HIGH RANGE WATER REDUCERS / SUPERPLASTICIZERS

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EUCON™ 537

HIGH RANGE WATER REDUCING AND RETARDING ADMIXTURE - SUPERPLASTICIZER

EUCLID CHEMICAL

PRODUCT INFORMATION

PACKAGING

Packaged in bulk, 275 gal (1041 L) totes, 55 gal (208 L) drums, and 5 gal (18.9 L) pails

SHELF LIFE

2 years in original, unopened container

SPECIFICATIONS/COMPLIANCES

ASTM C494, Type G

AASHTO M194

DESCRIPTION

EUCON 537 is a high range water reducing admixture formulated specifically to extend the working time of flowing concrete at temperatures up to 130°F (54°C). EUCON 537 does not contain calcium chloride or any other ingredients that would promote the corrosion of steel. It is compatible with most admixtures including air entraining agents, accelerators, most water reducers, retarders, shrinkage reducers, corrosion inhibitors, viscosity modifiers, and microsilica; however, each material should be added to the concrete separately.

PRODUCT CHARACTERISTICS

FEATURES & BENEFITS

- Improves workability/finishability
- Produces “flowing” concrete
- Aids in concrete placement and reduces labor cost
- Greatly reduces water requirement
- Good slump retention
- Reduces segregation, bleeding, cracking and permeability
- Increases strength
- Improves finished appearance
- Increases durability

PRIMARY APPLICATIONS

- Lightweight concrete
- Prestressed concrete
- Parking structures
- Watertight concrete
- Reinforced concrete
- High strength concrete
- Industrial slabs

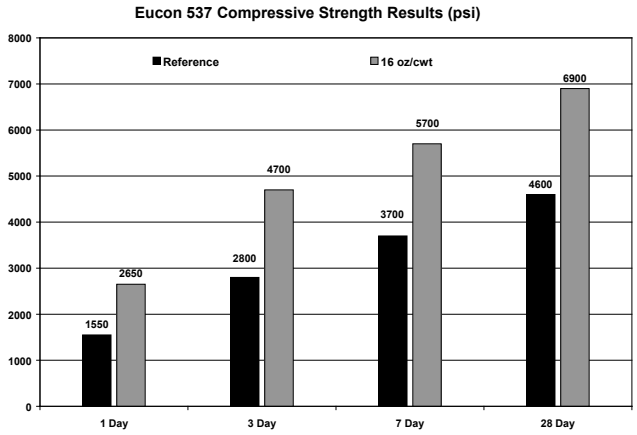
PRECAUTIONS/LIMITATIONS

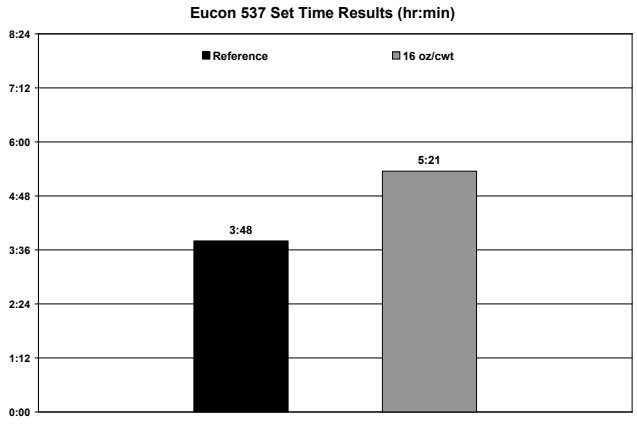
- Care should be taken to maintain EUCON 537 above freezing; however, freezing and subsequent thawing will not harm the material if thoroughly agitated. Do not agitate with air or an air lance.
- EUCON 537 varies with every application. It is recommended to run trial mixes before use to determine performance.
- To minimize concrete problems when concrete temperatures exceed 75°F (24°C), or in windy weather, follow recommendations of ACI 305R, “Hot Weather Concreting.”
- Add to mix independent of other admixtures.
- In all cases, consult the Safety Data Sheet before use.

TECHNICAL INFORMATION

PERFORMANCE DATA

The following test results were achieved using typical ASTM C494 mix design requirements, 517 lb/yd^3 (307 kg/m^3) cement content and similar (± 0.5)% air content. These results were obtained under laboratory conditions with materials and mix designs meeting the specifications of ASTM C494. Changes in materials and mix designs can affect the dosage response.





DIRECTIONS FOR USE

Eucon 537 can be added to the initial batch water or directly on the freshly batched concrete. However, better results have been observed batching directly on the freshly batched concrete. It should not come into contact with dry cement or other admixtures until mixed thoroughly with the concrete batch. EUCON 537 is used at a range of 6-32 oz/100 lbs (390-2080 mL/100 kg) cementitious material depending on the temperature and retention requirements. When EUCON 537 is added, at a rate of 12 oz/100 lbs (750 mL/100 kg) cementitious, to a 1-3 inches (25-76 mm) slump concrete, it will produce flowable concrete with a slump of 7-9 inches (180-230 mm).

When designing mixes for use with EUCON 537, 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, charge all concrete materials into the mixer and mix five minutes or 70 revolutions to the initial specified slump. Add EUCON 537 and mix an additional 3 minutes.

Variations in slump loss and setting characteristics are a function of the amount of admixture used (See Figure 1), cement characteristics and the mix design selected. An increase in concrete temperature will cause an increase in slump loss and a decrease in initial set time. 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 7-9 inches (180-230 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.

Figure 1: Recommended Dosage of Eucon 537 to a 3" (76 mm) slump to achieve flowable concrete at varying temperatures

Temperature, °F (°C)	Dosage Range of Eucon 537, oz/100 lbs (mL/100 kg)
80 (27)	10 - 16 (650 - 1040)
90 (32)	10 - 18 (650 - 1170)
100 (38)	12 - 20 (780 - 1300)
110 (43)	12 - 24 (780 - 1560)
120 (49)	16 - 32 (1040 - 2090)
130 (54)	20 - 32 (1250 - 2090)

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