

**Product Data Sheet**

Edition January 2018

MVRA

**ISE LOGIK INDUSTRIES MVRA 900**

Moisture Vapor Reduction Admixture (MVRA)

**Description** MVRA 900 is a non-toxic, volatile organic compound (VOC) free, liquid admixture formulated to react with the hydroxide ions produced by the cement hydration process. In doing so, MVRA 900 creates additional hydration products within the capillary pores and blocks them, effectively shutting down moisture vapor movement through the concrete. *Manufactured with deionized* water to remove trace mineral ions and containing no chloride based materials, MVRA 900 will not promote nor contribute to corrosion of embedded or reinforcing steel.

**Use** MVRA 900 has been specifically formulated for use in normal and light weight concrete mixes to produce low permeability concrete across a wide spectrum of mix designs. Typical uses of MVRA 900 include but are not limited to:

- Slabs to receive moisture sensitive flooring and structural concrete roof decks
  - w/cm from 0.40 to 0.54
- Elevator pits and retaining walls
  - w/cm from 0.40 to 0.54
- Water retaining structures such as swimming pools and cisterns
  - w/cm from 0.40 to 0.54
- Foundations
- Footings and other underground structures
- Civil engineering projects of any magnitude

*MVRA 900 has no w/cm range limitation. ISE LOGIK Industries would be happy to participate in your testing of the desired project mix to determine if MVRA 900 can achieve the desired concrete properties.*

**Benefits** *Each manufactured lot of MVRA 900 is produced under some of the most exacting chemical manufacturing processes available. MVRA 900 has been proven to significantly enhance the physical properties of ready-mixed concrete through extensive independent testing.*

- Reduced Permeability (per ASTM D5084):
  - 98% less permeable as compared to non-treated specimen
  - Permits flooring to be installed in as little as 8 days after concrete placement
  - Protects final slab finish from concrete moisture vapor emission
  - Protects against alkali and efflorescence attack from the concrete
  - Inhibits corrosion due to decreased permeability of concrete
- Mitigating Effect on ASR (per ASTM C1260):
  - 10% reduction of effects of ASR compared undosed control
- Mitigating Effect on Shrinkage (per ASTM C157):
  - 10% shrinkage reduction by day 28 from casting of specimen
  - Reduces slab warp, plastic shrinkage cracking and crazing
- Rapid Strength Gain (per ASTM C39/39M):
  - Achieves design strength in as little as three days after casing of specimen due to internal curing
  - No thermal cracking
- Type S Admixture (per ASTM C494/C494M)
  - Full compliance with published requirements
- Full Product Transparency
  - Independently published Health Product Declaration (HPD)

**Packaging** MVRA 900 is available in the following quantities:

- 55 gallon drums (208.2 liters)
- 275 gallon totes (1040.99 liters)
- Bulk delivery available upon request (volume dependent)



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Dosage	w/cm ratio of mix	dosage per cwt total cementitious material	mix water adjustment
	0.41 to 0.54	12 ounces (355 ml)	yes; one-for-one basis
	0.37 to 0.40	12 ounces (355 ml)	no
	0.31 to 0.36	10 ounces (296 ml)	no

### Mixing

MVRA 900 can be added at the batch plant or at the project site. For best results, MVRA 900 should be added directly to freshly mixed concrete at the end of the batch process with the tail water.

- Mix thoroughly to insure uniform distribution of MVRA 900
- Rapid drum rotation for a minimum of seven (7) minutes is recommended
- Compatible with fly ash and granulated ground blast furnace slag
- Compatible with all other chemical admixtures
- Compatible with steel or mesh fibers
- Does not promote corrosion of embedded reinforcement

### Placement

MVRA 900 has little to no impact on concrete set times when compared to equivalent mix designs without the MVRA 900 admixture.

- Use of surface applied evaporation retarders as necessary for ambient conditions does not negatively impact the MVRA 900 dosed concrete.
- Any ACI accepted method for curing concrete is completely acceptable for curing concrete with MVRA 900. Due to the internal curing properties of the MVRA 900 admixture, the curing time with moisture retaining covers can usually be reduced by up to 50%, depending on ambient conditions.
- **NOTE:** Slabs to receive moisture sensitive flooring should only be cured with plastic sheets, waterproof paper, or self-dissipating curing compounds.
- For slabs on ground, it is a requirement of the flooring industry that all such slabs be constructed in direct contact with an ASTM E1745 compliant vapor retarder installed per ASTM E1643 and in accordance with ASTM F710.

### Storage

Store MVRA 900 above 32° Fahrenheit (0° Celsius) and never allow to freeze. Should product freeze, return to manufacturer for reincorporation at purchaser's shipping expense. Do not store in direct sunlight for long periods nor in unopened containers. MVRA 900 is a water-based admixture and significant evaporation could occur if not protected from excessive heat or sunlight. MVRA 900 has no shelf-life if stored properly in original, unopened packaging material. However, it is recommended that all product be used within one year of purchase for best results.

### Technical Data

- Physical state – liquid
- Odor – odorless
- Color – hazy whitish liquid
- Freezing point – 32° F (0°C)
- Boiling point – 212° F (100°C)
- Volatile Organic Compounds (VOCs) – 0 g/l

ISE LOGIK INDUSTRIES warrants that its MVRA 900 (“product”), will reduce the permeability of structural concrete with mix designs between 0.30 and 0.54 water to total cementitious material ratio to not exceed an in-place permeability performance of 6.0 X 10 E-8 cm/s per ASTM D5084 **during the concrete's lifetime**; exclusive of any cracking regardless of cause. ISE LOGIK INDUSTRIES warrants its MVRA 900 product to be free from manufacturing defects and to meet the technical properties of the current Technical Data Sheet if used as directed within shelf life and never allowed to freeze. This is only a short version of the MVRA 900 warranty. Full warranty information available online.



MVRA 900