

PRODUCT DATA SHEET

King® Nordic Cable

HIGH PERFORMANCE NEAT ANCHORING GROUT FOR COLD WEATHER APPLICATIONS

PRODUCT DESCRIPTION

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

WHERE TO USE

King® 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 -5 °C (23 °F) and +5 °C (40 °F)

**Contact your Sika Technical Representative for recommendations or information on uses or conditions not listed above.*

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

CSC MasterFormat®	03 62 13 NON-METALLIC, NON-SHRINK GROUTING
Packaging	<ul style="list-style-type: none"> ▪ 30 kg (66 lb) bags <small>*Custom packaging is available to suit specific project requirements</small>
Shelf Life	12 months in original, unopened packaging
Storage Conditions	Store dry, ensuring that product is not exposed to rain, condensation or high humidity
Density	Mass Density ASTM C109 2100 kg/m ³ (131lb/ft ³)

Compressive Strength75 mm (3 in) diam. x 150 mm (6 in) high cylinder
Grout Temperature: +20 °C (68 °F)

ASTM C39

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

Tensile Strength

75 mm (3 in) bore hole with 25M (#8) rebar [Rebar diam.: 25 mm (1 in)]

ASTM E488M

Grout Temperature: +20 °C (68 °F)

Curing Temperature: -5 °C (23 °F)*

1 day	100 kN (22 480 lbf)
2 days	110 kN (24 730 lbf)

Bleeding

Nil

ASTM C940

Segregation: Nil

APPLICATION INFORMATION**Mixing Ratio**

Maximum recommended volume of water: 9.90 L (2.61 US gal.) / 30 kg (66 lb) bag

Yield~18.7 L (0.66 ft³) of fluid grout / 30 kg (66 lb) bag**Flowability**

20–30 s

ASTM C939

Product Temperature

Condition product at temperatures above +15 °C (59 °F) before using

Substrate Temperature

-5 °C (23 °F) to +5 °C (40 °F)

Application Time

Maximum: 20 minutes

BASIS OF PRODUCT DATA

All technical data stated in this Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

**All of the testing materials including the molds, pre-packaged material and mixing tools, were pre-conditioned to -5 °C (23 °F) prior to testing.*

***All of the testing materials including the molds, pre-packaged material and mixing tools, were pre-conditioned to +5 °C (40 °F) prior to testing.*

WHERE TO USE

- Not recommended for areas subjected to extremely high vibrations
- 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 +5 °C (40 °F)

ENVIRONMENT, HEALTH & SAFETY

User must read the most recent corresponding Safety Data Sheets (SDS) before using any products. The SDS

provides information and advice on the safe handling, storage and disposal of chemical products and contains physical, ecological, toxicological and other safety-related data.

APPLICATION INSTRUCTIONS**MIXING**

In order to achieve the mechanical and plastic properties listed in the Technical Data section, the plastic temperature of King® Nordic Cable after mixing must be between +15 °C and +25 °C (59 °F and 77 °F). 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 +15 °C (59 °F) and the water should be conditioned to temperatures ranging from +15 °C (59 °F) to +25 °C (77 °F), prior to mixing. 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 +15 °C (59 °F) to +25 °C (77 °F)).

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

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(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 Technical Representative for additional information.

When mixing a single 30 kg (66 lb) 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

OPTIMUM PERFORMANCE

- Temperature of freshly mixed grout must be between +15 °C (59 °F) and +25 °C (77 °F)
- It is recommended to use a bore hole size that is at least 50 mm (2 in) greater in diameter than the reinforcing steel used, in order to ensure that enough grout is present in the anchor for proper performance

CLEAN UP

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

LOCAL RESTRICTIONS

Note that as a result of specific local regulations the declared data and recommended uses for this product may vary from country to country. Consult the local Product Data Sheet for exact product data and uses.

LEGAL NOTES

The information, and, in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with Sika's recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product must test the product's suitability for the intended application and purpose. Sika reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.