

### Product Distinction:

Barrier One MVRA-CPS is a demonstrated complex sodium silicate based formulation designed to specifically compete within the Moisture Vapor Reduction Admixture market segment. MVRA's do not possess nor perform to "PIA"® concrete enhancement technology standards. Unlike MVRA commodity distributors'; the Barrier One MVRA - "CPS" product is the only MVRA product to be exclusively sourced & manufactured by the branded entity in the USA. MVRA - "CPS" is produced & distributed in house by Barrier One MVRA-CPS. There are no "gray" product implications or connotations with this product and therefore warranties are soundly based upon USA regulations, laws and guidelines.

MVRA - "CPS" was specifically formulated to generate additional hydration products in both Standard & LW concrete. This creates an integral capillary break for your mix design at 2x the level of competitors.

### Technical Data:

|                                     |                                  |
|-------------------------------------|----------------------------------|
| Appearance: Almost Clear            | Toxicity/ Vapors / Odors: None   |
| Dosage: 12 oz. / 100 lbs. total cwt | Flammability: None               |
| Decanting: Not Required             | Specific gravity: 1.27           |
| Shelf Life: One Year from delivery  | Ship Weight: 10.3 lbs./gal (net) |
| Freeze Temp: 32°F                   | NSF / ANSI 61 Compliant          |
| HPD: Available / Certified          | VOCs: 0 g/l                      |
| Na2 SiO3 Complex Formula: Yes       | Chlorine Content Added: None     |

### Dispensing:

- Utilized with Standard & LW mix designs. Mix review required.
- Compatible with well consolidated steel & composite fibers.
- Dosage "CPS": 12oz volume / 100 lb. total cementitious w/ 1:1 mix water replacement. W/Cm mix design ranges of 0.40 to 0.52
- "CPS" should be dosed separately from other admixes & at the tail-end of the load. Separate withheld tail water addition is acceptable.
- For dosing accuracy & reporting, batch plant application is recommended. Onsite dosing is acceptable with minimum 7+ minute drum rotation and documented delivery ticket.
- Do not let the "CPS" material freeze at any point prior to application.
- Approved for ANSI A118.4, ANSI A118.11, ANSI A118.15 Mortars

### Concrete Performance:

- "CPS" has no deleterious concrete effect and does not accelerate or retard mix set times per ASTM C494 testing. It facilitates finishing by reducing bleed-water; creating a creamier / richer undiluted paste.
- Water reducing admixes are acceptable to achieve slumps > +4".
- "CPS" has minimal impact on slump. ( $\leq 0.5$ " slump loss)
- Added shrinkage reduction admixtures (SRA) or crystalline product utilization are not recommended.
- 3" minimum slab depth for warranty consideration per ASTM 302.1R

### Curing:

Barrier One MVRA-CPS concurs with ACI 302.2R-06 that any slab receiving moisture sensitive flooring; "shall be cured & covered with waterproof paper, plastic sheets, or a combination of the two for 3 to 7 days". Although leaving the plastic down longer is acceptable; MVRA - "CPS" dosed slabs only require 24 - 48 hours of cure by this means & method. Curing compounds have no deleterious effect on MVRA - "CPS" performance. However, if a curing compound is utilized, adhesive manufacturer guidelines regarding floor prep must be followed per ASTM F-710.

### Typical Industry / Specification Requirements:

Approved "CPS" mix design reviews offer an essential quality control component with regards to the project's success. Classified as a C-494 Type "S" liquid admixture; the "CPS" formulation will not interfere with the bonding of cures, primers, adhesives, thin-sets, resinous coatings or cementitious underlayment products. The material shall not be allowed to freeze anytime before dosing. The "CPS" admixture is dosed separately at the tail end of a Ready Mix truck directly into the concrete and mixed for a minimum of 7+ minutes. The "CPS" is integral to the mix design & not surface applied. This technology is compatible with plasticizers and both high / low range water reducers but, should not be utilized with crystallines or other shrinkage reduction admixtures. "CPS" will not accelerate nor retard your mix set and is described by finishers as reducing bleed water which in turn leads to a smoother / creamier paste.

The use of Barrier One "CPS" admixture must be registered prior to any concrete placement for warranty consideration. In most instances, a certified / independent 3<sup>rd</sup> party serves as the project's inspection company of record and is present at every concrete placement. This onsite agency is typically hired by the Owner or GC & casts daily cylinders for structural, petrographic or hydraulic conductivity testing analysis. These contracted representatives will be contacted by Barrier One upon the Owner's request and should be present for the selected "CPS" jobsite placement. The one cylinder collected by this agency will be tested by Barrier One MVRA-CPS for internal quality control assessment.

All slabs on ground (SOG) require the use of an ASTM E 1745 certified vapor retarder (VR) Class A or B, installed and detailed per ASTM E 1643. This is a basic industry standard required by both ACI 302.2 R & ASTM F-710. For all SOG applications, flooring manufacturers require that the VR be adequately detailed and be in direct contact with the concrete. Photographic documentation is expected.

Barrier One MVRA-CPS does not rely on random field moisture testing (FMT) data points for its warranty consideration. Although, if FMT is adequately conducted Barrier One MVRA-CPS could offer warranty consideration up to 25 lbs. per ASTM F1869 or 100% RH per ASTM F2170.

Extensive independent bond testing has been conducted on project sites for all types of adhesive & cementitious related products. In short; if your natural / synthetic or cementitious material adequately bonds to a nonporous densified / burnished, power-troweled surface or a shot-blasted substrate ... the material will adhere to "CPS" dosed concrete.

Industry Standards are periodically revised, consult with the issuing organizations as to the current edition of the applicable standards. Upon meeting relevant flooring manufacture design application and installation instruction requirements for a defined "nonporous" concrete substrate with serviceable space conditions; "CPS" utilization allows flooring installation in as little as 8 days. Failure to follow the concrete & flooring industry's "best" placement, finishing and curing practices or failure to follow adequately designed floor application specifications, including floor prep & "best" manufacturer installation instruction will void warranty consideration. See exclusive and separate Owner "Limited Lifetime" Warranty for further detail.