

# CEMTEC A.E.A

## CEMTEC AIR ENTRAINING ADMIXTURE FOR CONCRETE (ASTM C-260)

### DESCRIPTION:

**CEMTEC AIR ENTRAINING AGENT** is an aqueous solution of highly purified and modified salts of a sulphonated hydrocarbon.

It is a ready-to-use liquid of low viscosity with a specific gravity of 1.03.

It contains a catalyst which promotes more rapid and complete hydration of cement.

**CEMTEC AIR ENTRAINING AGENT** is specifically formulated for use as an air entraining admixture for concrete and is manufactured under rigid control which ensures uniform predictable performance.

### AIR ENTRAINING ACTION:

Entrainment of air is accomplished by the development of a semi-microscopic bubble system introduced into a mix by agitation and stabilized and entrained by **CEMTEC AIR ENTRAINING AGENT** in the mortar phase of the concrete.

To avoid excessive air entrainment **CEMTEC AIR ENTRAINING AGENT** has been specially formulated to provide a maximum level of entrained air in case of over dosing.

Workability is improved. Millions of thin air bubbles entrained with **CEMTEC AIR ENTRAINING AGENT** act as flexible ball-bearings causing higher slump. Placeability is actually improved.

Durability is increased.

**CEMTEC AIR ENTRAINING AGENT** concrete is extremely durable, particularly when subjected to freezing and thawing in the presence of water and saline solution.

It has demonstrated a remarkable ability to resist the action of frost and de-icing salts, as well as alkaline or sulphate-containing water.

### ADVANTAGES

- Improved durability, particularly to freezing and thawing cycles
- Improved workability and placeability at the same w/c ratio.
- Reduces bleeding, green shrinkage and segregation.

### USES

**CEMTEC AIR ENTRAINING AGENT** is used in ready-mix block and concrete products plants. It is also used on the job at batching plants, job site mixers, highway pavers and wherever concrete is mixed.

Because **CEMTEC AIR ENTRAINING AGENT** plasticizes or "fattens" the mix, it is particularly effective with slag, lightweight or crushed aggregates which tend to produce harsh concrete. It also makes possible the use of normal sands deficient in fines.

### COMPATIBILITY WITH OTHER ADMIXTURES

**CEMTEC AIR ENTRAINING AGENT** is compatible with all known admixtures, particularly with WRA and others manufactured by Construction Material Chemical Industries.

The combined separate effect of air entrainment and WRA dispersion-will reduce the water requirement of concrete by up to 20% producing proportional increase in strength and outstanding improvement in durability.

EACH ADMIXTURE SHOULD BE ADDED SEPARATELY TO MIX.

**CEMTEC AIR ENTRAINING AGENT** is also compatible with mixes containing calcium chloride.

### MIX ADJUSTMENT

Air entrainment calls for an adjustment in mix design which may require reductions in the contents of water and fine aggregate.

### ADDITION RATES:

Certain factors (fly ash, ambient temperature, grading of aggregates) may inhibit air entrainment. Standard dosage to entrain 4% to 8% air on average, is from 0.05 to 0.2% by weight of cement. The air entraining efficiency of **CEMTEC AIR ENTRAINING AGENT** becomes even greater when used with water reducing agents.

Here the synergistic effect of these materials may allow a one-half to two-third reduction in the amount required for constant air content.

### DISPENSING EQUIPMENT

A complete line of automatic and semi-automatic **CEMTEC AIR ENTRAINING AGENT** dispensers is available.

Accurate and simple, these dispensers are easily adapted to existing facilities on paving mixers and batching plants.

### PACKAGING:

**CEMTEC AIR ENTRAINING AGENT** is delivered ready-to-use in 210 ltr drums & 1000 ltrs containers. **CEMTEC AIR ENTRAINING AGENT** contains no volatile flammable ingredients.

**ARCHITECT'S SPECIFICATION FOR CONCRETE:**

Concrete shall be air entrained concrete, containing 4 to 6% entrained air.

The air entrained admixture shall be **CEMTEC AIR ENTRAINING AGENT** as manufactured by Construction Material Chemical Industries or one proved to be equivalent.

The air entraining admixture shall be added at the concrete mixer or batching plant in such quantity as to give the specified air content.

AIR ENTRAINING AGENT	AIR PERCENTAGE IN FRESH CONCRETE	AIR PERCENTAGE IN HARDENED CONCRETE	FREEZE-THAW CYCLE FOR 0.10%	TYPE OF ENTRAINED AIR	
				BUBBLES IN A CM <sup>2</sup>	DISTANCE FACTOR (MICRONS)
plain	1.75	6	19	4.60	73
A	5.95	3	29	6.10	37
B	5.95	8	39	13.60	25
C	5.00	7	92	15.80	36
D	5.75	4	100	43.50	22
Cemtec AEA	5.20	3.89	500	7.0	15

**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.