according to RAL, BS, Munsell, Pantone or even according to colour samples can be supplied at extra charge within 5 working days.





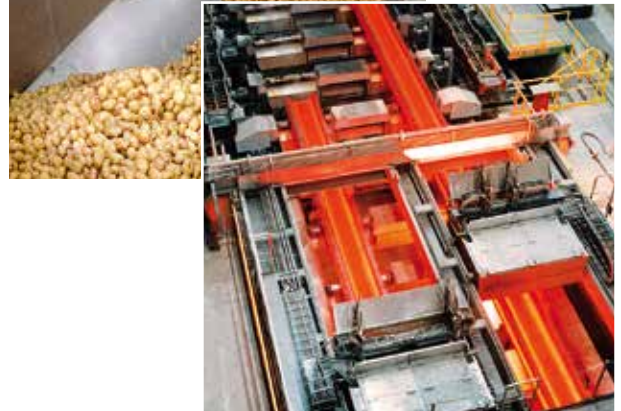
Preserve safety - with the right top coat

Tested paint systems for special requirements

The paint systems used by NORD uses are **resistant to chemicals**. They have been tested for their resistance to all important substances which could have a negative environmental effect.

After full drying of the paint system, NORD paints are **suitable for foodstuffs** and fulfil the NSF/ANSI 51-2009e test criteria. No further top coats are required.

Antibacterial paints are possible for **all** paint systems. For this, a final clear lacquer containing antimicrobial silver ion particles (layer thickness approx. 40µm) is applied, which does not affect the colour.



Powder coating for decentralised drive technology

Because of their extremely robust and durable properties, powder coatings are very suitable for the electrical industry. Surfaces which are treated in this way are resistant to impact, scratches and wear. They are resistant to weather and chemicals and are even more robust than conventional NORD paints.

In the electrical industry, the anti-static properties of electrically conducting powder paints are relevant for the prevention of static charging of the drive units. Potential interference is eliminated and down time probability is minimised. The subject of environmental protection is becoming increasingly important in the field of surface coatings. Powder coating does not use solvents, but rather dry powder, which is melted onto the workpiece in a kiln.



Environmentally friendly high performance coatings for SK 200E series decentralised frequency inverters with IP66 protection class.

nscd^{tupH} combined advantages of a stainless steel drive unit with those of a light metal standard gear unit

Revolutionary process for reducing costs

Drive technology for extreme external conditions in a standard geared motor product type with which you are familiar – however, with the resistance of stainless steel and an outstanding price/performance ratio - NORD DRIVESYSTEMS now has an answer for these requirements. **nscd^{tupH}**

In a special process, an extremely durable protective layer is created from the base material. Together with a special sealing process, this layer is up to 7x harder than the basic aluminium material and up to 1000x harder than paints and lacquers. This provides a unique protection against corrosion.

Together with DIN and standard components made from stainless steel, stainless steel drive shafts, stainless steel motor as well as an optional food-compatible oil filling, a drive unit with NORD **nscd^{tupH}** treatment provides an optimum package for extreme installation conditions.



The **nscd^{tupH}** system

- **nscd^{tupH}** treated housing components
- DIN and standard stainless steel components
- Wash down housing
- Foodstuff-compatible oil
- Optional stainless steel shafts
- Optional stainless steel motor

nscd^{tupH} for extreme conditions

- Cleaning with chemicals (wash down)
- High relative humidity
- Offshore and coastal areas
- Food and beverage industry
- Car wash systems
- Dairies
- Pharmaceuticals
- Water and sewage plants

Some of the **nscd^{tupH}** advantages

- Cost effective alternative to stainless steel
- Resistant to corrosion and chemicals
- Easy to clean surfaces
- Lighter than stainless steel
- No white rust
- Does not flake

The advantages at a glance	Paint	Nickel and nickel-Teflon coating	Stainless steel	nscd^{tupH}
No flaking of coatings	--	--	++	++
No coating	--	--	++	++
Corrosion resistant	+	+	++	++
Costs	+	+	--	+
Weight	++ ¹	++ ¹	--	++
Available product range	+	+	--	+
Non uniform coating	--	-	++	++
Thermal conductivity	+	+	--	+
Scratch resistance	--	--	++	+

¹ Only with aluminium gear units



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