

MPW 6061 Aluminium Qualified for US Department of Defence Cold Spray, Establishing Strategic Pathway to Recurring US Defence Powder Sales

Key Highlights

- **U.S. ARMY COMBAT CAPABILITIES DEVELOPMENT COMMAND** has qualified MPW 6061 aluminum powders for the Qualified Parts List (QPL).
- The **University of Dayton Research Institute (UDRI)** completed testing on MPW powders and now the powders are qualified for production cold spray repairs, not R&D trials.
- **MPW 6061** to be added to the **Defense Logistics Agency (DLA)** Qualified Parts List and assigned a **National Stock Number (NSN)**, establishing MPW 6061 as a standard catalogue consumable across US DoD logistics systems
- **NSN listing** enables procurement through established US Government supply channels by defence and commercial users, reducing purchasing friction and lead times
- **UDRI testing** demonstrated MPW's **DirectPowder™ 6061** delivered exceeded legacy atomised powders in cold spray applications
- Builds on prior independent validation by **HAMR Industries** confirming MPW powders achieve **100% of MMPDS handbook strength** (versus ~80% for legacy powders) and superior deposition efficiency with CP-Ti
- An estimated **20–25 high-pressure cold spray systems** are currently installed at US DoD facilities, with additional systems in commercial defence support roles (source: DoD Cold Spray Technology Roadmap, America Makes / Office of the Secretary of Defence)
- **UDRI** currently testing additional MPW alloys for inclusion on the QPL

Metal Powder Works Limited (ASX: MPW) ("the Company" or "MPW"), a specialty materials company, is pleased to announce that the US Army has approved the qualification package provided by the University of Dayton Research Institute (UDRI), and has successfully qualified MPW's 6061 aluminium powder for cold spray applications. The qualification was initiated in response to demand from DoD cold spray end-users seeking access to higher-performing materials through standard logistics channels.

As a result of this qualification, MPW 6061 will be added to the Defense Logistics Agency (DLA) Qualified Parts List (QPL) and assigned a National Stock Number (NSN), making the material readily available as a standard catalogue consumable for procurement by defence users through established US supply channels. This qualification represents a key milestone in MPW's strategy to establish DirectPowder™ materials as standard consumables for the US Department of Defence and allied defence markets, underpinning a growing base of recurring powder revenue.

Significance of the Qualification

Inclusion on the DLA Qualified Parts List is a critical milestone for any material seeking adoption in US defence supply chains. The QPL designation confirms that MPW's 6061 powder meets the stringent quality and performance standards required for defence applications and provides a streamlined



procurement pathway for the thousands of defence manufacturers and repair facilities that rely on DLA approved materials for mission-critical operations.

Once listed with an NSN, MPW's 6061 becomes a repeat-use consumable that can be ordered directly by depot-level maintenance and manufacturing facilities, linking powder demand to ongoing cold spray repair activity rather than one-off project orders.

Cold Spray Technology – DoD Adoption and Market Context

Cold spray is an advanced additive manufacturing technology increasingly used by defence and industrial organisations to restore high-value components, extend platform service life, and reduce maintenance downtime. The technology enables rapid, cost-effective repair of critical parts that would otherwise require full replacement, delivering significant sustainment savings.

- The US Department of Defense has approved over 200 cold spray repair applications to date, with the Army alone estimating cumulative savings of almost USD 300 million from cold spray repairs.¹
- US Army Research Laboratory and Moog Inc. have developed cold spray repair processes for over 240 aerospace components across DoD rotorcraft and fixed-wing platforms, including the B-1 Lancer bomber, AH-64 Apache and UH-60 Blackhawk helicopters, and the F-15 Eagle and F-18 Hornet fighters.²
- The US Navy first deployed cold spray at Norfolk Naval Shipyard in 2019 and has since expanded the technology across its shipyard network, while the US Air Force has established dedicated cold spray facilities at Ellsworth Air Force Base (B-1 maintenance) and is expanding to Barksdale Air Force Base for B-52 repairs.⁴ Most recently, Sierra Army Depot commissioned a new VRC Dragonfly cold spray unit in January 2025.⁵
- The DoD's broader corrosion challenge underscores the scale of the opportunity. According to a US Government Accountability Office report, the DoD spends between USD 10 billion and USD 20 billion annually on corrosion prevention and mitigation.⁶
- According to the DoD-wide Cold Spray Technology Roadmap, commissioned by the Office of the Secretary of Defense and produced by America Makes / NCDMM, an estimated 20–25 high-pressure cold spray systems are currently installed at US Department of Defense facilities, with additional systems operated by commercial entities in defence support roles.⁷
- In April 2025, a US defence directive called on all military services to extend advanced manufacturing, including additive manufacturing, to operational units by 2026.⁸
- The Navy is actively expanding its network of cold spray "pop-up" production cells near major fleet concentration areas, while Army depots continue to add cold spray capacity as part of their modernisation plans. Direct US DoD spending on additive manufacturing grew 166% year-on-year to approximately USD 800 million in 2024 and is forecast to exceed USD 2.6 billion by 2030.⁹

The DoD's cold spray fleet is expected to grow materially in the near term. Cold spray offers a proven, cost-effective alternative to component replacement for a growing range of these applications, with each approved repair creating recurring demand for qualified metal powders.

Proven Powder Performance – DirectPowder™ Advantage

The US Army qualification further validates MPW's patented DirectPowder™ technology's superior performance. The DirectPowder process provides the highest quality powders through a non-melt production method. The process provides a high yield of powder across a narrow range of sizes and does not produce fines or satellites, which can cause poor flow characteristics. Due to the morphology, the acceleration of the powder is superior to legacy atomised material, a key success

factor in cold spray. In addition, the microstructure and temper of the feedstock material are preserved, resulting in higher quality, highly consistent deposits with improved mechanical properties.

