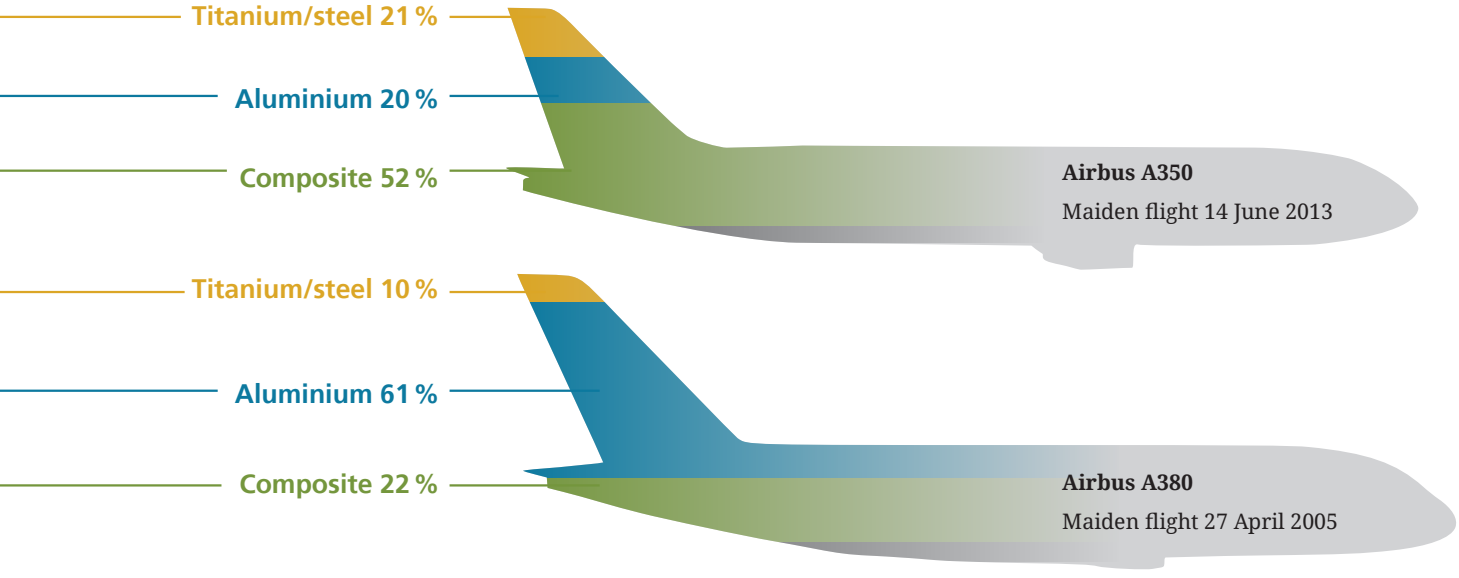
Processes, approvals and optimisation

Safety from the specialist: Solutions for aviation

When an airline gets a call raising an AOG, or "Aircraft on Ground", alarm, every minute counts. In the aviation industry, every hour that a high-tech aeroplane spends out of action and grounded due to a technical fault costs the airline thousands of euros. If the airline has to resort to sourcing a replacement plane, it will lose revenue and incur additional operating costs and landing fees. Compensation claims from passengers or contractual penalties from freight customers further elevate the financial risk.

However, safety and availability in the aviation industry can only be guaranteed because all processes related to the production and operation of passenger aircraft are subject to stringent safety standards and must be certified according to specific guidelines. In the aerospace sector, coolants, alongside tools and production methods, are a core element of part approval. It is essential that Rhenus Lub customers can put their trust in us, knowing that all fluid process parameters are fulfilled in a stable and safe way to consistently high quality standards.

Raw material trends in aircraft construction



Rhenus Lub's extensive experience in core areas of aircraft component machining is almost unique in the industry. This experience includes:

— Special machining processes in the aviation industry

— Handling approvals for machining processes

— Process optimisation and cost reduction

Rhenus Lub holds particular expertise in state-of-the-art raw materials and the machining of these materials. Customers – manufacturers and suppliers to the aerospace industry – require high-strength materials and composites. They also want to reduce weight and fuel consumption. But innovative lightweight materials are especially difficult to machine. Whether for the demanding aluminium machining processes involved in manufacturing the body frame, fuselage and wing components, or the production of turbine blades, jet engine discs, turbine sealing rings or enclosures, Rhenus Lub offers solutions for all raw materials (see diagram). In its own state-of-the-art laboratories, the company has developed high-performance lubricants that are approved by industry leaders such as Airbus, Rolls-Royce, MTU, Premium Aerotec and Embraer. Rhenus Lub products will ensure aviation customers reach new heights in their machining processes.

i Did you know...

