

## PRODUCT DATA SHEET

# King<sup>®</sup> Nordic Cable

### HIGH PERFORMANCE NEAT ANCHORING GROUT FOR COLD WEATHER APPLICATIONS

#### PRODUCT DESCRIPTION

King<sup>®</sup> Nordic Cable is a high performance, easily pumpable, pre-mixed and pre-packaged unsanded cementitious anchoring grout specially designed for cold weather applications.

#### USES

King<sup>®</sup> Nordic Cable is ideal for anchoring applications in cold weather and in different types of substrates subject to frost:

- Most grouted anchor requirements including cable bolting, earth tie-backs for excavation or soil stabilization, grouting anchors in tunnel support systems, re-bar grouting, and grouting soil or rock tendons for anchoring piles or foundation structures

- Grouting of most types of anchors such as tendons, cables, dowels or bolts used in substrates subject to frost (freezing index below 3500 degree days)
- Practical for curing temperatures between 23°F and 40°F (-5°C and +5°C)

Contact your Sika STM Technical Representative for more information.

#### CHARACTERISTICS / ADVANTAGES

- Excellent compressive strength development in cold weather and permafrost
- Excellent pumpability
- Excellent cohesion and plastic stability
- Thixotropic properties reduce material loss in fractured ground
- Non-corrosive, non-chloride, non-metallic

#### PRODUCT INFORMATION

CSI / CSC MasterFormat <sup>®</sup>	03 62 13   NON-METALLIC, NON-SHRINK GROUTING
Packaging	66 lb (30 kg) bags Custom packaging is available to suit specific project requirements
Shelf Life	12 months in original, unopened packaging
Storage Conditions	Store in a dry, covered area, protected from the elements For optimum performance it is recommended to store the material between 40°F - 95°F (5°C - 35°C) Protect from moisture, discard material if damp

# TECHNICAL INFORMATION

## Compressive Strength

	ASTM C39	
	Curing temp 23°F (-5°C)*	Curing temp 40°F (5°C)*
6 hours	2900 psi (20 MPa)	3625 psi (25MPa)
1 day	3625 psi (25 MPa)	4350 psi (30 MPa)
7 days	4350 psi (30 MPa)	4640 psi (32 MPa)
28 days	5075 psi (35 MPa)	5075 psi (35 MPa)

Cylinder sample 3" diameter x 6" height (75 mm x 150 mm)

*\*All of the testing materials including the molds, pre-packaged material and mixing tools, were pre-conditioned at curing temperature prior to testing*

## Tensile Strength

	ANCHORING STRENGTH	ASTM E488M
1 day		22,480 lbf (100 kN)
2 days		24,730 lbf (110 kN)

Grout Temperature of 68°F (20°C) | Curing Temperature of 23°F (-5°C)  
3" (75 mm) bore hole with #8 (25M) rebar [Rebar diameter: 1" (25 mm)]

## Bleeding

0.0% (No Segregation)	ASTM C940
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# APPLICATION INFORMATION

Fresh mortar density	131lb/ft <sup>3</sup> (2100 kg/m <sup>3</sup> )	ASTM C109
Coverage	0.66 ft <sup>3</sup> (18.7 L) of grout per 66 lb (30 kg) bag Yield in service may slightly vary according to projects conditions	
Flowability	25 ± 5 seconds	ASTM C939
Product Temperature	Above 59°F (15°C) before using	
Mixing Ratio	2.6 US gal. per 66 lb bag (9.9 L per 30 kg bag)	
Substrate Temperature	23°F to 40°F (-5°C to +5°C)	
Application Time	Maximum: 20 minutes	

## BASIS OF PRODUCT DATA

Results may differ based upon statistical variations depending upon mixing methods and equipment, temperature, application methods, test methods, actual site conditions and curing conditions.

## ENVIRONMENTAL, HEALTH AND SAFETY

For further information and advice regarding transportation, handling, storage and disposal of chemical products, user should refer to the actual Safety Data Sheets containing physical, environmental, toxicological and other safety related data. User must read the current actual Safety Data Sheets before using any products. In case of an emergency, call CHEMTREC at 1-800-424-9300, International 703-527-3887.

## APPLICATION INSTRUCTIONS

### MIXING

- In order to achieve the mechanical and plastic properties listed in the Technical Data section, the bags of King® Nordic Cable and batching water must be maintained in a dry, closed/contained environment protected from the elements. Material must be kept at temperatures above 59 °F (15°C) and the water should be conditioned to temperatures ranging from 59°F and 77°F (15°C and 25°C), prior to mixing. The plastic temperature of King® Nordic Cable after mixing must be between 59°F and 77°F (15°C and 25°C). It is recommended to store and operate the grout mixer in a dry and closed environment, ex. container protected from the elements and maintained at temperature ranging from 59°F and 77°F (15°C and 25°C).
- Use potable water only. Introduce the required volume of water into the paddle mixer and gradually add product while operating at medium speed. Increase the mixer speed and continue mixing for two (2) minutes. Then, decrease the mixer speed to low and continue mixing while placing the grout. The time between the mixing and pumping of a batch should not exceed 20 minutes. **Note:** If a thicker consistency is desired, contact your Sika STM Technical Representative for additional information.
- When mixing a single 66 lb (30 kg) bag of King® Nordic Cable, it is possible to use a hand-held electrical drill mixer fitted with an appropriate mixing-paddle designed to mix unsanded grouts.

### APPLICATION

- Not recommended for areas subjected to extremely high vibrations.
- Adhere to recommended water additions. Exceeding water:material ratio will result in reduced compressive strengths and inferior physical properties.
- Not recommended when ambient temperature is greater than or equal to 40 °F (5 °C). Refer to In-Pakt Precision or MS-Cable when ambient temperature is greater than or equal to 40 °F (5 °C).

### OPTIMUM PERFORMANCE:

- Temperature of freshly mixed grout must be between 59°F and 77°F (15°C and 25°C).
- Not recommended for areas subjected to extremely high vibrations.
- It is recommended to use a bore hole size that is at least 2" (50 mm) greater in diameter than the reinforcing steel used, in order to ensure that enough grout is present in the anchor for proper performance.
- Adhere to recommended water content; exceeding the recommended water:material ratio will result in reduced compressive strengths and inferior physical properties.
- Mortar style mixers are not recommended for mixing King® Nordic Cable.
- Not recommended when curing temperatures exceed 40°F (5°C)

### CLEANING OF TOOLS

Clean all tools and equipment after use with water. Once hardened, the product can only be removed mechanically.

### OTHER RESTRICTIONS

See Legal Disclaimer.

## LEGAL DISCLAIMER

- KEEP CONTAINER TIGHTLY CLOSED
- KEEP OUT OF REACH OF CHILDREN
- NOT FOR INTERNAL CONSUMPTION
- FOR INDUSTRIAL USE ONLY
- FOR PROFESSIONAL USE ONLY

Prior to each use of any product of Sika Corporation, its subsidiaries or affiliates ("SIKA"), the user must always read and follow the warnings and instructions on the product's most current product label, Product Data Sheet and Safety Data Sheet which are available at [usa.sika.com](http://usa.sika.com) or by calling SIKA's Technical Service Department at 1-800-933-7452. Nothing contained in any SIKA literature or materials relieves the user of the obligation to read and follow the warnings and instructions for each SIKA product as set forth in the current product label, Product Data Sheet and Safety Data Sheet prior to use of the SIKA product.

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