

# ECONEX® AD-R

## AE Water Reducer - Retarding Type

### Introduction

ECONEX® AD-R is a liquid type admixture based on lignosulfonate. It improves the quality of concrete by reducing W/C ratio, and also gives good workability. Special retarding agents within the product, retards the setting time of concrete to prevent cracks due to high hydration heat.

### Properties

- Appearance : Dark brown liquid
- Specific Gravity(20°C) : 1.19±0.05
- Chloride Content : Nil

### Advantages

- Improves workability
- Reducing W/C ratio
- Increases compressive strength
- Increase durability
- Works good with Fly ash, Slag, Silica fume
- Preventing cracks by retarding the setting time of concrete

### Usage

- Standard structure
- Standard use in ready mix concrete
- Pre-stressed concrete structures
- Secondary concrete

### Dosage

- 0.2~1.5% wt. % of total binder
- The dosage range is applicable to most concrete mixtures using typical concrete ingredients. However, variations in job conditions and concrete materials, such as silica fume, may requires dosages outside the recommended range.

### Test results

[Ordinary Concrete Lab Test]

#### Mix design

|       | W/C (%) | S/a (%) | Unit Weight(kg/m <sup>3</sup> ) |     |     |      | AD (Cx%) |
|-------|---------|---------|---------------------------------|-----|-----|------|----------|
|       |         |         | W                               | C   | S   | G    |          |
| Plain | 61.7    | 44.2    | 185                             | 300 | 834 | 1064 | -        |
| I     | 55.0    | 42.7    | 165                             | 300 | 783 | 1063 | 0.6      |
| II    | 53.3    | 42.7    | 160                             | 300 | 788 | 1070 | 0.9      |

Materials C : OPC(S.G. 3.15) S : River Sand (S.G. 2.60)  
G : Crushed Gravel (S.G. 2.63) AD : ECONEX AD-R

#### Test results

|                                      |         | Plain | I     | II    |
|--------------------------------------|---------|-------|-------|-------|
| Dosage(%)                            |         | -     | 0.6   | 0.9   |
| Water Reduction(%)                   |         | -     | 10.8  | 13.5  |
| Slump(cm)                            |         | 8.0   | 8.0   | 8.0   |
| Air(%)                               |         | 1.5   | 4.1   | 4.1   |
| Bleeding(%)                          |         | 100   | 60    | 57    |
| Setting Time (Hr : Min)              | Initial | 7:10  | 8:30  | 9:00  |
|                                      | Final   | 9:20  | 10:55 | 11:20 |
| Compressive Strength (% of concrete) | 3day    | 100   | 108   | 110   |
|                                      | 7day    | 100   | 114   | 115   |
|                                      | 28day   | 100   | 112   | 114   |
| Elongation(%)                        |         | 100   | 104   | 104   |

### Packaging

- 200 liter drum
- 1,000 liter drum
- Flexitank

