CERAMFORGE

ENGINEERED CERAMICS

CERAMIC CAPSTANS AND PULLEYS

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Wire drawing is a high-tension, high-speed process that requires absolute durability and surface integrity. Capstans and pulleys are critical contact points in this process, guiding and tensioning wire as it is reduced in diameter. Traditional metal components quickly wear under friction and tension, leading to product inconsistencies and frequent replacements.

Ceramic capstans and pulleys from CeramForge are engineered for wire drawing and cable manufacturing applications, delivering unmatched wear resistance, thermal stability, and a smooth surface finish that protects delicate wire surfaces.

MATERIAL DIVERSITY

Zirconia (Y-TZP / MgO-PSZ) | Zirconia Toughened Alumina (ZTA) | Alumina (Al_2O_3)

All components are precision-ground and dynamically balanced, ensuring minimal vibration and surface deviation during operation.

INDUSTRIES SERVED

- Electrical Wire & Cable Manufacturing
- Magnet Wire and Fine Wire Production
- Stainless Steel and Copper Wire Drawing
- Fiber Optic and Data Cable Industries

APPLICATION

- Drawing lines for fine gauge wire
- Capstan pulleys in multi-stage reduction machines
- Wire straightening, guiding, and rewinding systems
- Cable sheathing and post-processing lines

KEY ADVANTAGES

- High Surface Hardness: Resists groove formation, reducing wire damage.
- Thermal Stability: Withstands elevated temperatures during continuous drawing operations.
- Smooth Wire Handling: Minimizes surface defects and improves wire yield.
- Corrosion Resistance: Non-reactive to lubricants, drawing emulsions, and cleaning fluids.
- Extended Life Span: Outlasts steel and coated-metal alternatives by several multiples.

CONCLUSION

Durability and precision are vital in modern wire drawing. CeramForge ceramic capstans and pulleys deliver industry-leading wear resistance and product quality assurance for high-speed, continuous operations. Engineered to reduce downtime and protect your wire investment, our ceramics are a smart, long-term solution.