



## Technical Data Sheet

### DOWSIL™ 901H Additive

Silane based additive for hydrophobing and anti-efflorescence waterborne decorative coatings

#### Features & Benefits

- Compatible with waterborne acrylic resins
- Multi-functional
- Low volatile organic compound (VOC)<sup>1</sup> 62 g/l
- Easy to incorporate
- Allows for simplification of paint formulations
- Low impact on total VOC of formulated paints (when used at recommended use levels)

<sup>1</sup>US Include value

#### Composition

- 60 actives silane based emulsion

#### Applications

- For formulation of paint primers for anti-efflorescence.
- For formulation of waterborne decorative coatings to improve water repellency and water beading.

#### Typical Properties

Specification Writers: These values are not intended for use in preparing specifications.

Test <sup>1</sup>	Property	Unit	Result
	Appearance		Milky white
CTM 0862A	Non Volatile Content	%	60–66
CTM 0007A	pH		4.0–6.5

1. CTM: Corporate Test Method, copies of CTM's are available on request.

#### Description

DOWSIL™ 901H Additive is 60% Actives, water dilatable silane based emulsion. One of a family of water based products for water repellency and water beading<sup>1</sup> from Dow. It can be used in waterborne acrylic formulations to improve both water repellency and water beading. When formulated into paint primers, DOWSIL 901H Additive is also effective at preventing efflorescence.

<sup>1</sup>The family of products for water beading and water repellency includes DOWSIL™ 902H Additive and DOWSIL™ 87 Additive

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DOWSIL™ 901H Additive

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**Description (Cont.)** Why a family approach? Every paint formulation is different. With this family of products we aim to give the formulator choice to choose exactly the right product for their application.

**How To Use** DOWSIL 901H Additive is recommended for use at 2–3% as supplied, based on total formulation. The amount to use will vary depending on the coating formulation and should be checked before industrial use.

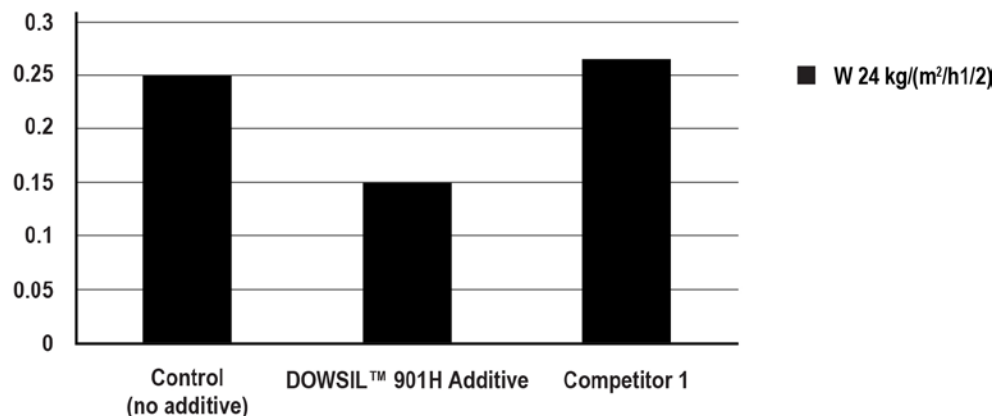
DOWSIL 901H Additive can be added and incorporated easily during the letdown stage of the paint process.

**Anti-Efflorescence** Efflorescence is the formation of salt deposits on or near the surface of mortar or concrete (cement), causing a change in the surface appearance. DOWSIL 901H Additive can also be used to formulate primer paints for treatment of mortar and concrete (cement) to prevent efflorescence.

