

# Omnitek Inject RX/RU/RF

Granulated blast furnace slag micro-fine cement for grout injections.



**• field of application**

- Geotechnical grouting.
- Consolidation of crushed vaults, rock formations etc.
- Consolidation and waterproofing of masonry structures.
- Seal gaps between sheet piles.
- Reinforcing foundations of buildings.
- Facilitate all types of excavation for the construction of subways, breakwaters & bridge piers.
- Stabilisation of earth foundations.
- Oil well remedial cementing.
- Not suitable for use with the CementGel injection systems.

**• advantages**

- Ultra fine particle size (6 µm to 16 µm) allows grout to penetrate even into fine cracks.
- Ultra fine grains are chemically activated so curing provides rapid hardening to high strength.
- Chemically and physically compatible with the treated environment.
- Excellent durability.
- Resistant to aggressive agents: sulphates, chlorides, acids, ...
- Low permeability.

**• description**

Omnitek Inject RX/RU/RF are granulated blast furnace slag based micro fine cements designed for grouting into soil, rock and concrete.

Omnitek Inject RX/RU/RF feature a maximum particle size from  $d_{95} \leq 6 \mu\text{m}$  to  $d_{95} \leq 16 \mu\text{m}$ .

Omnitek Inject RX/RF/RU are comparable to cements with high sulphate resistance according to DIN 1164-1.

**Grain size**

- Omnitek Inject RX :  $d_{95} \leq 6 \mu\text{m}$ .
- Omnitek Inject RU :  $d_{95} \leq 9,5 \mu\text{m}$ .
- Omnitek Inject RF :  $d_{95} \leq 16 \mu\text{m}$ .

**• application**

**1. For use as a micro-fine Injection grout**

- Grouts made with Omnitek Inject RX/RU/RF need the use of a superplasticiser to avoid flocculation of the particles and improve penetration of the grout in the injection environment.

### Typical example of grout formulation with Omnitek Inject RU

W/C ratio	1	2
Omnitek Inject NS (% weight to cement)	3	3
Water / superplasticiser per 25kg bag (l)	25	50
Omnitek Inject NS per 25kg bag (kg)	0,75	0,75
Omnitek Inject RU Grout per 25kg bag (l)	Approx. 33	Approx. 58
Grout density (kg/dm <sup>3</sup> )	Approx. 1,49	Approx. 1,29
Marsh cone time (sec/dm <sup>3</sup> )		
0 minutes after mixing	Approx. 32	Approx. 31
30 minutes after mixing	Approx. 32	Approx. 31
60 minutes after mixing	Approx. 32	Approx. 32
Bleed (% volume)		
120 minutes	≤ 2	≤ 5
Compressive strength (Mpa)		
1 day	≥ 3	≥ 0,5
7 days	≥ 10	≥ 5
28 days	≥ 15	≥ 7,5

Tests according to "Instruction leaflet for grouting works with micro fine cements in soil (2002)" at 20°C.

### 2. Grout preparation

- The grout is mixed with a high speed mixer (1500 - 3000 rpm) for at least 5 minutes. It is also recommended to continuously mix the grout at low speed during the injection stage in order to prevent sedimentation of the micro-fine cement.

### 3. Mixing procedure

- Add the required amount of water
- Add 3% of cement weight in Omnitek Inject NS and mix for 30 seconds.
- Add Omnitek Inject RX/RU/RF and mix at high speed (1500-3000 rpm) for 5 minutes.

The recommended time of workability after mixing is up to 60 minutes. The slurry should be moved continuously during the grouting process. Grout characteristics should be checked according to "Instruction leaflet for grouting works with micro fine cements in soil".

### • technical data/properties

Type	RX	RU	RF
Bulk specific gravity	± 0,7	± 0,7	± 0,7
Density (kg/dm <sup>3</sup> )	± 2,9	± 2,9	± 2,9
Specific Blaine surface (m <sup>2</sup> /kg)	± 1900	± 1600	± 1200
Grain size d <sub>50</sub> (µm)	≤ 2,5	≤ 3,5	≤ 5
Grain size d <sub>95</sub> (µm)	≤ 6	≤ 9,5	≤ 16
Compressive strength (MPa) (*)			
1 day	≥ 25	≥ 10	≥ 5
7 days	≥ 45	≥ 35	≥ 15
28 days	≥ 70	≥ 70	≥ 65

Tested according to EN196-1 and 3 at 20°C.

### • appearance

Standard: grey powder.

### • packaging

#### Omnitek Inject RX/RU/RF

25 kg bags with internal plastic liner.

1 pallet = 50 bags.

#### Omnitek Inject NS

0,75 kg plastic bottle.

1 box = 16 bottles.

1 pallet = 24 boxes.

- **storage**

Omnitek Inject RX/RU/RF should be stored under cover, clear of the ground. Protect the material from all sources of moisture and frost.  
Rotate stock in order not to exceed the shelf life of 6 months.

- **health & safety**

Omnitek Inject is a cement-based product can therefore cause burning to skin and eyes, which should be protected during use.

Wear gloves and protective goggles. Wearing a dust mask is recommended. Wash splashes to eyes and skin immediately with clean water. Consult a doctor when irritation continues. If accidentally ingested, drink water and consult a doctor.

For full information, consult the relevant Material Health and Safety Data Sheet.

*All data mentioned on this technical data sheet are product descriptions. They are the result of general experience and experiments and don't take any specific application into account. No further demands may be derived from these data. The manufacturer has the privilege to implement technical changes, which result from new research concerning the material composition and form. To verify that you are holding the latest version of this technical Data Sheet, please visit [www.deneef.com](http://www.deneef.com).  
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