

DENKA NATMIC AF-S

Alkali-Free Liquid Accelerator for Shotcrete

Description

DENKA NATMIC AF-S is alkali-free accelerator for sprayed concrete that can be used for civil engineering works such as road and railway tunnels, headraces, and in mines. The accelerator is applied where initial rock support is needed or where a permanent lining will be placed.

Features

- Quick setting time and high initial strength
- Development of high compressive strength after 28 days and excellent long-term durability
- Very low dust emissions
- Very low rebound
- Alkali free (Alkali ion content is less than 1%)

Typical applications

- Rock support in tunnels and mines
- Slope stabilization
- TBM tunnel linings

Technical data

Color/Form	Yellowish brown/Suspension
Density (20°C, g/cm ³)	1.30–1.50
pH	2.0–3.0
Viscosity at 20 °C (mPa s)	500–1500
Thermal stability	+5 °C to +40°C
Alkali content (Na ₂ O equiv. %)	<1

Packaging

- 1200 kg containers
- 260 kg plastic drum

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Dosage and water to binder ratio

- The dosage of DENKA NATMIC AF-S depends on the temperature, cement reactivity, setting time, strength development, and required thickness of the layers. The dosage of DENKA NATMIC AF-S ranges from 3 to 12 % of the binder weight.
- When DENKA NATMIC AF-S is used for wet-mix sprayed concrete, the water to binder (cement or cement plus fly ash and/or silica fume) ratio should be below 0.5 and preferably <0.45.
- The dosage of the product should be optimized for the spraying process after spraying trials.

Precautions for handling

- Refer to Safety Data Sheet (SDS) before use.
- Do not mix with other accelerators or chemical admixtures because chemical reactions may occur that cause the product to separate or precipitate. Particular care should be taken with nitrites, thiosulfates, and rhodanate compounds, which will generate poisonous gas when mixed with DENKA NATMIC AF-S.
- DENKA NATMIC AF-S should not be mixed with concrete containing blast furnace slag (BFS) as this will generate hydrogen sulfide.
- Protective wear (goggles, mask, gloves, and rubber boots) should be worn during handling.
- The dosing pump and other equipment should be acid-resistant because DENKA NATMIC AF-S is acidic.
- Do not dispose of DENKA NATMIC AF-S in drains.
- The product in open containers should be used up completely or the container should be resealed for storage.
- For further information, please contact DENKA.

Limitation of liability

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Denka
<http://www.denka.co.jp/eng/>

DENKI KAGAKU KOGYO K.K.
Special Cement Additives Department
TEL: +81-3-3507-5465 FAX: +81-3-3507-5085

-China-
**DENKA INFRASTRUCTURE
TECHNOLOGIES SHANGHAI**
ROOM 2807, NEW HONGQIAO
CENTER BLDG
NO.83 LOUSHANGUAN RD,
CHANG NING AREA, SHANGHAI CHINA
TEL: +86-21-6236-5510
FAX: +86-21-6236-5505

-Asia-
**DENKA INFRASTRUCTURE
TECHNOLOGIES PTE LTD**
4 SHENTON WAY #29-02 SGX
CENTRE 2 SINGAPORE 068807
TEL:+65-6216-0580
FAX:+65-6224-3840

-Europe-
DENKA CHEMICALS GMBH
WEHRHAHN-CENTER, CANTADOR STR.3,
DUSSELDORF, GERMANY
TEL: +49-211-130990
FAX: +49-211-329942