

CEMTEC 311 RSP

SLUMP RETAINING AND RETARDING SUPER PLASTICIZER (ASTM-C 494 TYPE D & G)

CEMTEC 311 RSP is a high range water reducing admixture formulated to extend the working time of flowing concrete at temperature up to 54° C.

CEMTEC 311 RSP is specially designed for temperatures experienced in the Gulf Region. Its specific gravity is 1.20

PRIMARY APPLICATIONS

- Reinforced concrete
- High strength concrete
- Industrial slabs
- 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 311 RSP M meets or exceeds the following requirements.

- ASTM C 494, TYPE D & G
- ACI 201-MINIMAL CHLORIDE CONTENT
- ACI 318-MINIMAL CHLORIDE CONTENT.

PACKING

CEMTEC 311 RSP is available in 210 ltr drums, 1000 ltrs. containers and 10,000 ltr tanks.

TECHNICAL INFORMATION

Typical Engineering Data

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 311 RSP is used in a range of 375 -875 ml. per 100 kg cement. When **CEMTEC 311 RSP** added, at a rate of 750 ml. 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 311 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 311 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 311 RSP** and mix an additional 3 minutes.

Suggested quantities per 100 kg cement to a 76 mm slump vs. air temperatures.

27° C	-	625 - 1000 ml
32° C	-	625 - 1125 ml
38° C	-	750 - 1250 ml
43° C	-	750 - 1500 ml
49° C	-	1000 - 2000 ml
54° C	-	1250 - 2000 ml

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 311 RSP** varies with every application. Therefore, Technical Services 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.

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.