



THE EUCLID CHEMICAL COMPANY

19218 REDWOOD ROAD • Cleveland, OH 44110
(216) 531-9222 • (800) 321-7628 • FAX (216) 531-9596
www.euclidchemical.com

EUCON 37



High Range Water Reducer - Superplasticizer

- ◆ ENG. SPECS ◆ CATALOG INDEX
- ◆ MSDS ◆ SECTION INDEX
- ◆ FRENCH ◆ PRINT
- ◆ SPANISH ◆ EXIT CATALOG

EUCON 37 is a high range water-reducing admixture. It may be added to the concrete at the job site or at the ready mix concrete plant. No chlorides are used in its formulation; consequently, it is recommended for pre-stressed concrete. It is also very compatible with air-entraining agents, water proofing agents, calcium chloride and many other admixtures; however, each material should be added to the concrete separately.

PRIMARY APPLICATIONS

- High performance concrete
- General ready mix concrete
- Heavily reinforced concrete
- Flatwork and mass concrete
- Minimum water content concrete
- Low water/cement ratio concrete
- High slump, flowable concrete

FEATURES / BENEFITS

- Produces low water content and low water/cement ratio concrete allowing higher strengths
- Produces flowing concrete with better than normal strengths
- Aids in concrete placement and reduces labor cost
- When used in precast with Type I cement, EUCON 37 will produce the high early strengths

SPECIFICATIONS / COMPLIANCES

- Fully complies with the requirements of ASTM C-494, Types A & F admixtures.
- Fully complies with the requirements of AASHTO M-194.
- ANSI/NSF STD 61

PACKAGING

EUCON 37 is packaged in bulk, 275 gal (1041 liter) totes, 55 gal (208 liter) drums and 5 gal (18.9 liter) pails.

Shelf life is 2 years in original, unopened package.

TECHNICAL INFORMATION

Typical Engineering Data

The following results were developed under laboratory conditions.

Compressive Strength % of Control

| | Specification | Control | Eucon 37 Mix |
|----------|---------------|---------|--------------|
| 1 day | Min 140 | 100 | 169.7 |
| 3 days | Min 125 | 100 | 161.4 |
| 7 days | Min 115 | 100 | 151.8 |
| 28 days | Min 110 | 100 | 153.8 |
| 6 months | Min 100 | 100 | 151.4 |

Flexural Strength % of Control

| | | | |
|---------|---------|-----|-------|
| 3 days | Min 110 | 100 | 144.2 |
| 7 days | Min 100 | 100 | 126.2 |
| 28 days | Min 100 | 100 | 117.1 |

Relative Durability

| | | | |
|---------------|---------|--------|--------|
| Factor | Min 80% | 97.93% | 96.79% |
|---------------|---------|--------|--------|

Rate of Slump Loss

Concrete treated with EUCON 37 retains its plastic consistency for 30 to 60 minutes after dosing depending on the initial/final slumps and dosage rates. EUCON 37 can be added at the ready mix plant or at the job site from field dispensers.

Use EUCON 537 as a replacement for EUCON 37 when placing concrete in hot weather [$>90^{\circ}\text{F}$ (32°C)].

Typical Slump Loss at 70°F (21°C)

| | |
|-----------------------|------------------------|
| Initial Slump..... | Slump after 30 minutes |
| 8 1/2" (216 mm) | 7" (178 mm) |
| 9 1/2" (241 mm) | 8" (203 mm) |

Appearance

EUCON 37 is a dark brown, free flowing liquid which when added to concrete, does not change the concrete's natural appearance.

DIRECTIONS FOR USE

Add EUCON 37 to the sand and water. It should not come into contact with dry cement.

High Strength Concrete

Dosage-Charge all concrete material in the proper order into the mixer with about 70% of the mixing water and mix five (5) minutes or 70 revolutions. Add additional water carefully to obtain the required slump and mix for three (3) additional minutes.

Use EUCON 37 at the rate of 10-15 oz per 100 lb (625-940 ml/100 kg) of cement.

