

# CEMTEC 312 RSP

## HIGH RANGE WATER REDUCING AND RETARDING ADMIXTURE FOR MICROSILICA CONCRETE

**CEMTEC 312 RSP** is a high range water reducing admixture for microsilica concrete formulated to extend the working time of flowing concrete at temperature up to 54° C.

**CEMTEC 312 RSP** is specifically designed for environment and temperatures prevalent in the Gulf Region.

**CEMTEC 312 RSP** significantly increases workability and workability retention of concrete without a increase in water content. It also provides improved durability by reducing concrete permeability.

### PRIMARY APPLICATIONS

- Reinforced concrete
- High strength concrete
- Workability retention concrete
- Lightweight concrete
- Prestressed concrete
- Parking structures
- Watertight concrete

### FEATURES / BENEFITS

- Produces “flowing” concrete with controlled delay of slump loss and workability.
- Greatly reduces water requirements.
- Reduces segregation and bleeding in the plastic concrete.
- Reduces cracking permeability of hardened concrete.
- When used to produce “flowing” concrete, significantly reduces concrete placement time and cost.

### SPECIFICATIONS / COMPLIANCES

**CEMTEC 312 RSP** meets and exceeds the following requirements.

- ASTM C 494, TYPE D & G
- BS 5075 Part 3

### PACKING

**CEMTEC 312 RSP** is available in 210 ltr drums, 1000 ltr. containers and 10,000 ltr tanks.

### TECHNICAL INFORMATION

#### Typical Engineering Data

Specific Gravity - 1.20 at 20° C

#### Compressive Strength vs. Control

1 day	-	upto 140%
3 days	-	140 - 160%
7 days	-	130 - 150%
28 days	-	125 - 135%

### Relative Durability

Freeze-thaw resistance - 98.7%

### DIRECTIONS FOR USE

Quality **CEMTEC 312 RSP** is used in a range of 0.6 - 1.5 liter per 100 kg cement. When **CEMTEC 312 RSP** added, at a rate of 1.0 liter per 100 kg cement, to a 25.4 - 76.2 mm slump concrete, it will produce flowable concrete with a slump of 178 - 254 mm.

The slump loss will be gradual up to six (6) hours at a temperature of 22° C and up to three (3) hours at a temperature of 49° C when **CEMTEC 312 RSP** is used in the specified proportions. Variations in slump loss and setting characteristics are a function of the amount of admixture used, cement characteristics and the mix design selected. An increase in concrete temperature will cause an increase in slump loss and decrease in initial set time.

When designing mixes for use with **CEMTEC 312 RSP**, ACI 211.1 and ACI 211.2 recommendations should be followed. After the initial mix is established, the sand to coarse aggregate ratio may be adjusted to maintain homogeneity of the “flowing” concrete mix. For “flowing” concrete, load all concrete materials into the mixer and mix for five minutes or 70 revolutions to the initial specified slump. Add **CEMTEC 312 RSP** and mix an additional 3 minutes.

**CEMTEC 312 RSP** is compatible with other range of CMCI'S admixture including **CEMTEC 312 DMS** (Microsilica).

**Formwork:** Forms for walls or narrow sections must be watertight, strong and have good bracing. During the “flowing period”, when the concrete is at a slump of 178 - 254 mm, the concrete will exert a higher pressure at the base of the form than conventional concrete. Formwork for slabs is the same as for conventional concrete.

### PRECAUTIONS / LIMITATIONS

The use of **CEMTEC 312 RSP** varies with every application. Therefore, the engineering or Technical Service Department of CMCI should be consulted whenever a question on usage or compatibility with other admixtures is raised. Many successful mix designs are on file and can be an excellent reference when preparing a project mix design.

*“High Quality Construction Chemicals”*

#### QUALITY STATEMENT

CMCI manufacture its products at their manufacturing facility in Saudi Arabia as per the Quality Procedures certified to conform with Quality Management System described in ISO 9000 series

CMCI provides a comprehensive technical support system for its full range of high performance construction products. CMCI also offers full technical field support to consultants, Architects, Contractors, applicators and End Users

The Technical Specification information and recommendation given are based on the current technical knowledge and the user or his representative is recommended to check the suitability of the product. CMCI reserves the right to amend the technical characteristic of the product as part of ongoing research and development. As the work execution is beyond the direct and continuous control of CMCI no guaranty and or responsibility is assumed on the performance of work completion executed with use of our products.