Meropa® XL

Relentless protection for your gearboxes

Our focus drives your performance.

To compete in today's industrial world, you have to be more enterprising and more aggressive than ever. You have to use advanced equipment and push it faster and harder. To succeed at this pace, we know you must find innovative ways to boost reliability, minimize downtime and optimize performance across your operation. That's why we're here.

Chevron combines focused expertise, advanced products and tailored programs to create comprehensive lubrication solutions for today's industries. We work with you to take a holistic approach to improving productivity – an approach that helps you solve critical challenges, reach for your goals, and compete to win.

Today's high-demand production environments call for an exceptional gear oil: Meropa® XL.

Modern gearboxes are designed to be smaller, lighter and more energy efficient. They use significantly less oil, which puts extreme demands on the lubricant to help control operating temperatures and protect the equipment. This means the lubricant formulation must have advanced additive technology. Meropa® XL gear oils meet the challenges. They are proven to deliver long life and exceptional protection for gear teeth and bearings.

Meropa XL also has the most important OEM approvals, including Siemens MD (FLENDER) T 7300. Siemens is a leading gearbox manufacturer and is known for establishing strict gear oil specifications that are difficult to obtain. The T 7300 specification demands that gear oils meet a higher standard in proof-of-performance laboratory tests. Gear oils must be of CLP* quality according to DIN 51517-3 and pass additional tests, including:

- FVA 54 Micropitting
- Paint Compatibility
- Loctite Sealant Compatibility
- Static Seal Testing
- Dynamic Seal Testing
- FLENDER Dynamic Foam Test

Meropa XL OEM Specifications

Meropa XL is approved for:

- Siemens MD (FLENDER) T 7300
- Fives Cincinnati

Meropa XL meets the requirements of:

- US Steel 224
- DIN 51517-3
- AGMA 9005-F16
- ISO 12925-1
- David Brown

ISO 150, 220, 320, 460

**European regulation for classification, labeling and packaging according to DIN 51517-3.*
Always confirm that the product selected is consistent with the original equipment manufacturer's recommendation for the equipment operating conditions and customer's maintenance practices.

THREATS

Contaminants
Micropitting
Metal Fatigue
Corrosion
Acids
Wear
Cracks

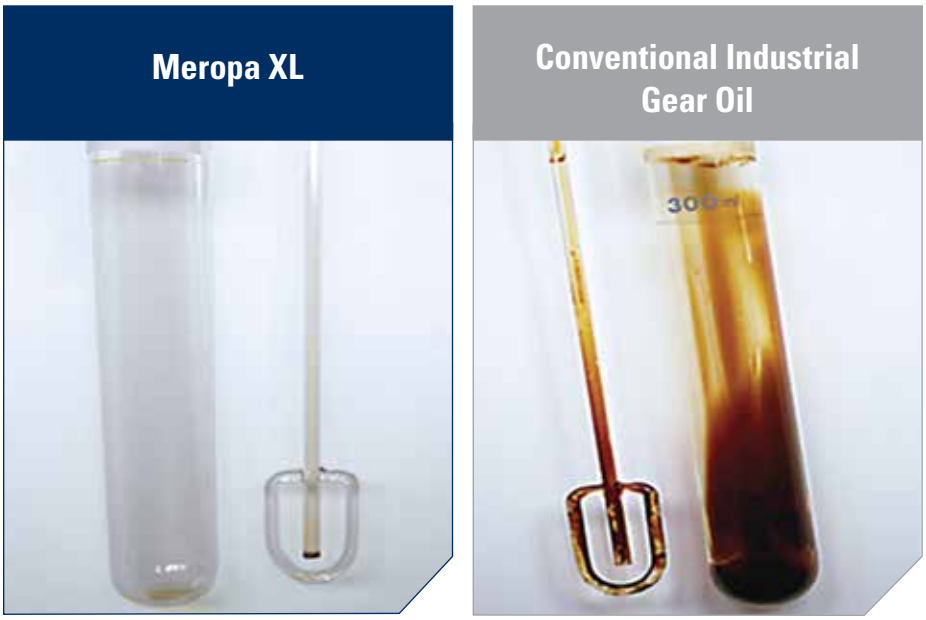
WARNING SIGNS

Spiking Temperatures
Excessive Vibration
Unusual Noise
Foaming
Leaking Seals

In today's high-demand production environments, a number of factors can threaten gearbox reliability and overall operational productivity. Often there are warning signs that trouble is coming. These conditions can be minimized and often eliminated with proper lubricant selection and maintenance practices.

Keep components clean and performing under the harshest conditions.

Meropa® XL gear oils are formulated to handle the extreme pressures, high temperatures, overloading and wet conditions common in today's industrial gearbox applications. Their advanced additive technologies help prevent varnish and sludge and provide excellent thermal and oxidative stability. This helps minimize deposits and keep components cleaner, which can extend drain intervals and prolong gear and bearing life.



