

Surface Protection for NORD Drive Solutions

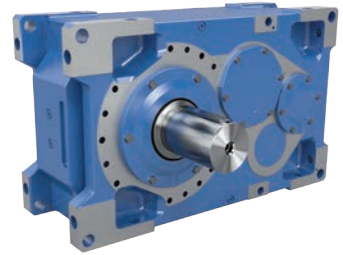


Complete Drive Solutions from a Single Source



NORD Delivers

NORD offers first-class customer service and support along with full-featured drive solutions that can tackle the toughest requirements. All components are carefully selected and precisely configured to meet your exact specifications. In the rare case that standard components won't meet your needs, our in-house engineering team will work with you to design custom components or a complete customized system.



Reduce Lead Times and Decrease Inventory

- ▶ Fastest lead times in the industry with NO expedite fees
- ▶ Over 20,000,000 standard configurations to reduce or eliminate the need for custom components
- ▶ Modular drives, motors, and electronic controls minimize inventory of replacement units and parts



Global Product Designs, Standards, and Support

- ▶ Innovative, industry-standard products to support a wide range of applications
- ▶ Global sales and support network
- ▶ Dedicated mechanical and electrical application engineers ready to assist you
- ▶ Online resources available to you any time
- ▶ 24/7/365 emergency breakdown service



Increase Efficiency and Reduce Operation Costs

- ▶ myNORD online tools for fast selection, configuration, ordering, and tracking of your drive units
- ▶ Drive systems that are perfectly matched to your application for optimum performance and energy efficiency
- ▶ Program personalization, such as weekly shipment schedules and custom nameplates
- ▶ Partner with a company that is easy to do business with and wants to see you succeed!



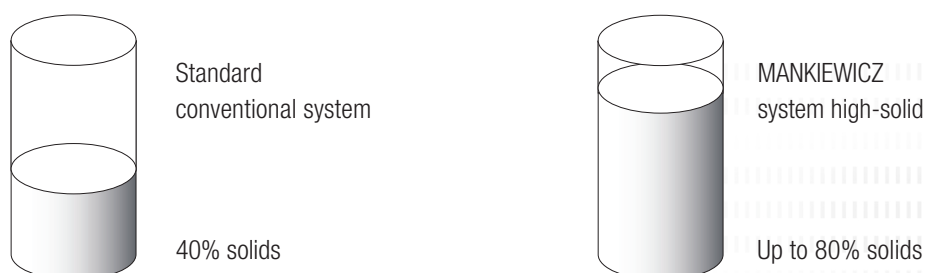
Fewer Solvents and Greater Efficiency

We use the latest generation of high-solid paints, which reduces the use of solvents to levels far below the legally required limits. High-solid paints is a term used to identify a paint that is formulated with a high concentration of resin – up to 80% – and a small concentration of solvents. As a result, these paints contribute considerably less environmental pollution than other industrial paints. The high-solid paints we use combine the emission benefits of hydro paints with the functionality of solvent-based coating materials. By complying with the VOC standards, we make an important contribution to protecting the environment. In addition, the lower solvent proportion of our paints allows for 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.

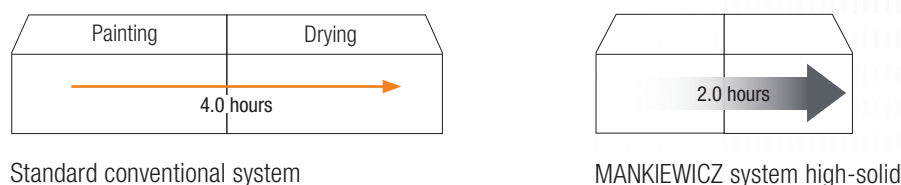
Energy Efficiency as Corporate Value

Drive solutions from NORD DRIVESYSTEMS are valued for their high energy efficiency. We apply the same optimization standards to our own production in our plants.

