

# Impede® LN

## ASR Inhibiting Admixture for Concrete

### PRODUCT INFORMATION

#### PACKAGING

Packaged in 55 gallon drums, 275 gallon totes and in bulk.

#### SHELF LIFE

36 months from date of manufacture.

#### STORAGE

**Impede® LN** may freeze at temperatures below 5°F (2°C).

Although freezing does not harm

**Impede® LN**, precautions should be taken to protect it from freezing. If it should happen to freeze, thaw and reconstitute with mechanical agitation. **Do not use pressurized air for agitation.**

#### SPECIFICATIONS/COMPLIANCES

ASTM C494 Type C

AASHTO M 194 Type C

CRD C 87 Type C

### DESCRIPTION

**Impede® LN** is a lithium nitrate based admixture designed to mitigate ASR (alkali-silica reactivity) in concrete. Since the early 1950's Lithium compounds have shown an ability to control ASR. These findings were confirmed by the Strategic Highway Research Program (SHRP). ASR occurs when reactive silica, found in aggregates, is supplied with moisture and alkalis. An expansive gel is then created which results in cracking and premature deterioration of concrete.

### PERFORMANCE BENEFITS

- Improved durability of concrete
- Mitigates ASR expansion and cracking
- Allows use of local materials
- Extends service life of concrete
- Can be used with pozzolans
- No adverse effects on concrete
- Accelerates concrete set times from 5 – 20%

### DOSAGE RATE CALCULATION AND DIRECTIONS FOR USE

**Impede® LN** dosage is based on the alkali content of the cement, however the dosage may be reduced depending on the ingredients of the mix and use of such pozzolans as Type F Fly Ash, GGBFS, or silica fume. To determine the beneficial effects of these pozzolans, additional testing must be conducted. Consult your local technical sales representative for further assistance.

1. Determine the amount of cement in the mix. (Example: 564 lbs)
2. Contact your local cement producer to acquire the alkali content of the cement. This is usually expressed as Na<sub>2</sub>Oe.
3. Convert the Alkali content into a decimal by dividing the content by 100. (Example: 0.5% / 100 = .005)
4. Multiply the weight of cement by alkali decimal obtained in step 3 (564 x .005 = 2.82). This number represents pounds of alkali in your mix.
5. When using gal/yd<sup>3</sup> multiply total pounds of alkali by 0.55 gallons (recommended dosage) of **Impede® LN** (0.55 x 2.82 = 1.55 gal/yd<sup>3</sup>)
6. When using **Impede® LN** the water content of the mix must be adjusted. For every gallon of **Impede® LN** the mix water content should be reduced by 0.8 gal to maintain the desired water-cementitious ratio. (1.55 gal. **Impede® LN** x 0.8 = 1.24 gal).

For best results, each admixture must be batched at separate intervals with the initial or final batch water, and should not come in direct contact with any other admixture until they are mixed in the concrete batch. Admixtures should not come in contact with any dry cementitious material.

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## TECHNICAL NOTES

**Impede® LN** is compatible with Portland cements, Portland limestone cements, blended cements, class C and F fly ash, slag cements, silica fume, calcium chloride, fibers, air-entraining and water-reducing admixtures. **Impede® LN** can be used in all white, colored, and architectural concrete.

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## PRECAUTIONS/LIMITATIONS

This product does not contain calcium chloride or chloride containing compounds, and any chloride ions present are in trace amounts resulting from municipal water used during the manufacturing process.

This product is compatible with most other admixtures when added to the mix separately. Always conduct trial batches, prior to job applications, to confirm compatibility and to verify mix results. Contact your technical sales representative before dosing outside of recommended ranges or for assistance with specialty applications.

In all cases, consult the safety data sheet prior to use.

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