

EXP 950

High-range water-reducing admixture ASTM C494 Type A and F and ASTM C1017 Type I

Product Description

EXP 950 is a high efficiency, low addition rate polycarboxylate-based high-range water reducer designed for the production of a wide range of concrete mixes, from conventional to Self-Consolidating Concrete. It is designed to impart extreme workability without segregation to the concrete.

EXP 950 is supplied as a ready-to-use liquid that weighs approximately 8.9 lbs/gal (1.1 kg/L). EXP 950 does not contain intentionally added chlorides.

Uses

EXP 950 is a superplasticizer that is formulated to impart improved workability to the concrete and to achieve high early compressive strength. EXP 950 may also be used for the production of Self-Consolidating Concrete (SCC).

EXP 950 may be used to produce concrete with very low water/cementitious ratios while maintaining normal levels of workability.

Addition Rates

EXP 950 is an easy to dispense liquid admixture. Dosage rates can be adjusted to meet a wide spectrum of concrete performance requirements. Addition rates for EXP 950 can vary from 2 to 10 fl oz /100 lbs (130 to 650 mL/100 kg) with the type of application, but will typically range from 3 to 6 fl oz/100 lbs (200 to 390 mL /100 kg) of cementitious. Should conditions require using more than the recommended addition rate, please consult your GCP representative.

Mix proportions, cementitious content, aggregate gradations and ambient conditions will affect EXP 950 dosage requirements. If materials or conditions require using more than the recommended addition rates, or when developing mix designs for Self-Consolidating Concrete please consult your GCP Applied Technologies representative for more information and assistance.

Product Advantages

- Produces concrete with high levels of workability without segregation
- Provides significantly higher strengths and normal set time
- Excellent concrete rheology and handling properties
- Provides improved finishability and surface finishes
- Superior air entrainment control
- Provides standard water reduction at normal addition rates and significant water reduction at higher addition rates

Compatibility with Other Admixtures and Batch Sequencing

EXP 950 is compatible with most GCP admixtures as long as they are added separately to the concrete mix. However, EXP 950 is not recommended for use in concrete containing naphthalene-based admixtures including DARACEM®19 and DARACEM®100, and melamine-based admixtures including DARACEM®65. In general, it is recommended that EXP 950 be added to the concrete mix near the end of the batch sequence for optimum performance. Different sequencing may be used if local testing shows better performance. Please see GCP Technical Bulletin TB-0110, Admixture Dispenser Discharge Line Location and Sequencing for Concrete Batching Operations for further recommendations.

Pretesting of the concrete mix should be performed before use as conditions and materials change in order to assure compatibility with other admixtures, and to optimize dosage rates, addition times in the batch sequencing and concrete performance. For concrete that requires air entrainment, the use of an ASTM C260 air-entraining agent (such as Daravair® or Darex® product lines) is recommended to provide suitable air void parameters for freeze-thaw resistance. Please consult your GCP Applied Technologies representative for guidance.

Packaging & Handling

EXP 950 is a yellowish brown liquid available in bulk, delivered by metered trucks, in totes and drums.

EXP 950 will freeze at approximately 32 °F (0 °C) but will return to full functionality after thawing and thorough mechanical agitation.

Dispensing Equipment

A complete line of accurate, automatic dispensing equipment is available.

EXP 950 ASTM C494 Type F High-Range Water Reducer Test Data

| | U.S. UNITS | | METRIC UNITS | |
|---|------------|---------|--------------|---------|
| | CONTROL | EXP 950 | CONTROL | EXP 950 |
| Cement (pcy) (kg/m ³) | 517 | 517 | 307 | 307 |
| Coarse aggregate (pcy) (kg/m ³) | 1944 | 1944 | 1153 | 1153 |

| | | | | |
|--|------|------|-----|-----|
| Fine aggregate (pcy) (kg/m ³) | 1144 | 1214 | 679 | 720 |
|--|------|------|-----|-----|

| | | | | |
|-------------------------------------|-----|-----|-----|-----|
| Water (pcy) (kg/m ³) | 248 | 211 | 147 | 125 |
|-------------------------------------|-----|-----|-----|-----|

| | | | | |
|------|------|------|------|------|
| w/cm | 0.48 | 0.41 | 0.48 | 0.41 |
|------|------|------|------|------|

| | | | | |
|------------------------|-----|------|----|----|
| Slump (inches) (mm) | 3.5 | 3.25 | 89 | 83 |
|------------------------|-----|------|----|----|

| | | | | |
|-----------------|-----|-----|-----|-----|
| Plastic air (%) | 5.4 | 5.5 | 5.4 | 5.5 |
|-----------------|-----|-----|-----|-----|

Compressive strength

| | | | | |
|----------------------|------|------|------|------|
| 1 day (psi) (MPa) | 1460 | 2050 | 10.1 | 14.1 |
|----------------------|------|------|------|------|

| | | | | |
|----------------------|------|------|------|------|
| 7 day (psi) (MPa) | 4380 | 6040 | 30.2 | 41.6 |
|----------------------|------|------|------|------|

| | | | | |
|-----------------------|------|------|------|------|
| 28 day (psi) (MPa) | 5570 | 7270 | 38.4 | 50.1 |
|-----------------------|------|------|------|------|

| | | | | |
|------------------------------|------|------|------|------|
| Initial set time (hr:min) | 4:56 | 3:57 | 4:56 | 3:57 |
|------------------------------|------|------|------|------|

| | | | | |
|-----------------------------|--------|--------|--------|--------|
| Length change 28 day (%) | -0.027 | -0.029 | -0.027 | -0.029 |
|-----------------------------|--------|--------|--------|--------|

| | | | | |
|---------------------------------------|----|----|----|----|
| Freeze-thaw resistance (RDME %) | 97 | 95 | 97 | 95 |
|---------------------------------------|----|----|----|----|

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This product or its use may be covered by US Patent Nos. 8,187,376; 8,317,918.

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GCP0083 DCAC-35-0818

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Last Updated: 2019-03-13

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