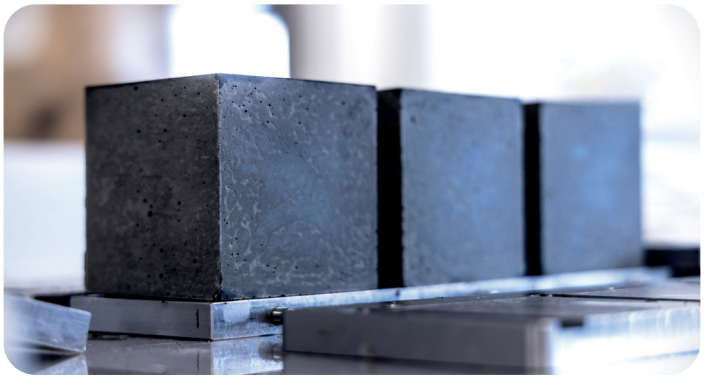
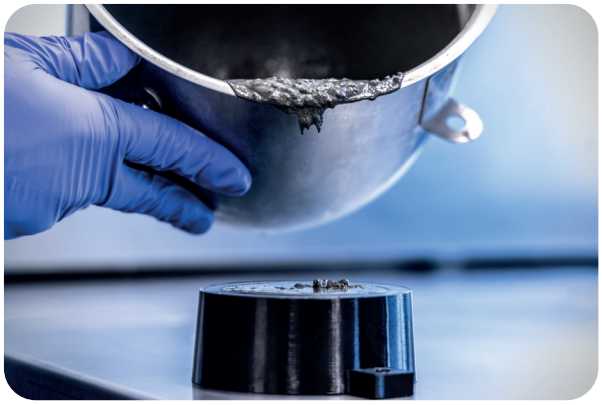
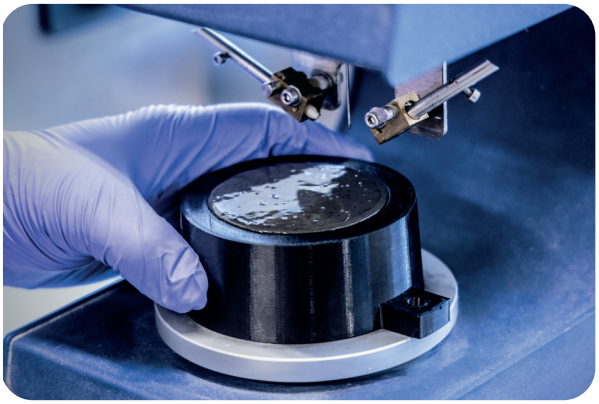
Y-MatTec®G2000

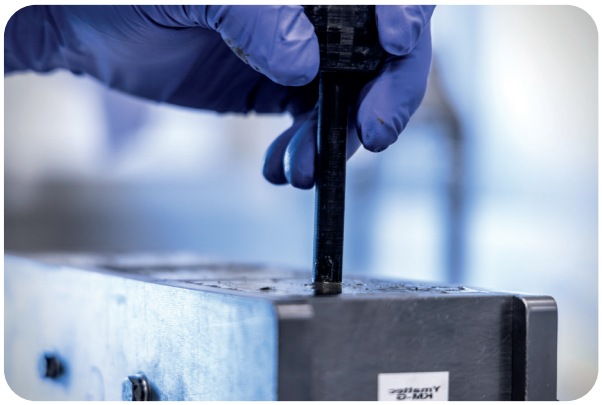
Ultra-high performance concrete
for on- and offshore grouted connections

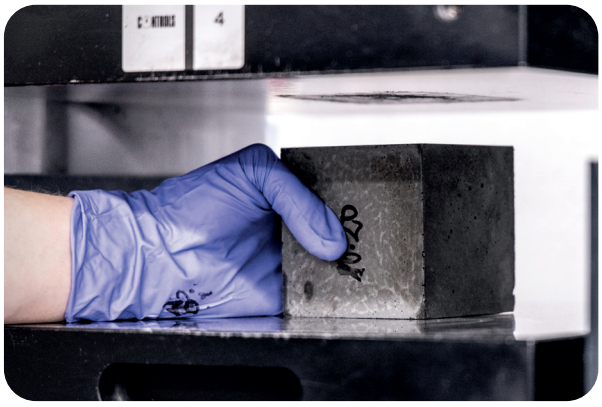


Y-MATTEC









APPLICATIONS

Y-MatTec® G2000 is an ultra-high strength shrinkage compensated grout material with high flowability designed for used in on- and offshore grouted connections and grout trenches in connection with onshore wind turbines.

