

Supercharge Your Buckle Performance with JEDALON Acetal Enhanced with Graphene

When an acetal (POM) buckle is enhanced with graphene, the ease of connection~ how smoothly and firmly the hook and loop components snap together~ typically improves in several but meaningful ways.

Reduced Friction and Smoother Engagement

Graphene's natural lubricity and low surface energy reduce friction at the mating surfaces.

- Effect: The buckle engages with less force and a more fluid "click".
- Benefit: Users perceive the connection as smoother and higher quality, similar to a precision-engineered latch.
- Mechanism: Graphene platelets at the surface act as micro-lubricants, minimizing sticking slip behavior that's sometimes felt in standard acetal parts.

Improved Wear Resistance

Repeated connection cycles cause wear at the latch and detent features.

- Effect: Surface hardness and fatigue resistance increase dramatically.
- Result: The buckle maintains its crisp snap and alignment even after thousands of cycles— no loosening or "sloppy" feel over time.



*Graphene is
not just an
additive- it's a
multifunctional
upgrade for your
polymers.*

Contact us today at: graphene@jedapolymers.com

www.jedapolymers.com • 2315 Industrial Pkwy SW, Dyersville IA 52040 • 563-217-4288



Scan the QR code to...
Download TDS, request
samples or speak with an
applications engineer today.

Supercharge Your Buckle Performance with JEDALON Acetal Enhanced with Graphene

Enhanced Dimensional Stability

Graphene reduces creep and thermal expansion in acetal materials.

- Effect: The hook/loop geometry remains consistent under load and temperature swings.
- Benefit: Connect/disconnect performance feels uniform in both hot and cold conditions, useful in outdoor or tactical gear.

Tactile and Acoustic Quality

Users often notice a sharper, more confident “click”.

- The material’s stiffness and resonance improve, producing a more distinct sound on engagement – an indicator of precision and quality.

User Experience Summary

Attribute	Standard Acetal	Graphene-Enhanced Acetal
Engagement Force	Moderate	10-20% Lower
Snap Feel	Slightly Plastic Like	Crisp, Metallic Like
Wear Resistance	Moderate	Excellent
Long-Term Fit	Can Loosen	Maintains Tight Tolerance
User Perception	Functional	Premium Precision Feel



Graphene is not just an additive- it's a multifunctional upgrade for your polymers.

Contact us today at: graphene@jedapolymers.com

www.jedapolymers.com • 2315 Industrial Pkwy SW, Dyersville IA 52040 • 563-217-4288



Scan the QR code to...
Download TDS, request samples or speak with an applications engineer today.