



Technical Data Sheet

DOWSIL™ RSN-9118 Resin

Silicone resin dispersed in volatile siloxanes

Features & Benefits

- Easy to use/incorporate
- Water repellent
- Organic solventless
- 100% silicone
- Little or no odor
- Excellent wetting properties
- Not considered a Volatile Organic Compound in Switzerland
- Does not discolor molded parts
- Durable film-former
- Good color and gloss enhancement

Composition

- A blend of silicone resin and volatile siloxanes

Applications

- Additive for automotive appearance formulations
- Suitable for use in solvent-containing automotive appearance formulations
- As a building block for multiple release formulations

Typical Properties

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

CTM ¹	Property	Unit	Result
0176B	Appearance		Slightly colored, clear to hazy liquid
	Silicone content	%w/w	100
0004	Viscosity at 25°C (77°F)	cSt	200–700
	Refractive index at 25°C (77°F)		1.4050
0001	Specific gravity at 25°C (77°F)		1.050
1100L	Flash point, closed cup	°C (°F)	73 (163.4)

1. CTM: Corporate Test Method. Copies of CTMs are available on request.

Description

DOWSIL™ RSN-9118 Resin is a blend of 50% silicone resin and volatile siloxane cyclics. After evaporation of the cyclics, the high-molecular-weight silicone resin forms a highly durable film on the surface.

DOWSIL™ RSN-9118 Resin contains only trace aromatic organic solvents, and no linear organic solvents. For that reason, the product does not have the typical solvent smell.

The product is not toxic and has a flash point above 60°C (140°F).

Benefits

DOWSIL™ RSN-9118 Resin provides shine and excellent water repellency to paintwork and other surfaces when used as an additive to automotive appearance products.

DOWSIL™ RSN-9118 Resin provides a drier finish to surfaces, and also has a minimal effect on lowering frictional forces.

Comparative data between DOWSIL™ RSN-9118 Resin, XIAMETER™ OFX-8630 Fluid and DOWSIL™ 2-5088 Wax has been generated using internal testing procedures (see “Procedure” section of this document).

DOWSIL™ RSN-9118 Resin also has been formulated as an easy-to-use building block for thermosetting plastics release formulations. It is compatible with organic solvents and easy to emulsify.

Procedure

A dark, solid-colored panel was prepared, and 5% active solution of each product applied.

Gloss

For high gloss surfaces such as paintwork of vehicles, the most important measurement is the 20° angle value. Figure 1 shows that all products give an improvement but that it is slightly less for DOWSIL™ RSN-9118 Resin in comparison to the other products, indicating a less uniform deposition when used on its own.

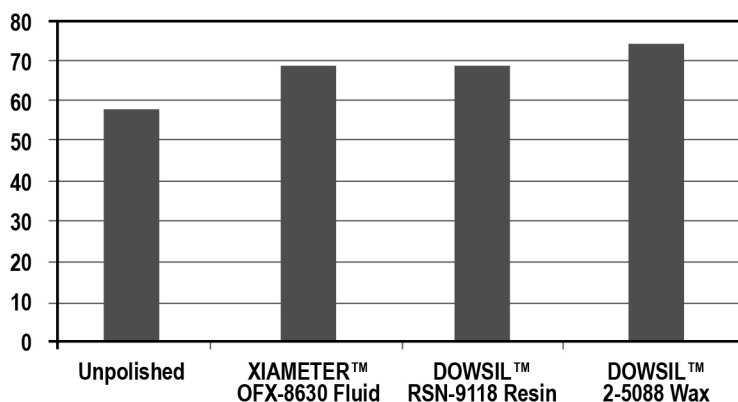


Figure 1: 20° Gloss.

Procedure (Cont.)

Color

This is often referred to as “depth of gloss,” “wet look” or “jetting.” Measurements can be made by using a Spectrophotometer with Specular Excluded, using the CIE color space L*a*b* system. Using this convention, the total color change is expressed as a Delta E value as given in Figure 2.

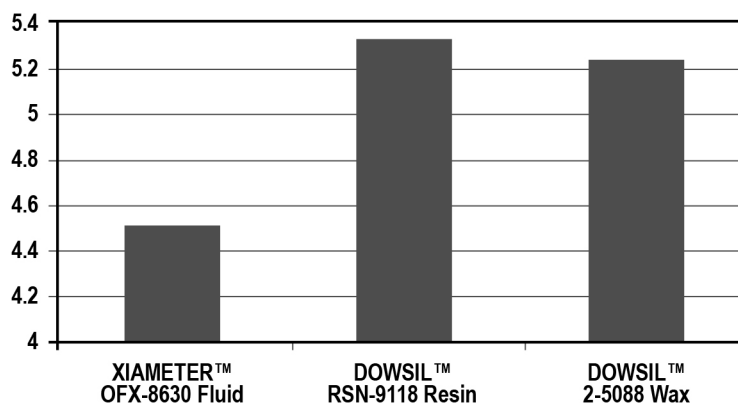


Figure 2: Color Delta E Values.

In this test, DOWSIL™ RSN-9118 Resin gives the greatest color change, reflecting more accurately the visual assessment of color change. Combining the gloss and color gives a shine index.

Durability

The results shown in Figure 3 are based upon a laboratory procedure for determining the time taken for an area to be water-free, from initially being completely covered with a film of water. It shows that DOWSIL™ RSN-9118 Resin is the most durable of the products.