CHARACTERISTICS

Y-MatTec® G2000 has extremely good flow properties that makes it possible to grout narrow constrictions with very low water cement ratio at very low temperature or very high temperature and at the same time obtain a high early strength with 24 hours expansion more than 0.1 %. Hereto Y-MatTec®G2000 has demonstrated very good fatigue resistance and a relative low heat development.

Application thickness from 25 mm to 600 mm.

Y- MatTec® G2000 is to be mixed with 8.0 to 8.3% potable water at 20˚C (based powder mass) in an adequate mixer, normally a paddle mixer. The amount of mixing water is depending on ambient temperature – higher temperature increases the water demand. The product can be mixed and used within ambient temperature from 2˚C (7.2 -7.5 % mixing water) to 30˚C (8.3 – 8.5 % mixing water). At any temperature, it is recommended to make a flow test before the application, to set the correct water dosage.

Powder is added into the mixer followed by mixing water and mixed for approximately 6 minutes depending on the effectiveness of the mixer.

The surface to be grouted must be clean, free from dirt, oil grease or other contaminations. Concrete surfaces to be grouted has as well to be water saturated and with no free standing water just prior to grouting.

After grouting the grouted surface must be protected for drying either by use of plastic cover or approved curing compound.

As Y-MatTec® G2000 is a special grout material application must be done by trained and qualified personnel.

QUALITY MANAGEMENT SYSTEM

Development, production and sales are covered by Y-MatTec's quality management system certified in accordance with ISO 9001;2015 by DNV. The system indicates quality supervisors, routines for in-house inspection and documented routines.

Y-MatTec is hereto certified according to the Environmental Management System ISO 14001;2015 and Occupational Health and Safety Management System ISO 45001;2018 by DNV. Y-MatTec®2000 is CE marked according to EN1504-3 and 6. Hereto Y-MatTec G2000 is Offshore certified according to DNV ST C502 and DNV SE 0295.

DNV OFFSHORE CERTIFIED
Y-MatTec®G2000 is certified according to DNV-ST-C502 with TAK number 0000235

RENEWABLES CERTIFICATION
DNV
TYPE CERTIFICATE
DNV-ST-C502

MANAGEMENT SYSTEM CERTIFICATION
DNV
ISO 9001 · ISO 14001
ISO 45001

CE
Y-MatTec A/S
Nybovej 34, 7500 Holstebro, Denmark
http://www.y-mattec.com
21
0764 – CPR – 0333
EN 1504-6 Anchoring product
Pull out strength:
Displacement ≤0.6 mm at 75 kN load
Chloride ion content: ≤0.05%
Reaction to fire: Euroclass A1
Dangerous substances: Comply with 5.3

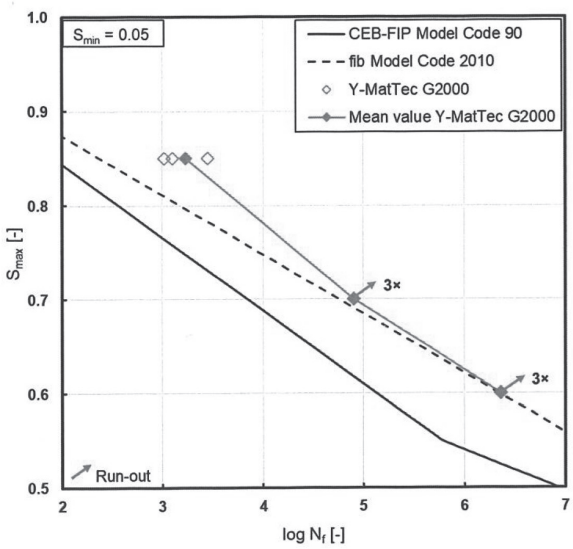


Figure 1: Numbers of cycles to failure N_f for 'Y-MatTec G2000'

PACKAGING AND DISTRIBUTION

Y-MatTec® G2000 is manufactured at Y-MatTec's facilities in Holstebro, Denmark with the use of Y-MatTec's automatic production facilities and can be supplied in 25 kg paper bags and 250 / 500 / 1000 kg FIBC bags.

