

# COMPARING DENSIFIERS



## Sodium (N), Potassium (K) and Lithium (Li) Silicates

- Developed in 1930s (N & K) and late 1990s (Li)
- Used to penetrate and harden concrete
- Largest molecular ion size prevents deep penetration (4 mm to 5 mm)
- Varying degrees of reactive “sites” yields low to moderate chemical reaction and bonding time
- Water soluble (N & K); causes expansion/contraction in wet/dry cycles. Li is insoluble and remains stable.
- Highly caustic and carcinogenic (i.e. linked to cancer); increases pH of concrete (11 - 13 pH)
- Directly linked to silicosis
- Not good for sealing concrete
- Generates caustic, gelatinous slurry that must be scrubbed off and disposed of as hazardous waste
- Requires on-going agitation and scrubbing to create eventual reaction with concrete
- Can contribute to sweating and efflorescence (N & K)
- Requires dwell time

## Nano-Silica

Concentrated dispersion of amorphous, nano-sized silica particles suspended in water

- Developed in the 2000s
- Penetrates and hardens concrete to increase abrasion resistance over silicates by up to twice as much
- Smallest molecular ion size (5 - 30 nm) yields deepest penetration depth (6.4 mm)
- Highest concentration of reactive “sites” on nano-silica molecule yields most efficient (fastest) chemical reaction and bond
- Water insoluble; remains stable in volatile climate conditions
- Non-caustic (i.e. up to 1000 times less caustic) and inert; maintains a neutral pH balance (7 - 9 pH)
- Inert and non-hazardous
- Can be used to for sealing concrete, e.g. NanoSet™ Protector
- Does not produce excess mineral salts or “whiting”, even if over-applied. Does not need to be scrubbed off or disposed of.
- Spray-on application; no ongoing agitation, scrubbing or re-wetting required; immediately reacts upon contact
- Will not contribute to sweating or efflorescence
- Not contingent upon dwell times

### Sodium Silicates

### Nano-Silicas

<b>Spray-On Application</b>	NO	<b>YES</b>
<b>Scrub-in Application</b>	YES	<b>NO</b>
<b>Potential Water Damage</b>	YES	<b>NO</b>
<b>Application Time</b>	60 Min.	<b>15 Min.</b>
<b>Labor</b>	3 Workers	<b>1 Worker</b>
<b>Equipment Required</b>	\$6000 Autoscrubber	<b>\$30 Hand Sprayer</b>
<b>Set Time</b>	12 Hours	<b>1 Hour</b>
<b>Scrub-Off Time</b>	YES	<b>NO</b>
<b>Scrub-Off Labor</b>	YES	<b>NO</b>
<b>Whiting Potential</b>	YES	<b>NO</b>
<b>Autoscrubber Maintenance</b>	YES	<b>NO</b>

NewLook's NanoSet™ Polishing System includes the NanoSet Densifier, Protector, and Cleaner. Each NanoSet product leverages the superior nano-silica technology that is used by polishing contractors to permanently strengthen the structural integrity of concrete.

**Contact NewLook to learn more about using revolutionary NanoSet products:**  
 (801) 886-9495 | [info@getnewlook.com](mailto:info@getnewlook.com)  
[www.GetNewLook.com](http://www.GetNewLook.com)