

Nordic Cable is a high performance, easily pumpable, anchoring grout specifically designed for cold weather applications with curing temperatures ranging from -5 °C (23 °F) to 5 °C (40 °F). This product is a pre-blended and pre-packaged, unsanded grout that contains cementitious materials and other carefully selected components. Nordic Cable is ideal for cold weather applications such as the anchoring of cables, tendons or bolts of various dimensions, in different substrates subject to frost.

FEATURES & BENEFITS

- 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
- All KING products are manufactured using ISO 9001:2015 Certified Processes

USES

- 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 KING Technical Representative for recommendations or information on uses or conditions not listed above

PROCEDURES

Mixing: In order to achieve the mechanical and plastic properties listed in the Technical Data section, the plastic temperature of Nordic Cable after mixing must be between 15 °C (59 °F) and 25 °C (77 °F). The pre-packaged bags of Nordic Cable and the batching water used to mix the grout must be maintained in a dry, closed container/environment that is protected from the elements. The pre-packed bags of Nordic Cable must be kept at a temperature above 15 °C (59 °F) and the water should be conditioned to a temperature ranging from 15 °C (59 °F) to 25 °C (77 °F), prior to mixing. It is recommended to store and operate the mixer in a dry and closed container/environment that is protected from the elements and conditioned to a temperature ranging from 15 °C (59 °F) to 25 °C (77 °F).

For a 30 KG (66 lb) bag, the maximum recommended volume of water is 9.90 L (2.61 US gallons). Use potable water only. Introduce the required volume of water into the paddle mixer and gradually add Nordic Cable while operating at medium speed. If a thicker consistency is desired, contact your KING representative for additional information.

Increase the mixer speed and continue mixing for 2 minutes. Mortar-style mixers **are not recommended** for this purpose. 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. When mixing one 30 KG (66 lb) bag of Nordic Cable, it is possible to use a hand-held electrical drill mixer with an appropriate mixing-paddle designed to mix an unsanded grout.

TECHNICAL DATA

The following data is representative of typical values achievable under laboratory conditions. Results in the field may vary.

MASS DENSITY

ASTM C 109

2100 kg/m³ (131 lb/ft³)

WORKING TIME

20 minutes maximum

FLOW

ASTM C 939

20-30 seconds

COMPRESSIVE STRENGTH

ASTM C 39

75 MM (3") DIAMETER x 150 MM (6") HIGH CYLINDER
GROUT TEMPERATURE OF: 20 °C (68 °F)

CURING TEMPERATURE OF:

| | | |
|---------------|----------------------------|----------------------------|
| | -5 °C (23 °F) [†] | 5 °C (40 °F) ^{††} |
| 6 Hour | 20 MPa (2900 psi) | 25 MPa (3625 psi) |
| 1 Day | 25 MPa (3625 psi) | 30 MPa (4350 psi) |
| 7 Day | 30 MPa (4350 psi) | 32 MPa (4640 psi) |
| 28 Day | 35 MPa (5075 psi) | 35 MPa (5075 psi) |

TENSILE STRENGTH

ASTM E 488M

75 MM (3") BORE HOLE WITH 25M (#8) REBAR
[REBAR DIAMETER OF 25 MM (1")]

GROUT TEMPERATURE OF: 20 °C (68 °F)

CURING TEMPERATURE OF: -5 °C (23 °F)[†]

| | |
|--------------|---------------------|
| 1 Day | 100 kN (22,480 lbf) |
| 2 Day | 110 kN (24,730 lbf) |

BLEEDING

ASTM C 940

Nil

SEGREGATION

Nil

[†]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.

OPTIMUM PERFORMANCE

- Temperature of freshly mixed grout must be between 15 °C (59 °F) and 25 °C (77 °F).
- Not recommended for areas subjected to extremely high vibrations.
- It is recommended to use a bore hole size that is at least 50 mm (2") 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.
- Not recommended when curing temperature is greater than 5 °C (40 °F).

YIELD

30 KG (66 lb) bag contains approximately 18.7 L (0.66 ft³) of fluid grout.

PACKAGING

Nordic Cable is normally packaged in 30 KG (66 lb) triple-lined bags and polywrapped on wooden pallets. All KING products can be custom packaged to suit specific job requirements.

STORAGE AND SHELF LIFE

Material should be stored in a dry, covered area, protected from the elements. Unopened bags have a shelf life of 12 months.

SAFETY PROCEDURES

Nordic Cable contains cement. Normal safety-wear such as rubber gloves, dust mask and safety glasses used to handle conventional cement based products should be worn. Safety Data Sheets are available upon request.

Warranty: This product is designed to meet the performance specifications outlined in this product data sheet. If the product is used in conditions for which it was not intended, or applied in a manner contrary to the written recommendations contained in the product data sheet, the product may not reach such performance specifications. The foregoing is in lieu of any other warranties, representations or conditions, expressed or implied, including, but not limited to, implied warranties or conditions of merchantable quality or fitness for particular purposes, and those arising by statute or otherwise in law or from a course of dealing or usage of trade. [REV.0003_2459121.5]

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