



FOR IMMEDIATE RELEASE: 9.29.2025

M4 Engineering Inc. and M4 Phoenix Technology Works announce M4 PTW's AS9100D certification for composite manufacturing.

Long Beach, CA, and Maricopa, AZ 09/29/25—M4 Engineering Inc. and M4 Phoenix Technology Works (M4 PTW) are excited to announce M4 PTW's AS9100 certification, completed earlier this month. AS9100D certification is a critical differentiator that signifies adherence to the aerospace sector's most rigorous quality and safety standards. For composite design, analysis, and manufacturing, the significance lies in ensuring product safety, process consistency, and regulatory compliance throughout the entire supply chain.

AS9100D is the aerospace sector's specific quality management system (QMS) standard, based on ISO 9001, that establishes requirements for designing, developing, and providing products and services for aviation, space, and defense. It mandates high standards for process controls, risk-based thinking, and continuous improvement, and specifically addresses the prevention of counterfeit parts, ensuring reliability and safety in the highly regulated aerospace industry.

The impact of this certification is that it enables M4's prototyping clients to scale manufacturing with a known entity and a trusted team, while compressing schedules and reducing costs. This is done by leveraging the time and material investments made in product development and prototyping phases towards better planned and more efficient manufacturing tooling and processes moving forward.

AS9100D certification benefits for M4 PTW composite parts and tooling manufacturing partners:

- **Increased operational efficiency:** The AS9100 framework promotes a process-based approach to quality management, which helps identify and eliminate inefficiencies in the manufacturing process. This reduces waste and lowers production costs associated with composite fabrication.
- **High-precision manufacturing quality:** For composite materials, which require intricate and precise process control, AS9100 ensures consistent and high-quality manufacturing. This consistency is essential for producing high-quality, defect-free composite parts.
- Material and product traceability: AS9100 mandates strict traceability throughout the
 production process. This is critical for composite manufacturing, as it ensures the entire history of
 every part can be tracked from raw materials to the finished product, which is vital for effective
 recalls and quality control.

By coupling the above benefits with M4 Engineering, Inc.'s proven capabilities in composite design, analysis, and testing, companies would be able to take advantage of inventive thinking and problem-solving approach, which M4 calls "Agile Intelligence", while having a clear path to quality-controlled and auditable composite parts, systems, and tools. Here are some additional areas that would be positively impacted by M4 PTW's recent certification:

- Strengthened risk management: The standard mandates proactive identification and mitigation
 of risks early in the design process. This helps composite engineers address potential issues
 related to material behavior, lamination processes, and curing methods before they become
 defects.
- Robust configuration management: AS9100 requires a systematic process for controlling and documenting all design changes. This is crucial for composite parts, where any unintended changes could compromise safety or compliance.
- **Improved supplier control:** The standard places a heavy emphasis on managing external providers, which is essential for composite companies that rely on high-quality materials. It ensures all materials meet stringent quality standards, thereby reducing the risk of component failure











Recent trends show AS9100 certification in the composite industry is driven by advancements in digital technology, an increasing focus on sustainability, and the evolution of manufacturing techniques. Aerospace manufacturers are leveraging AS9100 to ensure safety and quality in high-rate, next-generation aerospace platforms that heavily rely on composite materials.

Dr. Myles L. Baker, President, M4 Engineering, commented on the importance of this certification:

"We were excited to have M4-PTW join the M4 family last year, since it represented an important expansion of M4's capabilities. Establishing the AS9100 certification is the next step in that expansion, positioning us even better to support our clients with not only the best analysis, design, and optimization capabilities, but some of the best composite manufacturing capabilities available anywhere."

M4 excels in the design and build of projects on the cutting edge of Aerospace prototype development, low-rate production, large-scale tooling, and full production of aerospace composite parts. The technicians and engineers at M4 have extensive experience in composite systems and the production of large-scale, high-precision parts, prototypes, and tools. M4-PTW Specializes in Master Pattern Fabrication, Composite Tooling, Direct Tooling, First Article, Part Fabrication, and Composite Assemblies.

M4 Design, Prototyping, and Test Manager, Brent Scheneman, is responsible for integrating the Long Beach and Phoenix teams and capabilities added:

"Achieving AS9100 certification is a major milestone for our team. It reflects our unwavering commitment to quality, safety, and continuous improvement. This certification not only strengthens the confidence our customers place in us but also positions us to better support the aerospace industry's highest standards."

About M4 Engineering, Inc.: M4 Engineering is based in Long Beach, CA, and focuses on solving complex engineering and prototyping challenges that arise during the development of new products, ground, marine, and flight vehicles. It has extensive experience in composite design, analysis, and fabrication. As a Siemens Digital Industries reseller, it helps guide companies through the journey of becoming a digital Enterprise and offering the necessary tools for the creation of functional digital twins.

M4 Phoenix Technology Works is a wholly owned subsidiary of M4 Engineering, Inc.

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