

TECHNICAL DATA SHEET



AESUB violet bulk vanishing scanningspray

- Vanishing Scanning Spray (sublimating)
- Contains no pigments and no TiO₂ – the spray für fog does not damage sensitive measurement equipment
- Time and cost savings – no subsequent cleaning required, the spray sublimates independently
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- Thin, homogeneous and non-slip coating
- Reference points adhere tot he coating
- Excellent scanability
- Developed by scan experts



General information

Even when using state-of-the-art scanners, in many applications it is necessary to use matting agents to achieve good contrast values and thus precise measurement results.

a) Transparent parts

Optical metrology relies on light emitted from the scanner reflecting off the surface of the part being scanned back into the scanner's sensor. However, in the case of a transparent surface, the light passes through the surface instead of being reflected from it. As a result, the scanner cannot detect the surface structure.

b) Reflective parts

In the case of reflective or specular surfaces, the light beam is emitted in focused rather than in diffusely reflected back. Thus, it is not possible for the scanner to capture the surface.

c) Deepenings

If the object being scanned has pronounced indentations, the scanner will receive a reflection from the walls of the indentation. This results in a disturbance of the light pattern, which shows up in the scan as "artifacts" or erroneous data.



d) High quality and accuracy

For the most accurate and high quality measurements, a scanning spray should be used to eliminate possible interfering factors such as differences in the reflectance property, texture and/or color of the object to be scanned. The use of scanning spray creates a matte, white and homogeneous coating that reduces reflections and other inhomogeneities, thus creating excellent scanning conditions.

The matting sprays used in 3D scanning technology for the antireflection coating of surfaces can be divided into two product groups:

Semi-permanent pigment spray

- White, non-grip coating remains on the component after scanning
- Necessary cleaning of the scan object or its disposal if cleaning is not possible

Volatilizing (sublimating) scanning spray

- White, non-slip coating evaporates automatically after scanning, eliminating the need for component cleaning
- Laboratories, sensors, environments and users are not contaminated by pigments

1. AESUB violet bulk

AESUB violet bulk is a self-volatilizing scanning spray developed by scanning experts. It eliminates basic application problems of 3D metrology, especially in sensitive areas (laboratories, production, etc.) and protects the equipment from contamination by pigment deposition. Expensive transports of externally matted measuring objects to the sensor as well as the time-consuming cleaning of the measuring environment and objects after scanning are no longer necessary. With AESUB violet bulk, you achieve a significant increase in efficiency and productivity in the entire digitization process.

Produkteigenschaften AESUB violet bulk:

- Sublimating / evaporating
- Time and cost savings - no need for subsequent cleaning
- Layer thickness ~4-8 μm
- Contains no pigments - the spray mist does not damage the sensitive measuring technology
- Consistent and homogeneous coating
- Reference points adhere to the coating
- Optimized material compatibility
- Excellent scanability

When used properly, AESUB violet bulk forms a matte, thin and homogeneous coating on the surface of the scan object. It thus provides the ideal conditions for optical detection. The formulation was designed for maximum material compatibility.



2. AREAS OF APPLICATION

AESUB scanning sprays facilitate or enable (e.g. for transparent/glossy components) optical digitization both in the craft sector and in a wide variety of industrial sectors:

- Automotive
- Mechanical and plant engineering
- Aerospace
- Energy sector
- Architecture
- Plastic design / art
- Marine
- Reverse Engineering
- Optical metrology
- Research and development
- Process monitoring
- Inline scanning
- Measurement service
- Surface inspection

3. MATERIAL COMPATIBILITY

AESUB scanning sprays are optimized for their material compatibility, however material compatibility for specific applications cannot be guaranteed. The specific material compatibility must therefore be checked by the user before application. AESUB violet bulk contains solvents. For wax-like surfaces or simple, 1K coatings, please test thoroughly beforehand. Details can be found in the Safety Data Sheet (SDS) (<https://aesub.com/download>).

4. LAYER THICKNESS

AESUB violet bulk has been optimized for a minimum film thickness. This is between 10 µm and 20 µm when applied with a compressed air spray gun.

5. RANGE

With one liter of AESUB violet bulk you can cover between 10m² and 15m² surface.

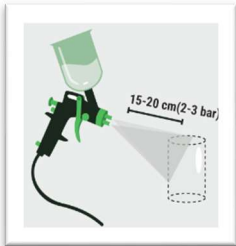
6. APPLICATION

There are several ways to apply AESUB violet bulk:

- With a classic flow or suction cup compressed air spray gun (+/- 3bar, nozzle diameter from 1mm) - with this you can achieve a very fine and homogeneous surface that is also suitable for close-range scans.
- With the AESUB Battery Spraygun. It allows stationary use and is particularly suitable for larger objects.

APPLIKATION

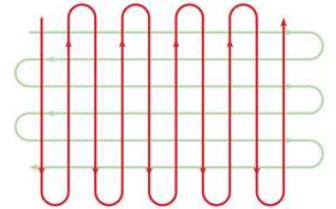
SPRAY



Apply AESUB violet bulk from a distance of 15-20 cm with a spray gun. We recommend either the battery-operated AESUB spray gun or spray guns with a nozzle diameter of 1 mm or more. Spray the complete surface to be scanned.