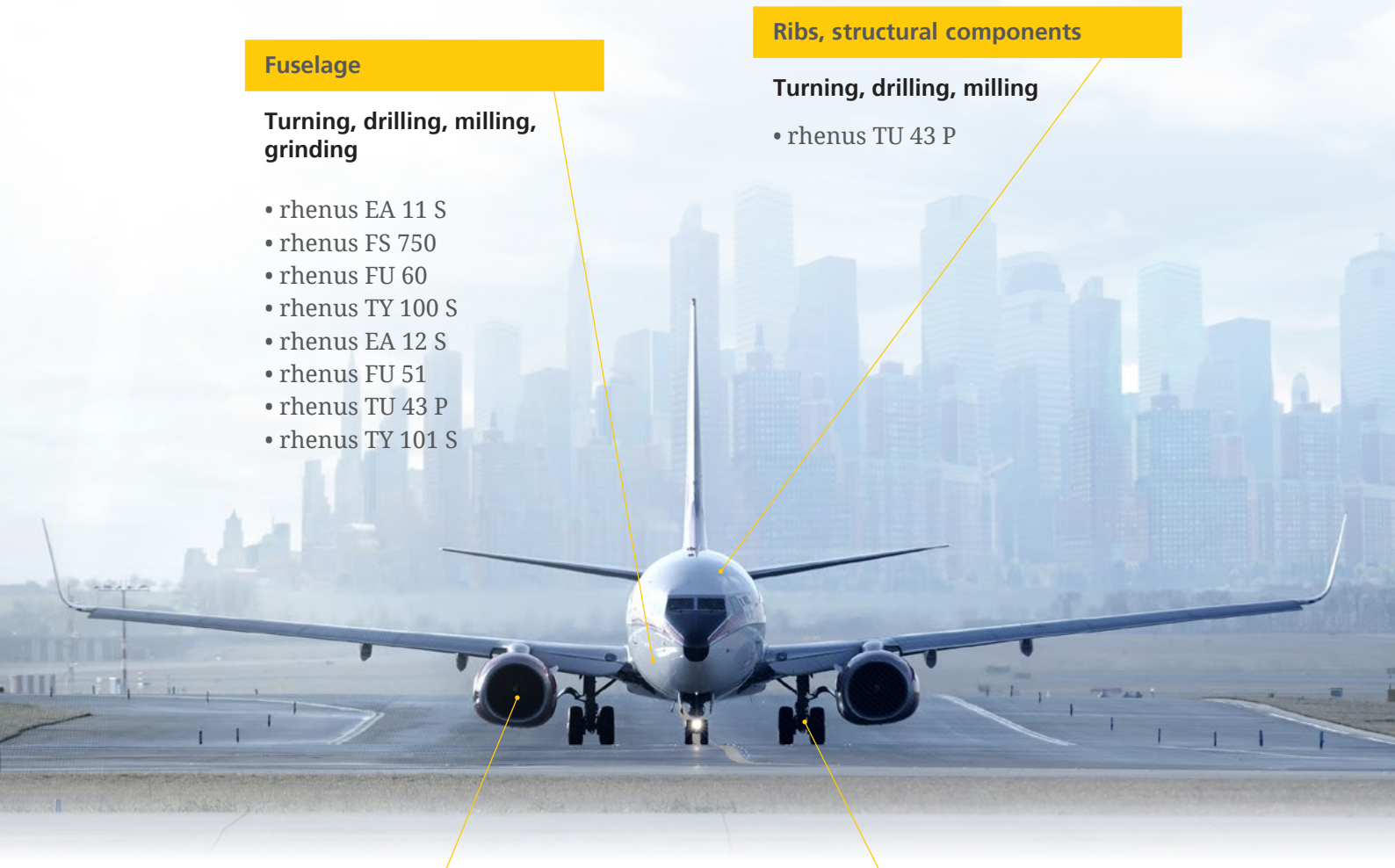
...that there are machined parts in the aircraft industry with a machining proportion of approx. 98 %?

Example: Machining of the wing rib of an Airbus A380

— Weight of the original block material: 3.2 t

— Weight of the finished workpiece: 58 kg

rhenus products for the aerospace industry



Fuselage

Turning, drilling, milling, grinding

- rhenus EA 11 S
- rhenus FS 750
- rhenus FU 60
- rhenus TY 100 S
- rhenus EA 12 S
- rhenus FU 51
- rhenus TU 43 P
- rhenus TY 101 S

Ribs, structural components

Turning, drilling, milling

- rhenus TU 43 P

TURBINE

Grinding, turning, drilling, milling, deep drilling

- rhenus EA 11 S
- rhenus FS 750
- rhenus FU 51
- rhenus FU 60
- rhenus R-FLEX
- rhenus EDD 10
- rhenus FU 50 W
- rhenus FU 52 TD
- rhenus TU 44
- rhenus TU 65

Chassis parts

Turning, drilling, milling

- rhenus EA 12 S
- rhenus FU 60
- rhenus FU 70 W

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