



APPLICATION PROCEDURES

ALL STEEL™ NMC - INTERNAL CURING ADMIXTURE PROCESS (PART A AND PART B)

OVERVIEW:

All Steel™ NMC admixtures provide the best path towards optimizing hydration in your internal curing process. Never guess again when it comes to curing.

ADVANTAGES:

- Improves low water-cement ratio concrete workability
- Increases early yield strength development compressive and flexural
- High durability and increased density
- Reduces susceptibility to the negative effects of freeze/thaw cycles
- Reduces water content needed for a given workability (12-40%)
- Reduces surface bleeding and evaporation
- Reduces cracking, crazing, curling, creep and shrinkage
- Increased cohesiveness
- Improves concrete finishing and workability
- Improves concrete pumping characteristics
- Maintains slump life during extended mixing times
- Plasticity range of 8 to 11 inches
- Improves bond strength to reinforcement
- Reduces permeability and salt penetration
- Raises productivity and with lower labor inputs
- Removes the need for normal mid-range and high range water reducers
- Flowable Concrete, reduced segregation
- Replaces SCC admixtures by adjusting batching sequencing and adjusting dose

- Reduction of vibration needs of concrete
- Early form stripping with early strength concrete approaches
- Reduces air entrainment dosing needs from 50-70%
- Excellent handling characteristics - 18 months normal shelf life expectancy
- Aids in temperature control when max temps are specified
- Improved workability and finishing for type 1L cement

COMPATIBILITY:

- Compatible with all types Portland cement, class C and F, fly ash, silica fume, fibers, and approved air entraining admixtures (call for capability questions)
- White, integral colored, and architectural concrete
- For best results, each admixture must be introduced separately into the concrete mix

STORAGE:

- May freeze at temperatures below 35 degrees F^o (2 degrees C^o)
- Freezing will not harm product however precautions should be taken to protect
- If frozen, thaw product at 45 degree F^o, use mechanical agitation
- If frozen DO NOT USE mechanical agitation

USAGE INSTRUCTIONS:

1. The All Steel™ internal curing admixture process has two parts. that needs to be conducted at the concrete yard prior to delivery it is very important to note that you have 15 minutes to complete these tasks.
2. All Steel™ Part A is to be added to head water at 1oz per hundred weight calculations. This dosage was determined during project training course(s), architectural mockups, and/or testing cycles. Please refer to project documents for proper dosage instructions.
3. After Part A has been added to the headwater, the remaining mix design can be batched to the truck. Cement, Sand, Aggregates.
4. After the fresh concrete has been thoroughly mixed yet under the 15 minute window a temperature reading is required to determine the dosing for All Steel™ Part B. Determine the total cementitious content per yard of the concrete mix design. This is the total weight of the cement, fly ash, and all pozzolans in the mix being loaded into the mixer truck.
5. Calculate the dosage per cubic yard using the table below and add to truck mixer.
6. After Part B has been added to the concrete, mix truck for 2 minutes at fast mixing speed and 5 minutes at normal mixing speed.
7. Once the seven minute dispersion mixing cycle is completed, proceed to delivery with mixer revolving as slow as possible.

SPECIFICATIONS

Conforms to:

ASTM C 494 Types A and F

AASHTO M 194 Types A and F

CRD C 87 Types A and F

All other Federal and State specifications

DOSAGE RATE:

The recommended dosage of **ALL STEEL™ NMC**

Concrete Temperature	ACI Guidelines - 90 minutes (Dosage per 100 weight)
100 - 109	6.0
90 - 99	5.5
80 - 89	4.5
70 - 79	3.5
60 - 69	3.0