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# CEMTEC 141RSP

## SUPERPLASTICIZER AND RETARDER FOR CONCRETE TYPE D AND TYPE G



### DESCRIPTION

**CEMTEC 141 RSP** is a concentrated ready-to-use aqueous solution of organic polymers with high plasticizing effect. **CEMTEC 141 RSP** contains no chlorides and complies with ASTM specification C 494 requirements for Type D and Type G admixtures. Its specific gravity is 1.21. The fluidizing action of **CEMTEC 141 RSP** provides:

### FEATURES & ADVANTAGES:

- **CEMTEC 141RSP** can be introduced in the mix at the batching plant, allowing the regular transportation and discharge of selfleveling or fluid concrete in very hot climates
- Reduction in placing and vibration time, especially in highly reinforced structures.
- Better pumpability.
- Better surface finish, also applicable to light weight aggregates.
- Higher wear resistance.
- Improved bonding between concrete and reinforcing bars.
- Lower shrinkage due to reduced w/c ratio.

### BASIC USES:

In all types of concrete normal and ready-mix for hot weather concreting. **CEMTEC 141RSP** can be used in summer to ease transportation of concrete made with high cement contents.

### SELF-LEVELING CONCRETE:

A plain, 2 - 3 cm slump concrete becomes selfleveling and attains a slump of 21 cm. or more following the addition of **CEMTEC 141 RSP**. It is flowable and highly cohesive with no segregation. Bleeding is usually below 0.05 cm<sup>3</sup>/cm<sup>2</sup>.

### COMPRESSIVE STRENGTH:

A Self-leveling concrete admixture with **CEMTEC 141RSP** will have the same or higher compressive strength compared to plain non-slump concrete.

### SLUMP MAINTENANCE:

Concrete with **CEMTEC 141 RSP** maintains the self-leveling properties from 3 - 6 hours at ambient temperature, depending on the type and dosage of the cement. Beyond this time workability will decrease gradually.

### HIGH STRENGTH CONCRETE:

The addition of **CEMTEC 141 RSP** to plain concrete allows a water reduction of up to 30%, while maintaining the same slump. The concrete will be easy to place, non-segregable and will require a shorter vibration time compared to plain concrete with the same workability.

### STRENGTH DEVELOPMENT:

Compressive strength versus plain concrete at the same slump, will increase proportionally, up to 50% and over, depending on water reduction. At early age, compressive strength may be lower due to the retarding action of **CEMTEC 141 RSP**.

### SLUMP MAINTENANCE:

High Strength concrete obtained with **CEMTEC 141 RSP** has a workability time comparable with a plain concrete at equal slump.

### PERMEABILITY AND DURABILITY:

**CEMTEC 141 RSP** reduces concrete porosity and so produces a more water-proof concrete. Observations have shown that water penetration has been reduced by factors of up to 1,000 times below that of plain concrete at the same slump.

Reduced porosity and increased water-proofness, resulting from the use of **CEMTEC 141 RSP** especially if combined with Air Entraining Agents, provide durable concrete, with high resistance to freezing and thawing cycles and chemical agents such as sulphates, seawater, deicing salts, etc.

### HOMOGENEITY:

Compressive strength in concrete treated with **CEMTEC 141 RSP** has a lower variance allowing the operators to rely on more homogeneous mixes.

### ADDITION RATES:

Addition rate of **CEMTEC 141 RSP** ranges from 0.6 to 1.2 Ltr. per 100 kgs. of cement, depending on job conditions and purpose of work.

### COMPATIBILITY:

**CEMTEC 141 RSP** can be used with all types of cement and can be combined with CEMTEC Air Entraining Agent when an improved durability is required.

COVERAGE	Contact CMCI Tech Dept
PACKAGING	CEMTEC-141/RSP is delivered in 210 ltr. drums, 1000 ltr. containers, or in 10,000 ltr. bulk tanks.
COLOR	Contact CMCI Tech Dept.

# CMCI

### DISPENSING:

**CEMTEC 141 RSP** should be added directly into the mixer. In ready-mixed concrete **CEMTEC 141 RSP** can be added at the batching plant taking into account that the self-leveling property will last for 4 - 8 hours at ambient temperature.

### PRECAUTIONS:

Concrete improved with **CEMTEC-141 RSP** has to be carefully cured to avoid water evaporation, specially in slabs and exposed concrete.

**CEMTEC-141 RSP** should not be stored at a temperature below 0°C. In case of freezing,

**CEMTEC-141 RSP** should be heated and stirred before using.

### TECHNICAL INFORMATION

Typical Engineering Data

The following results were developed under laboratory conditions:

Mix Design

Cement content (opc) - 307 kg/m<sup>3</sup>

Coarser aggregate - 64 %

Finer aggregate - 36%

### COMPRESSIVE STRENGTH:

Age	Specification (% of Control)	Control	Cemtec-120 SP mix (% of control)
1 day	min 125	100	140
3 days	min 125	100	139
7 days	min 115	100	136
28 days	min 110	100	135

### ENGINEER'S SPECIFICATION.

Concrete shall be designed in accordance with ACI Standard Recommended Practice for selecting proportions for concrete, ACI 211.

The super plasticizer admixture shall comply with ASTM Designation C-494 type D and G admixture and shall be **CEMTEC-141 RSP** as manufactured by Construction Material Chemical Industries or one proved to be equivalent.

It shall be used in strict accordance with the manufacturer's recommendations.

#### Quality Statement

CMCI manufactures 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.

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