

How it Works

• In a mixture “AT REST”:

- When dispersed in a cement/plaster matrix, Acti-Plex® particles arrange into a 3-dimensional framework, or lattice structure, as a result of their electrical charge.
- This lattice traps or suspends other particles in the system creating a very uniform and stable mix that reduces settling. These well-dispersed plaster components are now able to function at a more optimal level.



Fluid at Rest (Low shear rates)	Fluid in Motion (High shear rates)
Particles associate into a 3D “lattice”, viscosity increases	Structure breaks, rods align with flow, viscosity reduces



Thin section photomicrographs show reduction in macroporosity and better paste/aggregate bonding after addition of 0.1% Acti-Plex mineral product to the plaster mix.

• In a mixture UNDER MOTION:

- The Acti-Plex® lattice structure becomes altered as particles easily realign along the flow direction when mixed or pumped. This results in lower viscosity and markedly improved flowability, pumpability, and troweling.

• On RETURN TO “AT REST” conditions:

- The rate of ‘thixotropic recovery’ – or rebuilding of the Acti-Plex® lattice structure – is exceptionally fast in the immediate return to a stable structure resulting in:
 - Unsurpassed cohesion and adhesion for reduced settling and sag
 - Improved green strength and shape stability
 - Reduced permeability and shrinkage
 - Better paste-aggregate bonding
 - Reduced check cracking
 - This process of forming and un-forming the lattice structure can be repeated endlessly without loss of performance.

• What Acti-Plex does not do:

- Does not affect cure, color or water/cement ratio
- Does not react in normal plaster applications and pool environments
- Has no expiration (unlimited shelf life) if kept dry
- Does not swell and absorb fluids like other additives
- Is extremely stable – not affected by:
 - over-mixing
 - temperature build up
 - pH 2-13
 - time (after mixing)

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