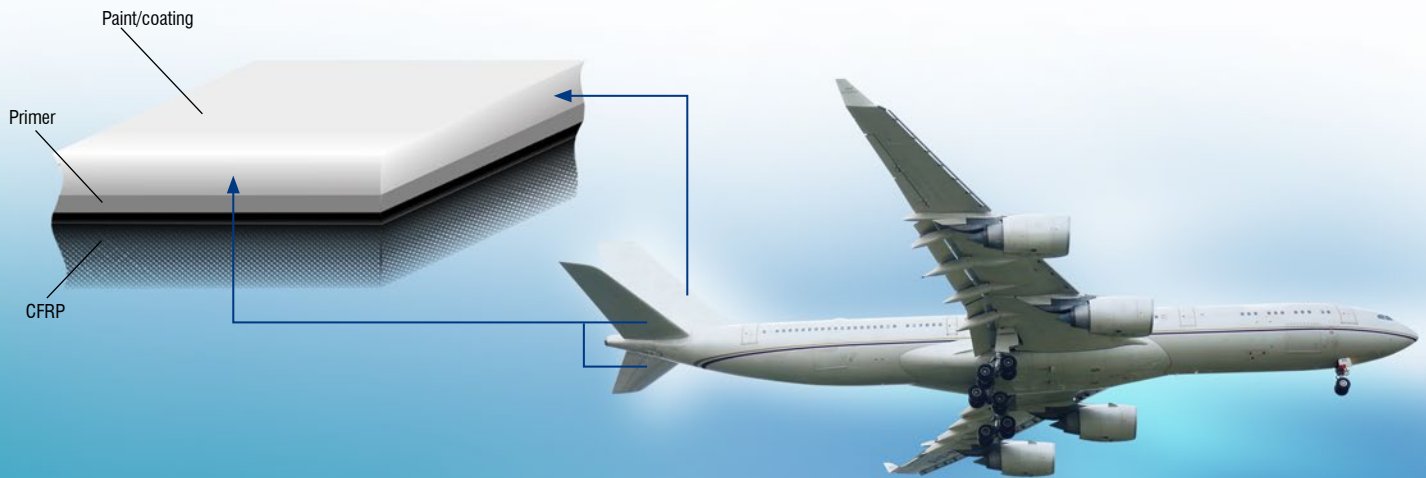




Balancing of flight controls

Safety is a crucial factor in the aircraft industry. Therefore, a lot of time and money is invested in testing, maintenance and servicing. When an aircraft is repainted, certain parts such as the rudder and elevator must be balanced in terms of center of gravity and weight distribution in order to ensure that the aircraft can still fly in a stable and safe manner.

It depends on how much paint was applied to the respective component. Each part is usually weighed before the paint is stripped and after it is repainted. Another method for determining the paint thickness is a destructive test method, where the correction values are subsequently calculated. Even if only a few measuring points are involved, both methods require an enormous amount of work and time.

The FSC1/7 and FSC1000 paint thickness gauges from Micro-Epsilon offer a much more efficient method. They measure the paint thickness directly in a non-destructive way and without leaving residue on any metals and CFRP materials. No other method offers this non-destructive technique. Measuring using the FSC means reworking is no longer necessary. In addition, this increases the accuracy as the paint thickness is determined with micrometer precision. The total weight of the components can be easily calculated from the measured paint layer by subtracting the measured values before and after painting and converting them into a total weight using the volume. The FSC measures significantly more points in a much shorter time. In addition, the measured values can be automatically saved, commented on and transferred directly to calculation programs such as Microsoft Excel using the export function.

Requirements for the measurement system

- Measurement of a dry paint surface
- CFRP, CFRP with lightning protection and any metal
- Fast, non-destructive and residue-free measurement
- Micrometer resolution

Ambient conditions

- Maintenance hall / paint shop

System design

- FSC1/7
- FSC1000

Advantages

- Time and cost savings through more measuring points in less time
- Reduction of work amount and increase of measurement accuracy
- No reworking required