

**MINING / CONSTRUCTION**

**Minotop 4**

**FREE FLOWING CONCRETE**

**DESCRIPTION**

Minotop 4 is a one-component material, ready for use after mixing with the batched water. It is a dry, cement-based mortar with high quality aggregate up to 8 mm and modified with additives. The highly fluid nature of Minotop 4 obviates the need for compaction and vibration even where access to the repair zone is restricted or where reinforcement is congested.

**APPLICATION AND USE**

- Repair and reconstruction of concrete and reinforced concrete
- Anchoring metal elements in concrete
- Filling space between concrete and steel elements

**ADVANTAGES**

- Exceptional flow allows pumping or pouring into restricted locations
- Self-compacting nature eliminates honeycombing and displaces air without vibration
- Excellent bond to concrete substrates without independent primer
- Unique dual expansion system offers an extremely high level of control of plastic and long-term drying shrinkage
- Pre-bagged to overcome site-batched variations – only the site addition of clean water is required
- Thanks to low chloride content prevents the corrosion of steel reinforcement
- Non-combustibility



**TECHNICAL DATA**

The data below are laboratory data. They may vary in practice due to surface properties of the substrate, humidity, pressure, and other factors.

**PRODUCT CHARACTERISTICS**

Parameter	Minotop 4
Compressive strength after 24 h (EN 1015-11)	≥ 25 MPa
Compressive strength after 28 days (EN 1015-11)	≥ 80 MPa
Flexural strength after 28 days (EN 1015-11)	≥ 10 MPa
Pull-off strength (EN 1542)	≥ 2.0 MPa
Freeze-thaw resistance	F300
Capillary absorption (PN-EN 13057)	0.14 $\frac{\text{kg}}{\text{m}^2\text{h}^{0,5}}$
Consistence (EN 1015-3)	≥ 300 mm
Fresh concrete density (EN 1015-06)	2200 ± 100 kg/m <sup>3</sup>

**COMPONENT CHARACTERISTICS**

Parameter	Minotop 4
Colour / form	grey powder with aggregates < 8 mm
The thickness of one layer: minimum/ maximum thickness	15 mm / 100 mm
Amount of water per 25 kg bag	2,4 – 2,6 litres
Pot life at 20 °C	60 minutes
Output	20 kg/m <sup>2</sup> /10 mm
Ambient temperature and substrate during application	min.+5 °C; max +30 °C

**APPLICATION METHOD**

1. Surface preparation

Before application of Minotop 4, remove loose fragments of rock, concrete, dust, greasy stains, formwork release agent etc. Make sure that the equipment and main lines located at the work place are secured & protected. In order to improve adhesion to the substrate surface it is recommended to dump it with water prior to application. For the best results, wet the concrete surface 24 hours before performing the repair. If necessary, remove excess water prior filling with the grout.

2. Equipment

Small quantities can be mixed in a suitably sized drum using a spiral paddle with a slow speed (400/500 rpm) heavy-duty drill.

Greater quantities should be mixed using a forced-action batch mixer or in a continuous action placer.

3. Execution

If mixing small quantities by hand, add one bag 25 kg of the Minotop 4 powder to 2,4 - 2,6 litres of drinking quality water. This should be mixed vigorously for a minimum of 5 minutes.

For larger volumes, measure 2,4-2,6 litres of drinking quality water (per one 25 kg bag) and pour ¾ of volume into the mixer and, with the machine in operation, add bag(s) of Minotop 4 and mix for one minute before adding the rest of the water. Then mix for a minimum of 3 minutes. Dependent on the ambient temperature and the desired consistency, the amount of water required may vary slightly but should not exceed 2,6 litres per 25 kg bag of Minotop 4. Do not subsequently re-temper with extra water.

Note: that in all cases Minotop 4 powder must be added to water.

In case of use continuous mixing placers (e.g. MAI 4YOU, Kaleta-1, BAPRO ONE) follow equipment manufacturer’s guidelines.

Free-fall mixers must not be used.

4. Cleaning

Clean tools with water. When hardened clean mechanically.

5. Curing

Minotop 4 requires curing, particularly under strong drying conditions. Minotop 4 should be cured immediately after finishing in accordance

with good concrete practice. In very fast drying conditions, supplementary curing with polythene sheeting taped down at the edges should be used.

In cold conditions, the finished repair must be protected from freezing.

## **SAFETY INSTRUCTIONS AND LIMITATIONS**

It is recommended that gloves, eye protection and a dust mask are used when handle Minotop 4. For more details refer to our Material Safety Data Sheet.

The material should not be applied when the substrate and/or air temperature is 5°C and falling. At 5°C static temperature or at 5°C and rising, the application may proceed.

At ambient temperatures above 30°C, the material should be stored in the shade and cool water used for mixing.

## **PACKAGING AND TRANSPORTATION**

25 kg valve sack, 40 bags per pallet. Other packing on request.

## **STORAGE AND SHELF LIFE**

Shelf life 6 months when stored in dry and cool conditions.

## **DISPOSAL**

Follow local regulations.

## **DISCLAIMER**

The Minova Logo is a registered trademark.

Copyright © 2019 Minova. All rights reserved

All information contained in this document is provided for informational purposes only and is subject to change without notice. Since Minova cannot anticipate or control the conditions under which this information and its products may be used, each user should review the information in the specific context of the intended application. To

the maximum extent permitted by law, Minova specifically disclaims all warranties express or implied in law, including accuracy, non-infringement, and implied warranties of merchantability or fitness for a particular purpose. Minova specifically disclaims, and will not be responsible for, any liability or damages resulting from the use or reliance upon the information in this document.

ME-NS/TE/03/32-02/ Minotop 2 e02 (May 2017)

## **ADDITIONAL DOCUMENTATION**

- Minotop 4 MSDS

## **LIST OF REPRESENTATIVES**

- AUSTRIA: Minova MAI GmbH
- CZECH REPUBLIC: Minova Bohemia s.r.o.
- FRANCE / BELGIUM: Sales office Minova France / Belgium
- GERMANY: Minova CarboTech GmbH
- ITALY: Minova CarboTech GmbH Italy branch
- KAZAKHSTAN: Minova Kazakhstan LLP
- POLAND: Minova Ekochem S.A.; Minova Arnall Sp. z o.o.; Minova Ksante Sp. z o.o.
- RUSSIA: ZAO "Carbo-ZAKK"
- SLOVAKIA: Minova Bohemia s. r. o., organizačná zložka
- SOUTH AFRICA: Minova Africa (Pty) Ltd.
- SPAIN: Minova Codiv S.L.U.
- SWEDEN / NORWAY: Minova Nordic AB
- UNITED KINGDOM: Minova Weldgrip Ltd.; Minova International Ltd.
- APAC: Minova Australia Pty Ltd.
- AMERICAS: Minova USA Inc.

## **CUSTOMER SERVICE**

For additional support options available at your area, contact our local offices.

[www.minovaglobal.com](http://www.minovaglobal.com)