

AESUB transparent

- + **Vanishing scanning spray (evaporating)**
- + **Free of pigments & free of TiO₂ – spray dust does not damage the sensitive technical scan equipment**
- + **Time and cost savings – no post-cleaning necessary; the coating sublimates and evaporates automatically after scanning process**
- + **Thin, homogeneous and dry to handle coating**
- + **Excellent scannability of colors and textures**
- + **Developed by scanning experts**

General Information

Even with state-of-the-art scanners, it is necessary to apply matting spray in several application cases:

a) Transparent parts

As we are dealing with optical technologies, light needs to be projected on and/or reflected off the surface back into the detector of the scanner. In case of a transparent surface, however, the light will go through the surface instead of being reflected by the same. In consequence, the scanner is not able to capture the surface structure.

b) Reflective parts

In case of reflective parts, such as a mirror, the light beams will be reflected in a focused way instead of in a diffused way. This means that the chance of a beam hitting the reflector of the scanner is greatly reduced and the scanner will only capture a fraction of the reflected light beams.

c) Deep Pocket

When the object to be scanned has deep pockets, the scanner receives a reflection from the walls of the pocket onto the bottom. This causes disturbance in the pattern of the light manifesting in the scan as “artefacts” or bad data.

d) High quality and accuracy

When quality and accuracy are important, you might want to apply spray to remove as much as possible all the causes like colour differences, differences in reflection, texture, etc.

The use of spray creates a matt, white coat reducing reflection and other inhomogeneities and thus provides perfect scanning condition.

In general, matting sprays used in 3D metrology for antireflective coating can be classified into the following two product groups:

Semi-permanent sprays

- surface remains white after scan
- cleaning required or disposal of scanned object

Vanishing sprays

- coating evaporates automatically
- no cleaning after scanning required
- no pigment-contamination of laboratories, sensors, environments, scanners and users

1. AESUB transparent - value proposition

AESUB transparent is a self-vanishing scanning spray developed by scanning experts. The spray evaporates within a few hours, meaning that there is no need for cleaning after scanning. Unlike traditional sprays, AESUB transparent does not contain pigments and thus avoids pigment-contamination of sensitive areas, such as laboratories and production sites, equipment and users. You can therefore apply AESUB transparent directly, on spot of scanning, without any costly transport to avoid said pigment-contamination in sensitive areas. Overall, AESUB transparent greatly increases efficiency and productivity within the digitizing processes.

AESUB transparent characteristics are:

- Vanishing
- Time and cost savings – no post-cleaning necessary
- layer thickness of ~15-20 µm
- free of pigments – spray dust does not damage the sensitive technical scan equipment
- consistent and homogenous and dry to the touch coating
- reference points stick on the coating
- optimized material compatibility
- excellent scannability

When used properly, AESUB transparent forms a matt, thin and homogeneous coating on the surface of the scan object. AESUB transparent breaks the gloss of the surface but leaves color information still recognizable. Thus, for example, a transparent red car tail light can be digitized with all its color information. Reflections in the scan or photo object can also be eliminated. It thus provides the ideal conditions for optical capture. In addition to the active ingredient, AESUB transparent contains a propellant gas and solvent. The formulation was designed for maximum material compatibility. Independent laboratory tests have shown that AESUB transparent sublimates completely and leaves no residue. For detailed information, please refer to the residue analysis report and the safety data sheet (SDS). (<https://aesub.com/dl/>)



2. Areas of application

AESUB transparent facilitates and enables optical digitalization in a wide variety of industrial sectors and range of applications:

- automotive
- engineering
- aerospace
- energy sector
- tooling industry
- architecture
- plastic design / art
- digital archiving
- reverse engineering
- optical metrology
- research and development
- process monitoring
- inline scanning
- measurement services
- surface inspection

3. Material compatibility

Material compatibility for specific applications cannot be guaranteed. Users should check specific material compatibility before use. AESUB transparent contains solvents. See the safety data sheet (sds) for further information. (<https://aesub.com/dl/>)

4. Layer thickness

The layer thickness of AESUB transparent ranges between 15 and 20 µm depending on the user-specific application.

5. Anwendung

SPRAY



Apply AESUB transparent from 15-20 cm away. Gently push down the spray button and move the can across the area using even, back and forth strokes. Move at a consistent pace to achieve an even coating. Spray over the entire surface that you will be scanning.

AESUB transparent is applied "wet". The solvent vanishes within a few seconds while the coating remains on the surface. The degree of whiteness of the coating still increases for a couple of seconds.

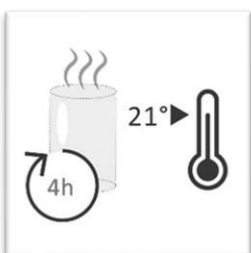
Increase spraying distance or pace in case of drop formation or when coating remains "wet" for too long. Note that multiple spraying increases layer thickness. The recommended ambient temperature is 21°C/69.8°F.

SCAN



Scan can be started as soon as you have a stable and white coating. Scan object in usual manner.

DONE



The applied coating of AESUB transparent sublimates and thus eliminates the need for complex cleaning after use.

6. Vanishing / Sublimation

The sublimation time of AESUB transparent depends on the following factors:

a) **Temperature**

- high ambient temperatures shorten sublimation time
- low ambient temperatures extend sublimation time, even above 4 hrs possible

b) **Airflow**

- ventilation shortens sublimation time

c) **Surface structure**

- features such as pockets, holes or grooves within the surface structure extend sublimation time
- even surface structures shorten sublimation time
- sublimation starts at exposed areas, such as outer corners or edges

d) **Material**

- sublimation time also depends on the material to which AESUB transparent is applied to

e) **Layer thickness**

- Higher layer thickness extends sublimation time

Experience shows that components matted with AESUB transparent remain completely scannable for about 1h. After that, individual contours can be re-sprayed if necessary. By spraying on several layers, the sublimation time can be significantly extended and the transparency changed. If you want to accelerate the sublimation, increase the temperature (hair dryer) and/or the air circulation (fan).

7. Residue analysis

Independent experts examined AESUB transparent for potential residues and came to the following conclusion:

“The proven and quantified sum of all semi-volatile compounds and the identity of the individual compounds were within the expected range. Based on the application of 1 - 2mg/sq.cm when applied according to the printed description, approximately 10ng substance/sq.cm remain on the sprayed object. Such a residue is neither optically recognizable, nor can it be detected with surface metrology. Therefore, the investigated scanning spray “AESUB transparent” can be characterized as residue-free in the sense of the used analytical methods.”

Please find the entire report at and note that we do not guarantee the complete sublimation of AESUB transparent.

8. Further information

a) **Storage**

- optimal storage temperature ranges between 18°C and 21°C (64.4°F and 69.8°F)
- shelf life of 5 years
- store at dry conditions with no direct sunlight

b) **Risk information centre**

- Do not spray on an open flame or other ignition. Use ventilated areas. Protect from sunlight. Do not use on products intended for contact with food - exclude food contact. Also read carefully the safety instructions in the associated safety data sheet ()

You will find further information our website (<https://aesub.com>) and in particular in the safety data sheet (<https://aesub.com/dl/>)

Disclaimer: The above information was prepared carefully. We, however, cannot be held liable for any incorrect or incomplete information.