ASTM D2893 Standard Test Method for Oxidation Characteristics of Extreme-Pressure Lubrication Oils: The oil is heated to 121°C (250°F) for 312 hours. The results indicate the oil's tendency to allow formation of varnish and sludge.

Meropa XL's advanced additive technologies help prevent varnish and sludge.

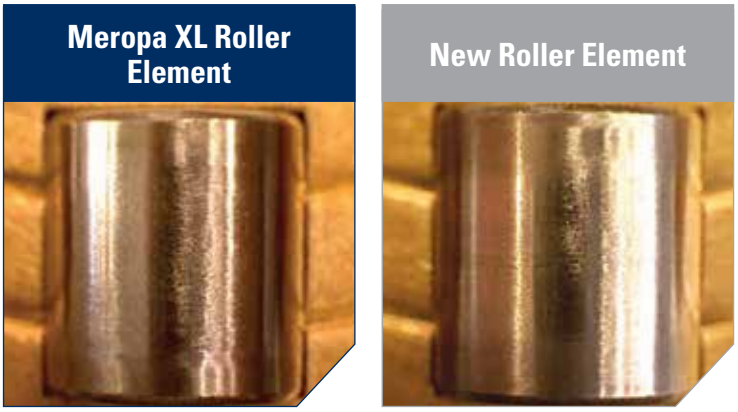
Help reduce costs by achieving longer lubricant life.

Meropa® XL gear oils are engineered to deliver outstanding performance over a long service period, which helps reduce maintenance costs. It is approved by Siemens MD, a standard that requires a minimum of 10,000 hours[1] lubricant life. In the field, specific lubricant life and drain intervals depend largely on the speed, load and operating environment, as well as the age and condition of the equipment.*

Protect the bearings while protecting the gears.

Bearings are often overlooked when considering proper gearbox lubrication, yet they are vital to the operation. Bearings are responsible for aligning the gears properly. When they begin to wear, the drive shaft wobbles, the gears misalign and gear teeth can be damaged.

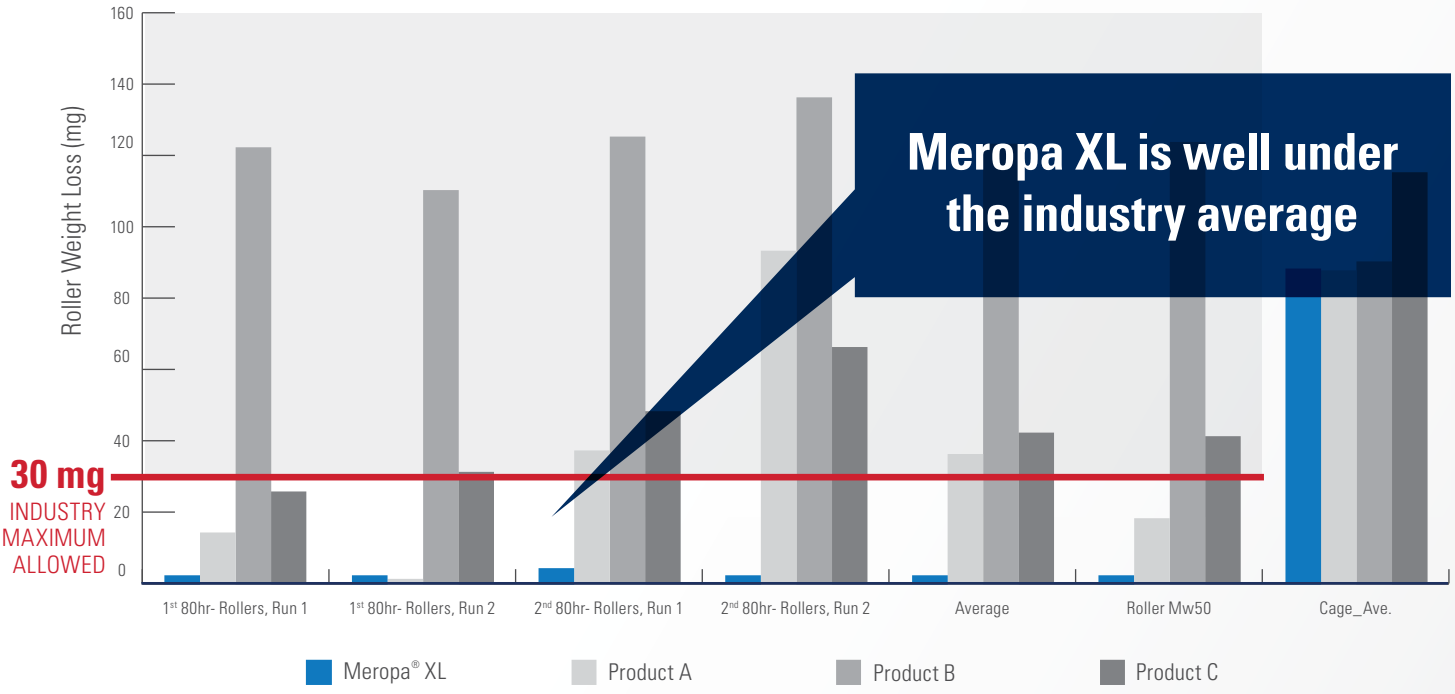
Meropa XL was tested against competitive products for roller bearing wear using the FE-8 test rig and DIN 51517-3, an industry standard followed by most major manufacturers. The test is designed to determine the amount of wear occurring in rolling bearings at a speed of 7.5 rpm for 80 hours. You can see the results in the chart on page 5. Meropa XL outperforms other products, even those formulated to meet similar industry standard wear requirements.