Solvent Reduction



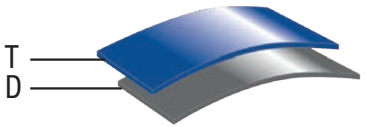
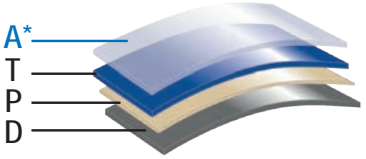
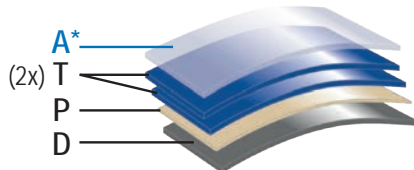
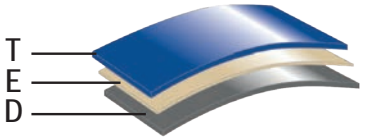
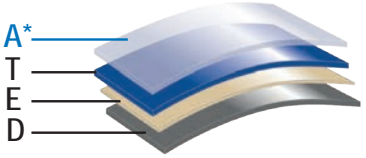
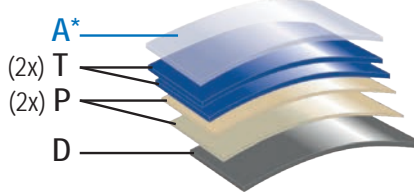
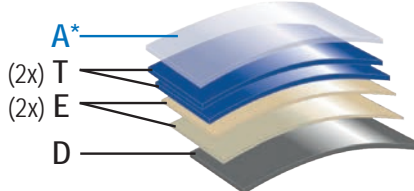
Process Optimization



Optimum protection for every application – our coating systems have been successfully tested by an independent laboratory

- ▶ 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
- ▶ All NORD paints are USDA compliant

Surface Protection for NORD Drive Solutions

Coating / Field of Application		Class *	Structure
Basic Indoor installation: Unheated buildings where condensation may occur (warehouses, etc...)		C2	T D 
NORD Severe Duty 2 (NSD2) NORD Severe Duty 2+ (NSD2+) Indoor installation: Unheated buildings where condensation may occur (warehouses, etc...) Outdoor installation: Atmosphere with low pollution level, mostly rural areas		C2	A* T P D 
NORD Severe Duty 3 (NSD3) NORD Severe Duty 3+ (NSD3+) Indoor installation: Production rooms with high humidity and increased levels of air pollution, e.g. laundries, breweries, dairies Outdoor installation: Urban and industrial atmosphere with moderate sulfur dioxide pollution and/or coastal atmosphere with low salinity		C3	A* (2x) T P D 
NORD Severe Chem Duty 3 (NSDC3) Indoor installation: Production rooms with high humidity and increased levels of chemical air pollution		C3	T E D 
NORD Severe Food Duty 3 (NSDF3) NORD Severe Food Duty 3+ (NSDF3+) Indoor installation: Production rooms with high humidity and increased levels of air pollution, e.g. food packaging		C3	A* T E D 
NORD Severe Duty 4 (NSD4) NORD Severe Duty 4+ (NSD4+) Indoor installation: Chemical plants, swimming pools, offshore shipyards, and boat harbors Outdoor installation: Industrial or coastal atmosphere with moderate salinity		C4	A* (2x) T (2x) P D 
NORD Severe Duty 5 (NSD5) NORD Severe Duty 5+ (NSD5+) Indoor installation: Buildings or areas with near-permanent condensation and high levels of pollution Outdoor installation: Industrial areas with high humidity, aggressive environments, or coastal atmosphere with high salinity		C5	A* (2x) T (2x) E D 
Z	Leveling of contour recesses and gaps with polyurethane-based sealant possible for NSD2, NSD3, and NSD4; included in NSD5	T	2-Component Polyurethane Top Coat
		E	2-Component EP Zinc Phosphate Primer
A*	Optional clear top coat (+ versions)	P	2-Component Polyurethane Primer
		D	Single Component Dip Primer (for cast-iron units only)

