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CherryMAX® Rivet CR3212-4-03

CR3212-4-03 is a high-strength CherryMAX® rivet with a 100° flush countersunk head, designed for blind installation in aerospace structures where secure and reliable fastening is required. The mechanically locked stem provides audible and visual confirmation ("click") upon proper installation.

Basic Specifications

- Shank Diameter: 1/8 inch (≈0.125 inch)
- Grip Range: 0.126 – 0.187 inch
- Overall Length: 0.277 – 0.297 inch
- Head Diameter: ≈0.229 inch
- Head Height: ≈0.041 inch
- Head Style: 100° flush countersunk (99–101°)
- Materials: Sleeve — Aluminum alloy 5056; Mandrel — Cadmium-plated steel 8740
- Standards Compliance:** NAS9302B, MIL-SPEC (Mil-C-5541, QQ-P-416), Cherry Aerospace internal specifications
- Manufacturer: Cherry Aerospace, USA.

Material Thickness Selection Guidelines

- Suitable for material stack thickness between 3.2 mm and 4.75 mm (0.126–0.187 inch)
- For thickness below 3.2 mm, use CR3212-4-02
- For thickness above 4.75 mm, use CR3212-4-04
- Recommended installation tool: Cherry G27 or equivalent pneumatic riveter.

Part Identification and Marking Structure

- CR — CherryMAX series (mechanically locked stem)
- 32 — Rivet type (universal series)
- 12 — 100° flush head configuration
- 4 — Nominal shank diameter 1/8 inch
- 03 — Grip length for 0.126 – 0.187 inch material stack.

Key Features and Installation Characteristics

- 100° flush head allows for smooth surface finish
- Mandrel diameter: 0.125 inch; required hole size: 0.129 – 0.132 inch
- Mechanical locking system with audible and tactile "click" feedback

Coating and Visual Identification Notes

- Sleeve coating — chromate over aluminum (golden hue)
- Mandrel — cadmium-plated, light gray appearance
- Typical markings on packaging: CR3212-4-03, CR3212-4-3, NAS9302B-4-03.

Additional Technical Characteristics

- Body Material: Aluminum alloy 5056
- Mandrel Material: Alloy Steel 8740
- Shear Strength: up to 50,000 PSI
- Tensile Strength: approximately 75,000 PSI
- Operating Temperature Range:** approx. −54 °C to +120 °C (−65 °F to +250 °F)
- Minimum Countersink Depth: ≈0.030 inch
- Head Seat Radius: ≈0.090 – 0.110 inch
- Installation Time at 90 psi Air Pressure: ≤ 1.0 second.

Practical Notes from an Experienced Technician

- Slight free play of the rivet before installation is normal
- Hole diameter must strictly be within 0.129–0.132 inch
- Maintain tool condition, especially nosepiece and pneumatic system
- Minimum working air pressure: 85 psi
- Stem end should be flush with sleeve surface ±0.005 inch after installation.

Advantages

- Excellent fatigue resistance due to mechanical stem locking
- Fully flush surface without any protrusions
- Compatible with slightly oval holes and composite structures
- Complies with NAS and MIL aerospace standards
- Enables blind installation with no access to back side required.

Note: This technical information is based on the official documentation provided by Cherry Aerospace and is intended solely for reference in product selection and specification.