

Importance of Paint Viscosity

Technical Tips for CV & Industrial Applications.

In commercial vehicle and industrial painting, viscosity is a critical property that influences paint behaviour, application performance and the ability to achieve a high-quality finish. Paint viscosity can be affected by several factors, including temperature, reducer selection and reducer levels.

If paint viscosity is too **high**, it can result in:

- Poor atomization and an inconsistent spray pattern
- Excessive orange peel and poor flow
- Difficulty achieving a smooth, uniform finish
- Increased risk of dry spray and uneven film build
- Higher material consumption due to reduced transfer efficiency
- Slower drying resulting from excessive film build

If however, the paint viscosity is too **low**, it can result in:

- Runs and sags
- Reduced film build and coverage
- Excessive overspray
- Poor colour uniformity

Temperature has a significant effect on paint viscosity. As paint temperature decreases, viscosity increases, making the paint thicker and more difficult to atomise. Conversely, as paint temperature increases, viscosity decreases, resulting in a thinner material. For consistent application performance, paint products should, where possible, be stored in a controlled environment, such as a spray booth, and allowed to reach 20°C before mixing and application.

The viscosity range specified in the Technical Data Sheet (TDS) is typically measured at 20°C. Where required, ready-for-use viscosity can be checked using a viscosity flow cup and compared against the specified range in the TDS to ensure optimum application characteristics.

Best Practice for Consistent Results

- Mix paint according to the mixing ratio and temperature specified in the TDS.
- Using the appropriate recommended reducer for the application conditions.
- Consider the actual temperature of the paint mix at the time of application.
- Adjust spraying conditions and equipment settings as necessary to maintain consistent application.
- Avoid adding additional reducer simply to make the paint easier to spray, especially in cold weather, as this can alter the coating's application characteristics and overall performance.

For further technical assistance or information, please contact Axalta Coating Systems.

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