

High-performance admixture for anti-washout MIGHTY VT 200LS-A

“MIGHTY VT 200LS-A” is one-liquid type product for easy to use. This product was developed for the purpose of improving viscosity for grouting, filler and concrete in field of civil engineering and construction.

“MIGHTY VT 200LS-A” includes of two type surfactants that forms superstructure; “wormlike micelle” by intermolecular force. This micelle gives new function and can be applied to various applications.

[Features / Advantages]

MIGHTY VT 200LS-A can be provide some performance together such as “Flow ability”, “Early strength” and “Material separation resistance” which has been difficult by current method.

- **Material separation resistance** : “VT 200 LS-A” produces concrete that has high material separation resistance with vibration, high-pressure in the water.
- **Early strength** : It has good performance of no retardation and getting early strength compared to current product with cellulose and polymer type.
- **Pumpability** : Superstructure that is called “wormlike micelle” is ease to move concrete by small stress. So, the ability of pumpability is so excellent in spite of high viscosity.
- **pH versatility** : VT 200LS-A has wide range pH from acidly to Alkalinity, so not influence of viscosity. Besides, can be used seawater for mixing.
- **fresh condition** : VT 200LS-A can be provide various character for slurry such as viscous fluid and elastic body likely gam by adjusting amount used

[Application]

VT 200LS-A allows for the production below.

Grouting and filler for civil engineering and construction

Grouting material for repair and reinforcement

[Characteristics]

○ Composition	Alkyl aryl sulfonic acid salt and Alkyl ammonium salt
○ Aspect	Colorless ~ Light yellow liquid
○ pH	2.0~5.0
○ Density	1.045~1.065 g/cm ³

[Using method]

1. About dosage

◇Recommend dosage is 1~10%/W (normally: over 2%) depends on the target and application.

◇Water value of concrete or mortar is including “MIGHTY VT200LS-A”

2. Method of slurry prepare

1. Adding powder in the water and preparing normal slurry
2. After that putting VT 200LS-A in this slurry and mixing to homogeneous.
→ by using hand mixer, mortar mixer or concrete mixer
3. After mixing 30 to 60 sec, slurry is changing high viscosity and elasticity.

Note: If add VT to primal mixing water, it becomes high viscosity.

It takes a long time to homogenize slurry in this case.

Note: Please use silicone type deformer in case of adjusting air amount

I . Cement paste test

- **Material** : Cement : Ordinary Portland cement (Density 3.16)
Water : Tap-water
Thickener : MIGHTY VT 200LS-A
- **Composition** : W/C=100%
- **Method** : Cement+Water → 30sec mixing → VT 200LS-A → 60sec mixing →
→ Measure (Temp.:20°C)
- **Viscosimetry** : Visco Tester (Rotational viscometer: made by RION corp.)
- **Anti-washout test** :just seeing. (paste → 500ml water in beaker)

【Test result】

Viscosity =(mPa·s)

Dosage W × %	W/C 100%	
	Viscosity	Anti Wash-out
4.0	1100	○~△
6.0	16000	○
8.0	20000	○

II . Mortar test

- Material: Cement (C) : Ordinary Portland cement (Density: 3.16)
 Fine aggregate (S) : Mountain sand (Density 2.58)
 Water (W) : Tap-water
 Thickener : MIGHTY VT 200LS-A
 Admixture : MIGHTY 21HP (PCE type superplasticizer)

- Mortar composition:

W/C (%)	C	S	W	VT 200LS-A (WX%)	21HP (C × %)
50	400g	885g	200g	2.0/5.0/8.0	0.5~1.0

- Mixing method (by mortar mixer) :
 C+W (inc. 21HP)+S → 30 sec mixing → VT 200LS-A → 60 sec mixing →
 → Measure (Temp.: 20°C)
- Measurement method:
 - **Flow test** : Mortar cone (JIS R 5201)
 - **Anti-washout test** : just seeing. (mortar putting to water in beaker)
 - **Bleeding test** : Measure of weight of bleeding water after 1 hour

【Test result】

VT 200LS-A (WX%)	Mortar flow (mm)	Anti-washout	Bleeding water (mL)
2.0	283	△~○	0.0
5.0	262	○	0.0
8.0	233	◎	0.0

[Safety]

- Anyone who intend to use this product, please wear protective equipment such as safety goggles, groove, mask and so on.
- Be careful not to put it in eyes. Wash off immediately with clean water in case of it getting eyes. After that, please go to an eye doctor.
- Drinking much water and throw up in case of swallowing it. After that, please get any medical treatment from a doctor.
- Wash hand and face after use it.

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