During testing, UDRI found that MPW's 6061 aluminium powder delivered better strength than conventional atomised powders in cold spray applications. In September 2025, MPW announced that HAMR Industries LLC, a US aerospace cold spray manufacturer, had independently confirmed that MPW's CP Ti (commercially pure titanium) powder delivered performance consistent with established MMPDS (Metallic Materials Properties Development and Standardization) strength handbook values, the industry standard reference used by global OEMs and Tier 1 aerospace suppliers.

Traditional atomised powders typically achieve only approximately 80% of handbook strength in cold spray applications, meaning MPW's DirectPowder™ material demonstrated a step change improvement. HAMR also reported exceedingly high deposition efficiency with MPW's CP Ti powder compared to conventional atomised alternatives, meaning that significantly more of the powder bonds to the target surface during spraying, reducing waste and powder consumption and delivering meaningful cost savings to the operator.

Taken together, the HAMR and UDRI results across two different alloy systems (CP Ti and 6061 aluminium) provide compelling, independently verified evidence that MPW's DirectPowder™ technology delivers materially superior cold spray performance compared to legacy atomised powders. This performance advantage, combined with tighter particle consistency and improved material utilisation, should position MPW powders as a preferred choice for defence and industrial cold spray operations where component integrity is critical.

Implications for the Wider Cold Spray Market

The performance advantages demonstrated by MPW's DirectPowder™ materials have significant implications beyond the US defence market. The global cold spray technology market was valued at approximately USD 1.05 billion in 2024 and is projected to reach USD 1.56 billion by 2030, growing at a CAGR of 7.0% (Grand View Research, 2025). Aerospace and defence applications account for approximately 44% of global cold spray revenue, with the balance across automotive, energy, electronics, maritime, and heavy industrial sectors.¹⁰

As the global installed base of cold spray systems continues to grow across both defence and commercial sectors, the Company believes MPW's independently validated performance advantages position DirectPowder™ materials to become the standard for cold spray consumables, displacing legacy atomised powders in existing applications while enabling adoption in new, higher-specification use cases. US DoD qualification and QPL listing are also expected to provide a powerful reference standard for commercial aerospace, energy, and industrial cold spray users, supporting MPW's broader market entry strategy beyond defence.

Ongoing Qualification Program

UDRI qualifies materials at the direction of the US Department of Defense, backed by demonstrated customer demand from cold spray operators across the military services. The decision to qualify MPW's 6061 powder was driven by end-user demand from DoD maintenance and repair facilities seeking access to higher-performing cold spray consumables through standard procurement channels. UDRI is funded by the US Air Force Rapid Sustainment Office (RSO) to pursue material qualifications that directly improve Air Force and broader DoD readiness. Once qualified via US Army Research Laboratory, all US military services can source MPW powders.

UDRI is currently qualifying several additional MPW powder alloys for cold spray applications, driven by end-user demand.

The Company's objective is to have 3-5 alloy/process combinations qualified through UDRI and listed on the DLA Qualified Parts List. Each additional qualified alloy expands the number of approved cold

spray repair applications that can utilise MPW powders, increasing the Company's addressable market across the DoD's installed base of 20–25 cold spray systems.

Pathway to US DoD Procurement

Inclusion on the QPL establishes a clear pathway for MPW's powders to become standard catalogue items available for procurement across the entire US Department of Defense.

Once operational within the DLA system, MPW's 6061 powder becomes a standard consumable available to the thousands of defence maintenance, repair, and manufacturing facilities across the US DoD.

CEO Comment

Commenting on the qualification, MPW Founder and Managing Director John Barnes said:

"Cold spray is now a production sustainment tool, not an R&D experiment. I have been using cold spray in aerospace and defence applications for more than 20 years, and my teams at Lockheed Martin and CSIRO have spent much of that time working to qualify restorations and repairs for everyday use.

With this US Army qualification, MPW powders meet or exceed the performance of legacy atomised powders, with better consistency - no fines, and no satellites. That combination is exactly what cold spray operators need as they move from one-off demonstrations to routine, fleet-wide repairs. Coupled with the US Navy's expeditionary DirectPowder™ system which recently completed trials at sea during RIMPAC 2026, MPW is indeed in a unique position for powder manufacturers."

Strategic Context

The qualification of MPW's 6061 powder is a key milestone in the Company's strategy to support production-scale cold spray sustainment, rather than lab-scale R&D trials. Drawing on more than two decades of hands-on cold spray experience, the Company has focused on developing practical restoration and repair procedures that are fully qualified and in everyday depot use.

By progressing a portfolio of alloys through UDRI and onto the DLA QPL, MPW is building a catalogue of powders that cold spray operators can rely on for repeatable and reliable production repairs with powders that meet or exceed legacy atomised materials, with better consistency, no fines, no satellites, and at a more attractive price point. Each additional qualified alloy opens new, approved repair applications and increases pull-through powder volumes per system, reinforcing MPW's role as a default consumables supplier across defence and industrial cold spray fleets.

This announcement has been approved for release by the Board of Directors of Metal Powder Works Limited.

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ABOUT METAL POWDER WORKS

Metal Powder Works Limited (ASX: MPW) has its manufacturing base in Pittsburgh, USA and specialises in the production of high-quality metal powders for additive manufacturing and other advanced applications. MPW has developed a patented, non-thermal powder production process known as DirectPowder™. The process converts premium bar stock into specification-grade powder without melting and is designed to improve yield, flexibility and affordability. MPW has produced more than 30 specification-grade metals and alloys across aluminium, copper, titanium and specialty material families.

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Forward-Looking Statements

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