



DOW CORNING

Coatings Additive Solutions

Dow Corning® 904H Coating Additive for Architectural Façade Coatings

Reduced surfactant leaching for better resistance to ‘snail trail’ effect plus increased surface hydrophobicity.



Enhanced aesthetics for building façades

Around the world, the aesthetics of building exteriors are becoming increasingly important. Architects and building owners are moving from white/gray shades to using darker and striking brighter colors as design elements. When these colors dry after application in cold and humid weather conditions, surfactants and other water-soluble ingredients may leach to the surface, causing the visual effect known as “snail trails.” *Dow Corning® 904H Coating Additive* addresses this issue and reduces the snail trail effect.

Better surface properties

Dow Corning® 904H Coating Additive was tested in various architectural façade formulations, where it demonstrated its positive impact on snail trail reduction under different evaluation methods. Both the streaking test and the cup test yielded positive results. At the same time, this silicone additive can improve surface hydrophobicity, resulting in increased water resistance and better water beading (greater water contact angle [WCA]). Compared to traditional hydrophobes, *Dow Corning® 904H Coating Additive* offers superior performance in reducing snail trail.

A great contribution to formulation freedom

There are multiple approaches to minimizing a coating’s sensitivity to the snail trail effect. The first option is to reformulate based on a specific, often hydrophobic, binder. The second is to reformulate the dispersant package to minimize the amount of water-soluble materials. Both routes can be effective but are likely to be complex and time-consuming. A third option is to use additives. Adding *Dow Corning® 904H Coating Additive* to the existing formulation at a 2 to 5% active level offers a simple way to minimize the snail trail effect.

Key benefits of *Dow Corning® 904H Coating Additive*

- Reduced “snail trail” effect
- Improved water resistance
- Improved water repellency
- Improved water beading (greater water contact angle [WCA])



Figure 1. Snail trail evaluation using the streaking test

2% active *Dow Corning*® 904H Coating Additive added to an exterior masonry paint formulation based on PRIMAL™ SF-016 ER Acrylic Emulsion (PVC level 51%).



Figure 2. Snail trail evaluation using the cup test

5% active *Dow Corning*® 904H Coating Additive added to an exterior masonry paint (PVC level 55%).

	Control	With <i>Dow Corning</i> ® 904H Coating Additive
Streaking traces after 24 hours drying (0: no traces → 3: more traces)	3	1
Exudates collected and rewet finger used to feel surfactant; conducted in triplicate (0: no feeling → 3: high feeling)	3 2	1 1
Average exudates	2.3	1.0

Figure 3. Improvement of water beading (WCA)

2% active *Dow Corning*® 904H Coating Additive added to an exterior masonry paint formulation based on PRIMAL™ SF-016 ER Acrylic Emulsion (PVC level 51%).

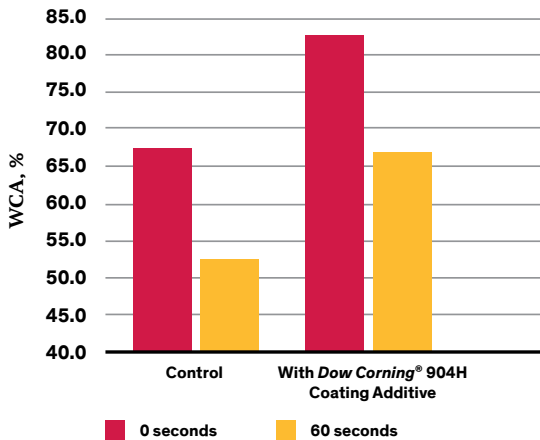
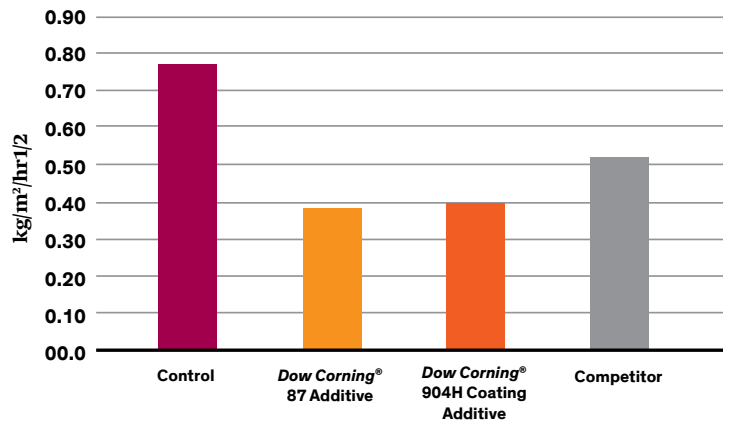


Figure 4. Improvement of water resistance – early water absorption

1% active *Dow Corning*® 904H Coating Additive added to an exterior masonry paint formulation based on an acrylic-modified VAE emulsion (PVC level 50%).



For technical information and samples

For a technical data sheet and to order a sample of *Dow Corning*® 904H Coating Additive to test in your formulation, visit dowcorning.com/powerup or email us at coatings@dowcorning.com.

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