* Comparable to DIN EN ISO 12944-2 classification of ambient conditions
Protocol of the coating thickness based on ISO 19840 available on request

Global Quality to Reinforce your Corporate Identity

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

U.S. standard colors:

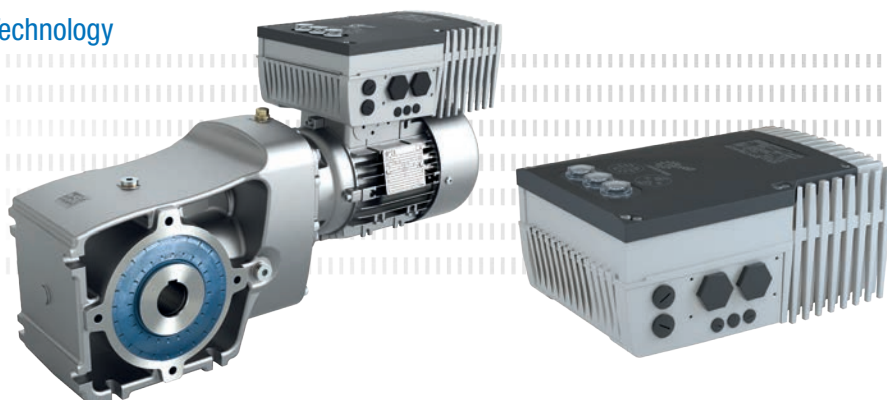
- ▶ RAL 9007C Gray Aluminum / Stainless Steel Gray
- ▶ RAL 9003 Signal White
- ▶ RAL 5009 Azure Blue

Global standard colors are stocked in our painting facilities throughout the world:

- ▶ RAL 7031 Blue-Gray
- ▶ RAL 5010 Blue
- ▶ Other options include special colors according to RAL, BS, Munsell and Pantone

Powder Coating for Decentralized Drive Technology

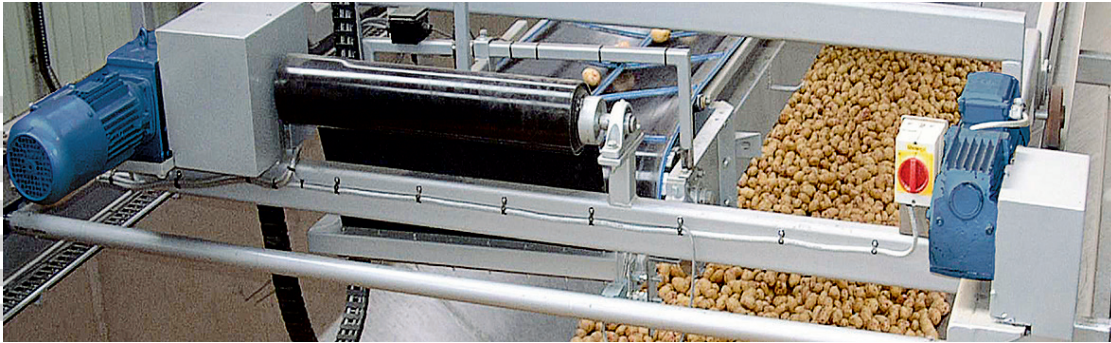
Environmentally friendly
high performance coatings for
SK200E series decentralized
variable frequency drives
with IP66 protection class



Due to their extremely robust and durable properties, powder coatings are highly suitable for the electrical industry. Surfaces treated in this way are resistant to impact, scratches, and wear. They are also resistant to weather and chemicals, making them even more durable 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 downtime is minimized. Environmental protection is becoming increasingly important in the field of surface coatings. NORD offers powder coating options that do not use solvents, but rather dry powder, which is melted onto the unit in a kiln.

