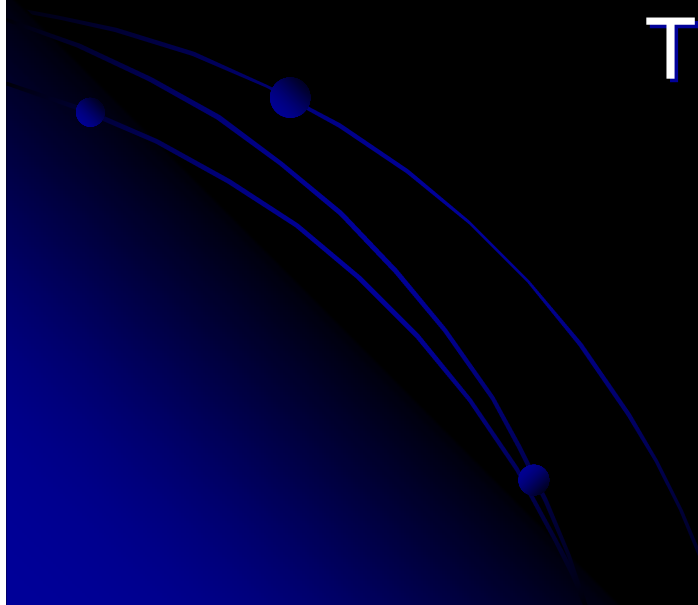


# 11-4 chemical admixtures for concrete

TR A 0014: 2001  
(Pre-JIS)



# Introduction

- This technical report has been prepared based on JIS by investigating various overseas standards including EN.
- When the international conformance of various related standards progresses, this will be the alternative standard of the existing JIS.

# 1. Scope “chemical admixtures”)

- This TR specifies;
  - Air entraining admixture
  - High-range water reducing admixtures
  - Accelerating admixtures
  - Water reducing admixtures
  - Air-entraining/water-reducing admixtures
  - Air-entraining/high-range water reducing admixtures
  - super-plasticizing admixtures
2. Normative references-pass-

# 3. Definitions

- Chemical admixtures: admixtures used for improving various properties of concrete, mainly through their surface activation effects and hydration controlling effects.
- Normal type, retarding type, accelerating type : chemical admixtures which accelerate the setting of concrete.
- Reference concrete: concrete without chemical admixture, used as the standard for testing the quality of chemical admixtures.

- Test concrete: concrete with chemical admixtures which is subjected to tests for the quality of chemical admixtures.
- Initial type-testing: test on all items carried out for the conformation of performance at the initial stage of developing the products.
- Factory production controlling testing: for the purpose of confirming

#### 4. Classification

# 5. Quality

- 5.1 performance: The performance shall meet the requirements specified in Attached table 2. 8cm slump is for air entraining admixture, ---. 18 cm slump is for air entraining/high-range water reducing admixture. 8 or 18cm slump is for superplasticizing admixtures.
- 5.2 chloride ion content
- 5.3 total alkalis content: below 0.3kg/m<sup>3</sup>

# 6. Test method

## 6.1 concrete test

- 6.1.1 Materials :the materials shall be as follows:
  - a) cement: OPC
  - b) aggregate: Coarse aggregate shall be crashed stone and fine aggregate shall be sand.
  - c) water: tap water

## 6.1.2 mix proportions

- As shown in table 2.
- Cement content: 300 , 350 or 320 depend on the kind of chemical admixtures.
- Water content: this shall be determined to the required slump.
- Dosage of chemical admixture: manufacturer's recommendation
- So on.



## 6.1.7 Testing of concrete

- The methods required in Table 2 shall be as follows:
- Slump: in accordance with JISA 1101.
- Air content: JISA 1118 or 1128
- Weight of concrete per unit volume: JISA 1116
- Amount of bleeding: JISA 1123
- Setting time: JISA 1147

- Compressive strength: JISA 1108
- Length change: JISA 1129
- Resistance to freezing and thawing: JISA 1148
- Change in slump and air content over time for the concrete with air-entraining/high-range water reducing admixtures: the slump and air content measured immediately after mixing and at 60 min after mixing. 6cm max. and  $\pm 1.5$
- -----end -----