



S-Flex Endurance®

The new EPDM Sleeve:

- Lasts at least 3X as long as the previous design, saving you valuable downtime opportunity costs and maintenance labor costs
- Provides at least 30% increased torque rating
- Allows for product downsize in 50% of applications creating an average cost savings of 23-33% for sleeve replacement



IMPROVED!

New EPDM Sleeve lasts at least 3X longer

At Last!

The reconfigured S-Flex Endurance® by Lovejoy is the longest lasting and best performing sleeve type coupling product available in the marketplace today.

Extensive testing performed by our engineering department compared the new and improved EPDM S-Flex sleeve material to Lovejoy's previous design and to the competition. Ultimately, Lovejoy's new EPDM S-Flex material met or exceeded performance in every testing category.

Continue to enjoy the S-Flex benefits, just enjoy them at least 3X longer*!

S-Flex Features	S-Flex Benefits
Easy to install, no special tools required	Minimal downtime
Requires no Lubrication	Minimal maintenance
Torsionally soft	Accommodates all types of shaft misalignment. Dampens vibration and shock loads.
13 sizes, 5 flange models in iron or zinc, and 4 sleeve models in EPDM rubber, Neoprene or Hytrel	Can be used in a wide variety of applications. Accommodates low to high torque, speed, and large size range.
Standardized	Interchangeable. Convert from more expensive or less durable coupling.
Double Engagement	Reliable

*Performance improvements apply only to the EPDM sleeve type. Neoprene and Hytrel® sleeve type performance has remained unchanged.



S-Flex Endurance®

Improved EPDM's S-Flex Endurance Sleeve material "key" features:

Durability – Lovejoy estimates the new and improved material will be able to last at least three times longer than before. A longer service life is provided even at the higher torque ratings. A noticeable abrasion resistance improvement gives the ability to withstand mechanical wear during coupling use.

Resilience – The rebound characteristics are significantly improved. The new Lovejoy sleeve material absorbs less frictional heat than the current competition. This heat build-up advantage leads to less wear and minimizes the possibility of coupling failure.

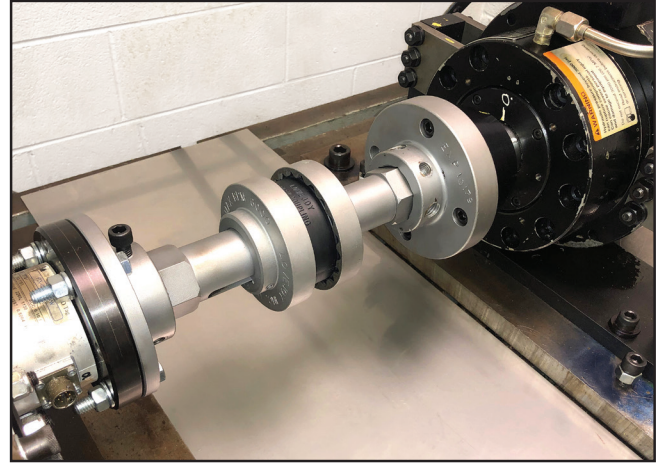
Strength – The higher torsional stiffness corresponds with the elastomer's overall toughness (tensile strength and tear strength) increase. This allows many applications to use a smaller, less expensive coupling and still achieve the same torque rating. The material's resilience also contributes to the performance upgrade by enhancing the element's resistance to deformation.

Heat Resistance – The sleeve's temperature rises during operation due to the hysteretic behavior of rubber. The new sleeves exhibited fast heat dissipation and maintained a lower temperature than the competition at the same dynamic cyclic test conditions. The decrease in heat generation leads to a longer service life.

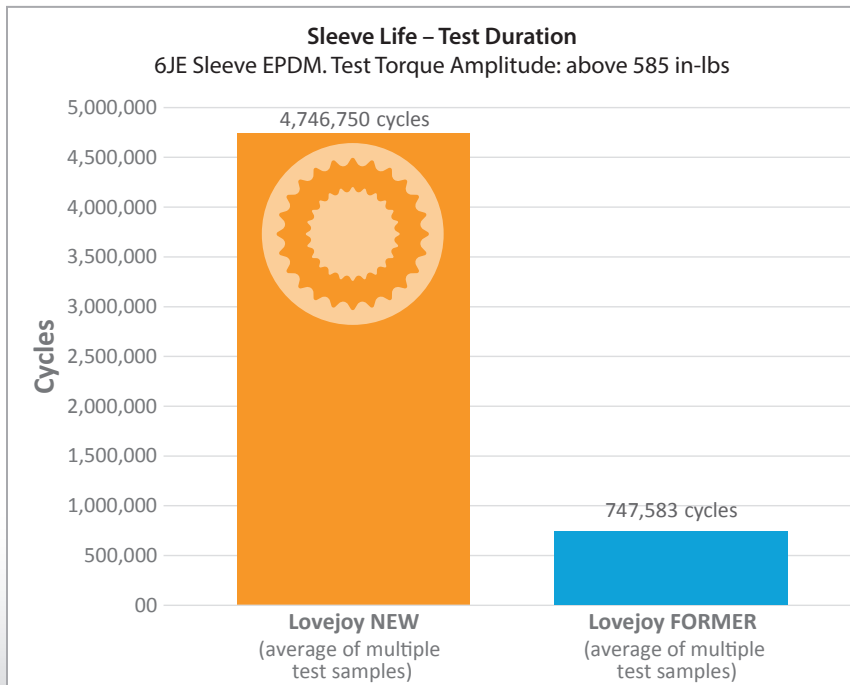
Recovery – Resistance to permanent deformation as well as its elastic recovery has improved.

Testing S-Flex Endurance

S-Flex Endurance sleeve's static and dynamic torsional stiffness tested at least 30% greater than the former Lovejoy material and outperformed the current competition. The Lovejoy product operated with more resilience and consequently less heat build-up than the previous material as well as the competitive products. Furthermore, post-test inspections showed the new sleeves are very durable under these extreme test conditions, as they maintained their tooth shape and displayed minimal wear.



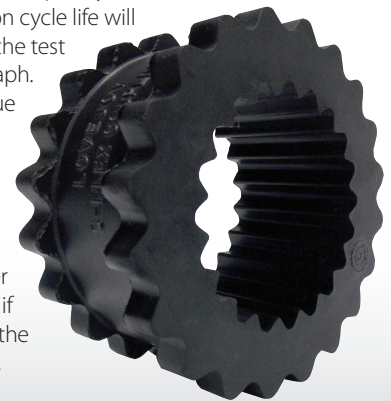
Test articles were installed between the torque actuator's driving S-Flex flange and a driven torque transducer flange.



The Sleeve Life – Test Duration graph shows that the former Lovejoy EPDM sleeves lasted an average of 747k cycles before reaching torque overload failure where the sleeves failed and could no longer transmit the set torque. The new Lovejoy EPDM material was tested for a week up to about 4.75 million cycles and no signs of failure were present at which point testing was ended. Accelerated fatigue testing is performed at severe high-torque and high-frequency conditions.

Typical operation cycle life will greatly exceed the test cycles in the graph.

The cyclic fatigue test conditions demonstrate the new Lovejoy EPDM material has at least a 3X longer life expectancy, if not more, than the former material.



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