The following low water/cement ratio mixes can be placed at slumps of 6-9" (152-229 mm).

Placeable Concrete

Charge all concrete material in the proper order into the mixer and mix five (5) minutes or 70 revolutions for a typical 3" (76 mm) slump mix. Add EUCON 37 and mix an additional one (1) minute.

Dosage-Use at the rate of 6-8 oz per 100 lb (375-500 ml/100 kg) of cement.

The initial slump is generally 2"-3" (51-76 mm). These mixes, with a water/cement ratio of 0.45 to 0.50 are often used in floor and slab mixes, to minimize water content, shrinkage and cracking.

Flowable Concrete

Charge all concrete material in the proper order into the mixer and mix five (5) minutes or 70 revolutions for a typical 3" (7.6 cm) slump mix. Add EUCON 37 and mix an additional three (3) minutes.

Dosage-Use EUCON 37 at the rate of 10-12 oz per 100 lb (625-750 ml/100 kg) of cement on conventional 3" (76 mm) slump concrete to achieve a flowable mix. The mix design must be proportioned on the basis of temperature, type of cement, and rate of slump loss required. The following table shows approximate quantities to be added for flowable concrete.

| <u>Initial Slump inches(mm)</u> | <u>Dosage Cement oz/cwt (ml/100 kg)</u> |
|--|--|
| 4" (102) | 8-10 (500-625) |
| 3" (76) | 10-12 (625-750) |
| 2 1/2"(64) | 12-14 (750-875) |
| 2"(51) | 14-16 (875-1000) |
| 1 1/2"(38) | 16-18 (1000-1125) |

When designing mixes for use with EUCON 37 follow recommendations in ACI 211.1 and 211.2. Adjust sand aggregate ratio to maintain homogeneity.

Placement-Concrete treated with EUCON 37 may be placed in the same fashion as conventional concrete.

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 7" to 9" (178-229 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.

Curing & Sealing-Proper curing procedures are important to ensure the durability and quality of concrete. To prevent surface cracking, cure flatwork with a high solids curing compound, such as SUPER AQUA-CURE VOX or SUPER REZ-SEAL.

CLEAN-UP

Clean tools and equipment with water before the material hardens.

PRECAUTIONS / LIMITATIONS

- Care should be taken to maintain EUCON 37 above freezing; however, freezing and subsequent thawing will not harm the material if thoroughly agitated. Never agitate with air or an air lance.
- Test batches/mix designs/sample slabs may be required due to variations in local cement and aggregates.
- Keep concrete from freezing until a minimum strength of 1000 psi (7 MPa) is reached.
- EUCON 37 is used in many different mix designs. The Engineering or Technical Services Departments of The Euclid Chemical Company 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.
- Add to mix independent of other admixtures.

Form Eucon 37-10.00

WARRANTY: The Euclid Chemical Company ("Euclid") solely and expressly warrants that its products shall be free from defects in materials and workmanship for six (6) months from the date of purchase. Unless authorized in writing by an officer of Euclid, no other representations or statements made by Euclid or its representatives, in writing or orally, shall alter this warranty. EUCLID MAKES NO WARRANTIES, IMPLIED OR OTHERWISE, AS TO THE MERCHANTABILITY OR FITNESS FOR ORDINARY OR PARTICULAR PURPOSES OF ITS PRODUCTS AND EXCLUDES THE SAME. If any Euclid product fails to conform with this warranty, Euclid will replace the product at no cost to Buyer. Replacement of any product shall be the sole and exclusive remedy available and buyer shall have no claim for incidental or consequential damages. Any warranty claim must be made within one (1) year from the date of the claimed breach. Euclid does not authorize anyone on its behalf to make any written or oral statements which in any way alter Euclid's installation information or instructions in its product literature or on its packaging labels. Any installation of Euclid products which fails to conform with such installation information or instructions shall void this warranty. Product demonstrations, if any, are done for illustrative purposes only and do not constitute a warranty or warranty alteration of any kind. Buyer shall be solely responsible for determining the suitability of Euclid's products for the Buyer's intended purposes.