Spray evenly, with the nozzle pointed at the object, slowly back and forth to obtain an even coating.

AESUB violet bulk is applied "wet in wet" in a cross-coat process. The solvent evaporates within a few seconds, while the active ingredient remains on the surface as a coating. The whiteness of the coating increases as the solvent evaporates. Complete evaporation occurs after approx. 1-2 min. If drops form on the component or the applied matting remains "wet" for longer, increase the spraying distance or increase the spraying speed. The ideal ambient temperature is 21°C/69.8°F.

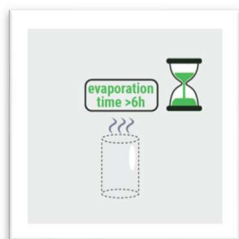


SCAN



After complete drying of AESUB violet bulk, the object can be scanned as usual. If necessary, reference marks can be glued to the sprayed surface.

DONE



The applied layer of AESUB violet bulk evaporates independently after scanning. The otherwise time-consuming cleaning after application is no longer necessary.

7. EVAPORATION / SUBLIMATION

The sublimation of AESUB violet bulk takes about 24h, but this depends largely on the following factors:

a) Temperature

- o high ambient temperatures shorten the sublimation time
- o low ambient temperatures extend the sublimation time

b) Air flow

- o Air currents (wind, ventilation) shorten the sublimation time

c) Surface

- o Uneven structures of the surface lengthen, even structures shorten the sublimation time
- o In exposed areas (outer corners), the sublimation time is shortened

d) Material

- o The materials to which AESUB violet bulk is applied influence the sublimation time. Plastics shorten, metals extend the sublimation time

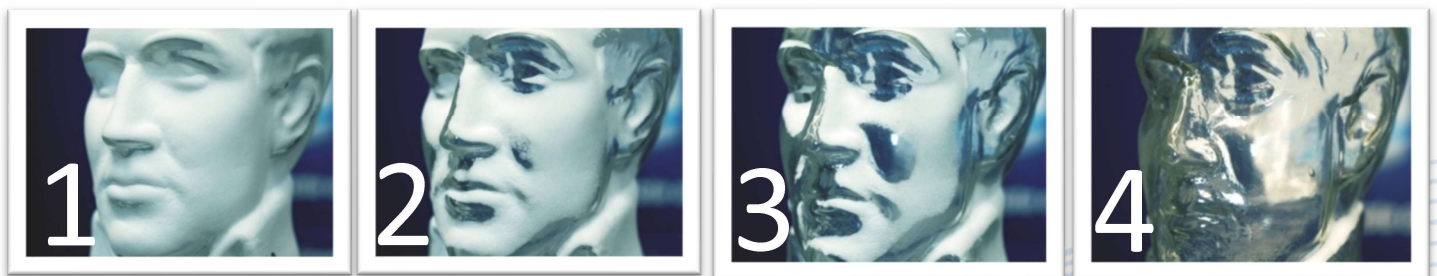
d) Layer thickness

- o A higher film thickness prolongs the sublimation time

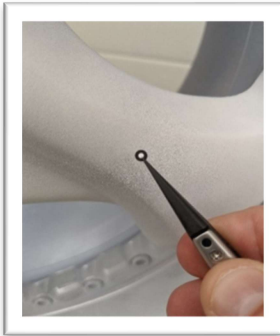
Experience shows that components matted with AESUB violet bulk remain completely scannable for about 2-6h. Individual contours can be re-sprayed at any time if required. By spraying on several layers, the sublimation time can be significantly extended.

Accelerate sublimation time:

If you want to accelerate sublimation, increase the temperature (hair dryer) and/or the air circulation (fan).



Scanning large objects



Since AESUB violet bulk can remain on the component for a very long time depending on the layer thickness, you can digitize as usual in most cases. The only recommended change in the usual way of working is that you apply the measuring points (targets) to the surface after spraying on AESUB violet bulk. This eliminates the need to clean the points before scanning.

8. MORE INFORMATION

Die Sublimation von AESUB violet bulk dauert etwa 24 Stunden, hängt jedoch in hohem Maße von den folgenden Faktoren ab:

a) Storage

- Optimal storage temperature between 18°C and 21°C (64.4°F and 69.8°F)
- Minimum shelf life: 5 years
- Store in a dry place and avoid direct sunlight

b) Hazard Information Center

- If you feel unwell after using AESUB violet bulk, please contact the 24-hour emergency number - see Safety Data Sheet item 1.4 (<https://aesub.com/download>).

○ Never spray on hot or glowing components and ensure adequate ventilation. Do not use for products intended to come into contact with foodstuffs - Food-Exclude contact. Carefully read the safety instructions in the corresponding safety data sheet (<https://aesub.com/download>).

For further information, please visit our website at <https://aesub.com> and refer to the Safety Data Sheet (<https://aesub.com/download>).

Disclaimer

The information provided has been prepared with great care. However, we cannot accept any liability for any incorrect or incomplete information.