

# HNP-1500

## Nanofine Cement

HNP-1500 is a special purpose “nano-fine” cementitious grout material with a D50 particle size of 1.5 micron (1,500 nanometer). It challenges small pores and thin fissures for which ultrafine cements do not permeate

### PROPERTIES

- Specific Gravity : 2.94 g/cm<sup>3</sup>
- D95 Particle Size : 3.0 micron
- D50 Particle Size : 1.5 micron
- Initial Set Time : 16 hours
- Final Set Time : 19 hours
- Bleeding : 1 – 3%
- UCS ( $\sigma_7$ ) : 54.8 N/mm<sup>2</sup>
- UCS ( $\sigma_{28}$ ) : 61.9 N/mm<sup>2</sup>

\*UCS measured in accordance with JIS R5201

### ADVANTAGES

- More permeable than Ultrafine Cements
- Non-Toxic Cementitious Grout
- Greater Strength than Chemical Grouts
- Long Term Durability

### APPLICATIONS

- Pre- and Post-Excavation Grouting
- Water Cut-Off Grouting
- Prevention of Liquefaction

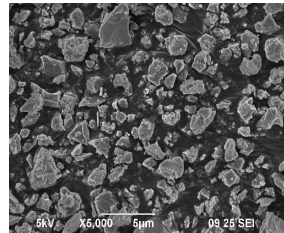
### DISPERSANT

- 1.5% of ML-3000

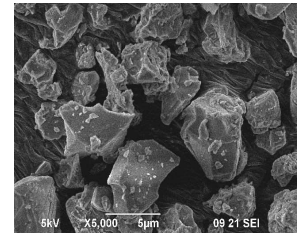
### PACKAGE

- 20kgs (44lb) NET P.E. bag
- ML-3000 in 18 liter NET can

### PARTICLE SIZE

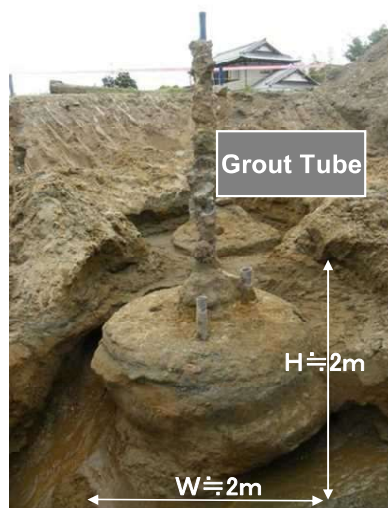
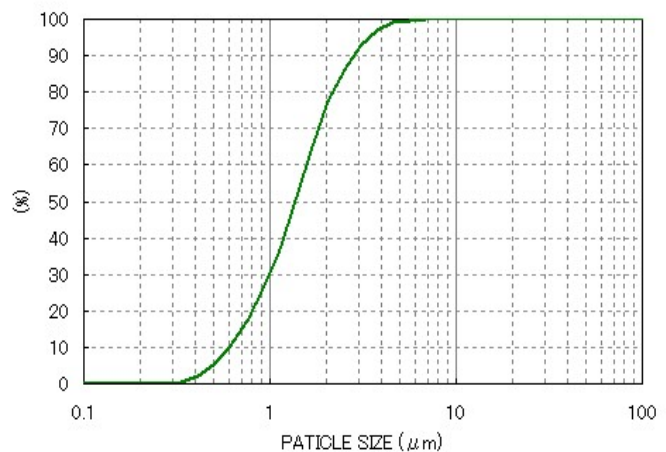


HNP-1500



SUPERFINE

### PARTICLE SIZE DISTRIBUTION



【Condition】 W:C = 4:1, 15 liter/min

【Result】 7N/mm<sup>2</sup>, K = 1 x 10<sup>-10</sup>m/sec