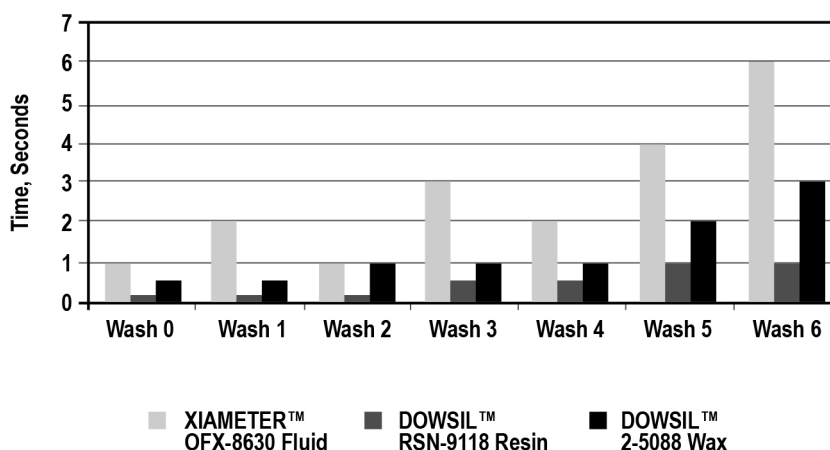


Figure 3: Durability.

Procedure (Cont.)

Slip

Referring to Figure 4, it can be seen that DOWSIL™ RSN-9118 Resin has little, if any, effect on the slip as given by the dynamic frictional force measurements (the force required to keep an object moving across a substrate). This property may be useful in providing protection to substrates but not making them slippery, such as leather seats.

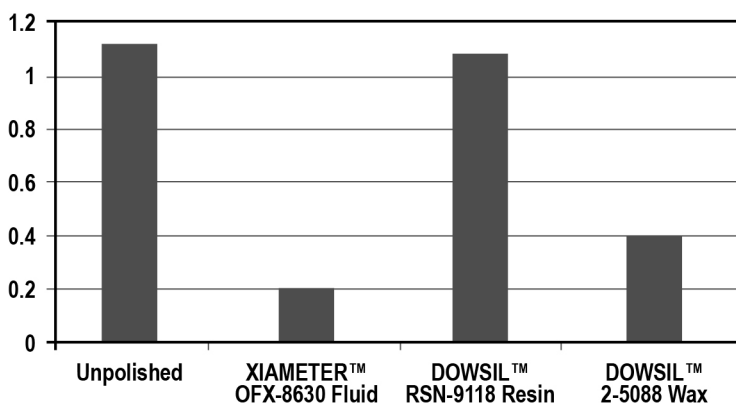


Figure 4: Dynamic Frictional Force.

How to Use

Automotive Appearance Applications

DOWSIL™ RSN-9118 Resin should be used in conjunction with other silicone fluid products. It can easily be incorporated into the nonaqueous phase of products with low-shear stirring.

Suggested use levels of DOWSIL™ RSN-9118 Resin in automotive polishes are 13 weight percent. In other potential applications, such as leather, plastic or rubber enhancers, use level could be 26 weight percent. Optimal levels in specific formulations should be determined by the end user.

Release Applications

DOWSIL™ RSN-9118 Resin can be formulated into an aqueous emulsion by using appropriate surfactants, or it can be solubilized in organic solvents. Suitable solvents are aliphatic hydrocarbons or volatile methyl siloxanes.

Handling Precautions

PRODUCT SAFETY INFORMATION REQUIRED FOR SAFE USE IS NOT INCLUDED IN THIS DOCUMENT. BEFORE HANDLING, READ PRODUCT AND SAFETY DATA SHEETS AND CONTAINER LABELS FOR SAFE USE, PHYSICAL AND HEALTH HAZARD INFORMATION. THE SAFETY DATA SHEET IS AVAILABLE ON THE DOW WEBSITE AT DOW.COM, OR FROM YOUR DOW SALES APPLICATION ENGINEER, OR DISTRIBUTOR, OR BY CALLING DOW CUSTOMER SERVICE.

Usable Life and Storage

When stored at 32°C (90°F) in the original unopened container, this product has a usable life of 24 months from the date of production.

Avoid freezing.

Limitations

This product is neither tested nor represented as suitable for medical or pharmaceutical uses.

Health and Environmental Information

To support customers in their product safety needs, Dow has an extensive Product Stewardship organization and a team of product safety and regulatory compliance specialists available in each area.

For further information, please see our website, dow.com or consult your local Dow representative.

Disposal Considerations

Dispose in accordance with all local, state (provincial) and federal regulations. Empty containers may contain hazardous residues. This material and its container must be disposed in a safe and legal manner.

It is the user's responsibility to verify that treatment and disposal procedures comply with local, state (provincial) and federal regulations. Contact your Dow Technical Representative for more information.

Product Stewardship

Dow has a fundamental concern for all who make, distribute, and use its products, and for the environment in which we live. This concern is the basis for our product stewardship philosophy by which we assess the safety, health, and environmental information on our products and then take appropriate steps to protect employee and public health and our environment. The success of our product stewardship program rests with each and every individual involved with Dow products - from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

Customer Notice

Dow strongly encourages its customers to review both their manufacturing processes and their applications of Dow products from the standpoint of human health and environmental quality to ensure that Dow products are not used in ways for which they are not intended or tested. Dow personnel are available to answer your questions and to provide reasonable technical support. Dow product literature, including safety data sheets, should be consulted prior to use of Dow products. Current safety data sheets are available from Dow.

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