**Water Repellency** DOWSIL 901H Additive gives reduced water absorption at only 2% actives addition by weight to an emulsion based paint. Figure 1 demonstrates water repellency performance in a waterborne acrylic based wall paint with pigment volume concentration (PVC) of 59%. Additives were added based on % actives as follows:

	Actives Addition %	Addition % by weight to the total formulation
DOWSIL 901H Additive	2	3.3
Competitor 1	2	4

DOWSIL 901H Additive outperforms a competitor additive at the same actives addition level. On a % weight addition to the total formulation, this means using less of the DOWSIL 901H Additive can give a better performance compared to the competitor offering.



**Figure 1:** Water repellency of a waterborne, acrylic based wall paint with the addition of DOWSIL 901H Additive versus a competitive additive. Additives were added at 2 percent actives in the total formulation.

## Water Beading

A multi-functional additive, DOWSIL 901H Additive also improves the water beading properties of decorative coatings. This performance is durable even after 1500 hours of accelerated QUV weathering.

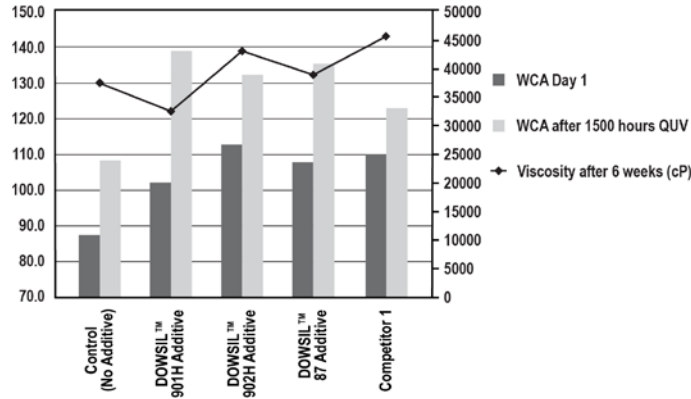


Figure 2:

Water beading and viscosity stability of a waterborne, acrylic based wall paint with the addition of DOWSIL 901H Additive and the family of water based products for water beading and in can viscosity stability versus a competitive additive. Additives were added at 2 percent actives in the total formulation.

## Viscosity Stability

Important to the formulator is that additives used to improve water repellency and beading do not have a negative impact on in can viscosity stability. DOWSIL 901H Additive does not impact viscosity stability to any significance (Figure 2).

## Recoatability

Laboratory studies have shown that at recommended use level, coatings containing DOWSIL 901H Additive are recoatable.

## Dirt Pick Up

Laboratory studies have also shown that at recommended use levels, the family of water based products, including DOWSIL 901H Additive, does not negatively impact dirt pick up.

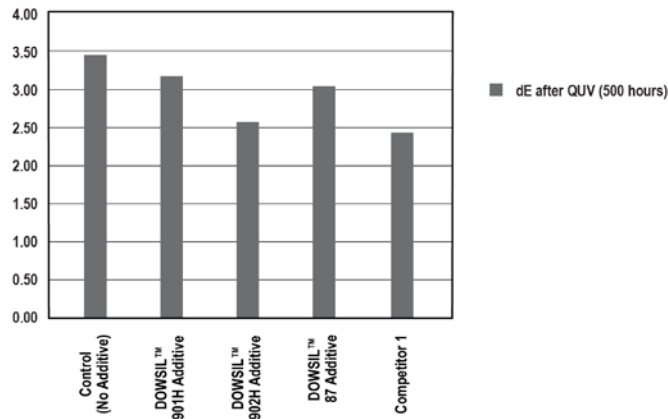


Figure 3:

Dirt pick up of a waterborne, acrylic based wall paint with the addition of DOWSIL 901H Additive and the family of products versus a competitive additive. Additives were added at 2 percent actives in the total formulation. No negative impact on dirt pick up is seen with DOWSIL 901H Additive.

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Dirt Pick Up (Cont.)	Figure 3 Illustrates dirt pick performance by applying an aqueous mineral pigment slurry onto a cured film (50 $\mu$ wet), allowing the slurry to stand for 30 seconds and then washing the film with water. The delta E (dE) value is then assessed by spectrophotometry.
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