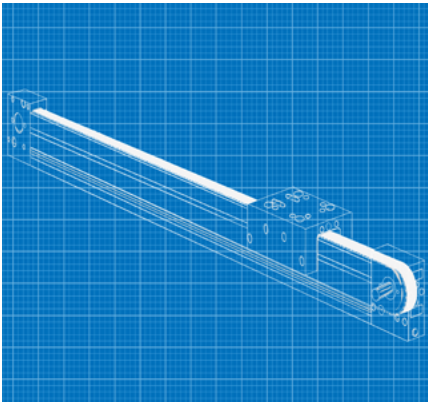
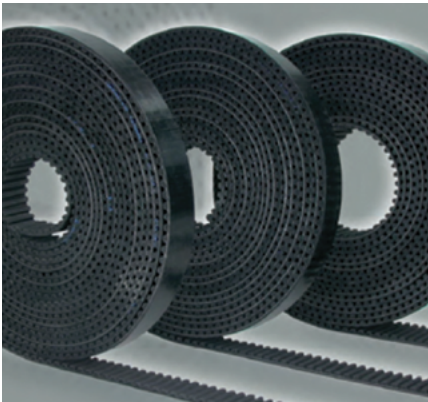


INDUSTRY
ROBOTICS & AUTOMATION

APPLICATION
LINEAR ACTUATOR

PRODUCT
ISORAN® OPEN-END RUBBER



SITUATION/APPLICATION

Linear actuators are a widely used component in modern machinery. They create motion in a straight line either horizontally or vertically. Many types are available and used in applications as diverse as pick and place gantries, precision positioning for machining operations and cross-transfer conveying. They are applied anywhere vertical or horizontal transfer movement is required. Depending upon the requirements of an application they can generate force in either one or both directions, driven by various technologies such as hydraulic, pneumatic, ball screws or synchronous belts.

In many applications, high strength precision synchronous belt-driven actuators are the preferred choice to deliver versatile performance for diverse applications requiring high precision positioning. They are capable of operation with high speed, thrust and payload.

THE PROBLEM

A manufacturer needed assistance with a linear actuator application intended for use at extremely low temperatures. They knew the extreme environment with temperatures as low as $-50^{\circ}\text{C}/-58^{\circ}\text{F}$ would call for a special belt construction. They turned to Megadyne for help when belts from a competitor did not perform up to expectations.

THE SOLUTION

Megadyne provided the solution with an Isoran® rubber-based open-end synchronous belt with a special low-temperature construction. An ultra-low temperature synthetic rubber compound for the belt body coupled with a special tooth cover material proved to be the winning combination for trouble-free operation in this demanding application. The special low-temperature construction allowed the belt to operate at the very low temperatures with high efficiency and positional accuracy with the additional benefit of remaining flexible even when not in use. This was critical as belts from a competitor became rigid and failed the flexibility test of start-up after hours of remaining static in the cold environment.

THE RESULT

The special construction Isoran® rubber-based open-end synchronous belts performed flawlessly in this very low temperature application. Even after hours of being static during periods of inactivity where there was no operation of the machinery, the Isoran® belt remained flexible upon machine start-up and consistently delivered the necessary durability and high positional accuracy.

The expertise gained from our position as a leading manufacturer of rubber and urethane synchronous belts paired with an extensive Research & Development program assures a wide variety of options for special belt construction. These advantages make Megadyne the preferred choice when a tough application presents unique drive challenges.