The yield is approximately 440 litres per ton material.

Quality control is done at Y-MatTec's internal laboratory.

Y-MatTec® G2000 has a shelf life of 12 months, if stored in a sheltered and dry place in its original packaging away from direct sunlight and heat, not exceeding 40°C. When stored under high temperature and high humidity conditions, the shelf life may be reduced.

HEALTH RISKS

Y-MatTec® G2000 is a cement-based product and should be stored out of reach of children.

It is dangerous if consumed.

If Y-MatTec® G2000 gets into the eyes, it can lead to serious eye injuries.

Mixed Y-MatTec® G2000 forms calcium hydroxide which is an irritant to the skin.

For further info we refer to the MSDS.

Technical Data

Mixing water demand [%]	5°C 7.2 - 7.5 % of dry mix		20°C 8.0 - 8.3 % of dry mix		35°C 8.3 - 8.5 % of dry mix	
Pot life of mixed material [hours]	3		3		3	
Processing time [hours]	2		2		2	
Setting time [Min] EN196-3	Initial: 6 - 8 hours				Final: 8 - 10 hours	
Flow [mm]ASTM C1437 / EN 1015-3	Initial: 280 - 310				After one hour: >250	
Flow trough [mm] EN 13395-2 Classification F1*	Initial: ≥ 550				After half an hour: ≥ 450	
Air content [%] EN 1015-7	≤ 2.5					
Compressive strenght classification*	> C100/115					
Early compressive strenght classification*	A					
Compressive strength 75 mm cubes, 20°C [MPa] EN12390-3	1 day > 65	3 days > 95	7 days > 110	14 days > 115	28 days > 130	56 days > 140
Compressive strength 40x40x160 mm prisms, 20°C [MPa] EN 196-1	1 day > 60	3 days > 85	7 days > 100	14 days > 110	28 days > 120	56 days > 130
Compressive Strength, Characteristic [MPa]**	121.5					
Density [g/cm3] EN12390-7	2.38 – 2.46					
Static Modulus of Elasticity, [GPa] EN 12390-13	> 47					
Flexural Strength [MPa] EN 196-1 (Prism 40 x 40 x 160)	17					
Splitting Tensile Strength [MPa] EN 12390-6 (15 x 30 cm Cylinders)	8					
Pull Out Anchoring [mm] Displacement at 75kN load EN 1881	≤ 0.6					
Shrinkage Classification*	SKVM 0					
Expansion, 24 hours [Vol. %] DIN 4227-5	> 0.1					
Drying Shrinkage [mm/m] EN 12617-4	< 0.3					
Autogenic Shrinkage [mm/m] Until 56 days ASTM 1698	< 0.3					
Exposure Classes* EN 206-1, EN 1045-2	XC4, XD3, XS3, XF3, XA2, WF					

*Classification according to "DAfStb-Richtlinie – Herstellung und Verwendung von zementgebundenem Vergussbeton und Vergussmörtel, Ausgabe Juli 2019".
All data are given for conditions of 21 +/- 2°C and 60 +/- 10% RH.
The technical data provided do not represent guaranteed minimum values. ** Fcck based on 150/300 cylinders

Note:
Similar to all other recommendations and technical information, the information given in this TDS serves only as a description of the products characteristics, area of use and application is expected to be done by trained and professional personal. The data and information given are based on the best technical knowledge in the area of cement and concrete technology. The given data and consumption are obtained in a controlled laboratory environment and may be subject to variations due to different work conditions. Actual consumption and dosage should be determined on the job based of prior tests at the worksite. Our Technical Service Team is at your disposal for further recommendations. Y-MatTec reserves the right to modify the composition of the products provided these continue to comply with the data given. For liabilities of products sold we refer to our General Sales and Delivery Terms. Y-MatTec® - Registered trademark of Y-MatTec.

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