Surface Protection for NORD Drive Solutions



The paint systems used by NORD DRIVESYSTEMS are resistant to chemicals and have been tested for their resistance to all common substances which could have a negative affect on the environment. Once fully dry, NORD paints are food-safe and fulfil the NSF/ANSI 51-2009e test criteria. No further top coats are required. NORD's protective properties extend beyond paint coatings and surface treatments for its products. All NORD motors and speed reducers are constructed to provide a high degree of protection against wet and severe conditions. A variety of standard and optional features are available to help your NORD gear unit endure the harshest environmental conditions year after year.

Standard Gear Unit Features

- ▶ UNICASE™ housing design
- ▶ AUTOVENT™ breather
- ▶ Factory primer on all cast-iron components
- ▶ Corrosion-resistant nameplate

Optional Gear Unit Features

- ▶ Stainless steel output shafts
- ▶ Stainless steel hardware
- ▶ Custom venting solutions – stainless steel, filtered vents

Standard Motor Features

- ▶ Shaft lip seals on both ends of the motor shaft
- ▶ Sealed stator to endbell connections to exclude moisture
- ▶ Moisture-resistant varnish dipped windings
- ▶ Double coated magnetic wire insulation
- ▶ Conduit box sealed with gaskets
- ▶ Corrosion-resistant alloy materials
- ▶ Tropical protection – inorganic insulating components

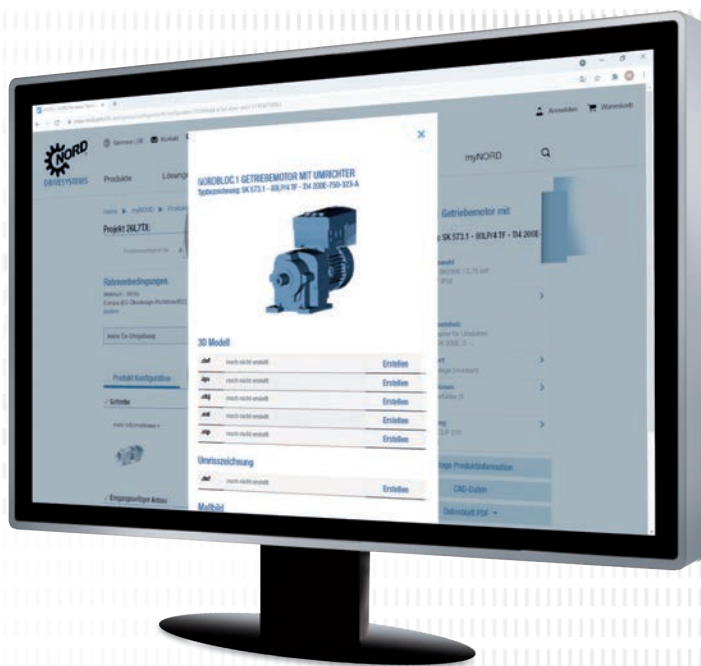
Optional Motor Features

- ▶ IP66 enclosure protection (IP55 standard)
- ▶ Condensation drain holes (KB or KBO)
- ▶ Resin-sealed terminal box (KKV)
- ▶ Epoxy-dipped motor windings (EP)
- ▶ Drip covers – canopy cover or double fan cover (RD or RDD)
- ▶ Totally enclosed non-ventilated (TENV)
- ▶ Space heaters (SH)
- ▶ Brake protection options
 - ▶ Stainless steel brake plate (RG)
 - ▶ Rubber dust boot with stainless brake plate (SR)
 - ▶ IP66 sealed brake
 - ▶ Sealed brake rectifiers



Ordering is Easy With myNORD Online Tools!

- ▶ Obtain drawing files direct from quote configuration
- ▶ Effortlessly select & configure customized drive solutions
- ▶ Create quotes with account-specific net pricing
- ▶ Order-specific documentation
- ▶ 24/7/365 order tracking
- ▶ Select and order spare parts



Register now at myNORD.com!



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