Meropa XL advanced protection is clearly evident. The original honing marks have not been polished or worn away after testing when compared to a brand new roller element.

*[1]Specification of the Gear Oil Approval For FLENDER Gear Units, Siemens MD 2-28-2011. *Always follow OEM recommendations. Chevron encourages the use of the Chevron LubeWatch® Oil Analysis Program when evaluating the opportunity to extend oil drain intervals.*

DIN 51819-3 FE-8 Bearing Testing



Meropa XL showed total roller weight loss of 1 mg, well under the maximum allowable amount of 30 mg in this test.

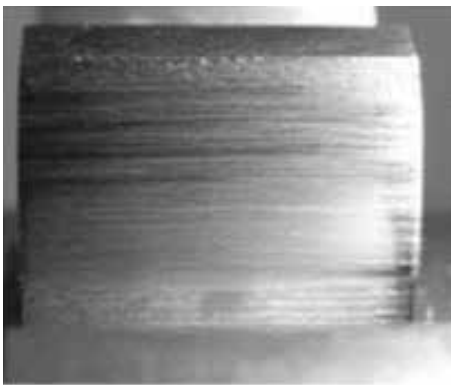
The results reveal a very high load-carrying capacity and excellent bearing protection.

Fight back against micropitting.

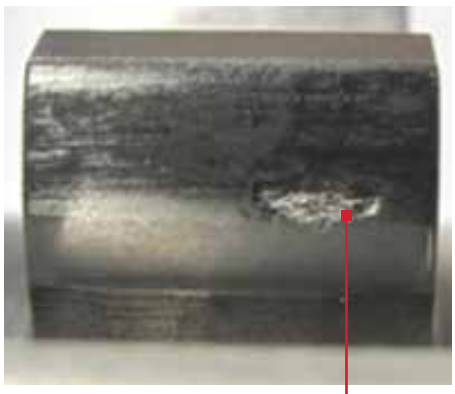
Micropitting is a wear condition that attacks bearing surfaces and gear teeth. The wear begins as microscopic fragments chip off and leave nearly invisible pits, which appear as a dull gray stain on the gear teeth. The wear changes the profile of the tooth flanks, and over time the micropitting can weaken and further deteriorate the gear tooth surface. This uneven surface can lead to noise and vibration, and eventually the problem can escalate to extreme gear tooth deterioration, macropitting and catastrophic failure. Meropa® XL is formulated to provide excellent micropitting resistance to help prevent these problems.

Meropa XL is formulated to provide excellent micropitting resistance to help prevent:

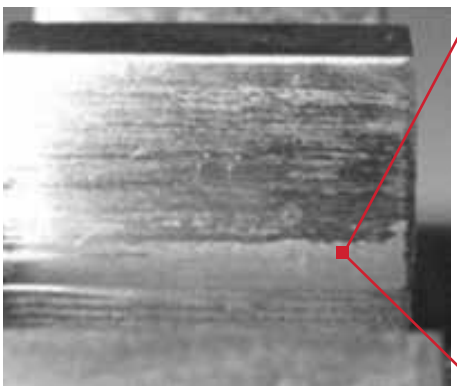
- Weight Loss
- Wear
- Deterioration
- Gear Failure



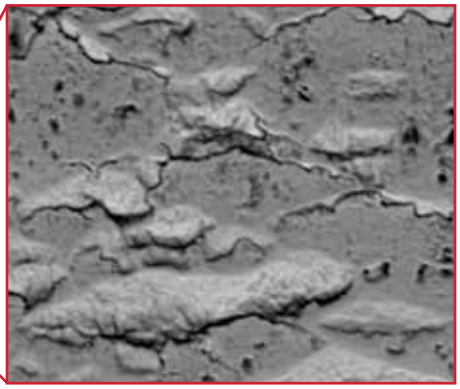
New gear tooth surface



Macropitting



Micropitting
(appears as gray shading and is comprised of surface cracks and tiny pits)



Micropitting at 500mm

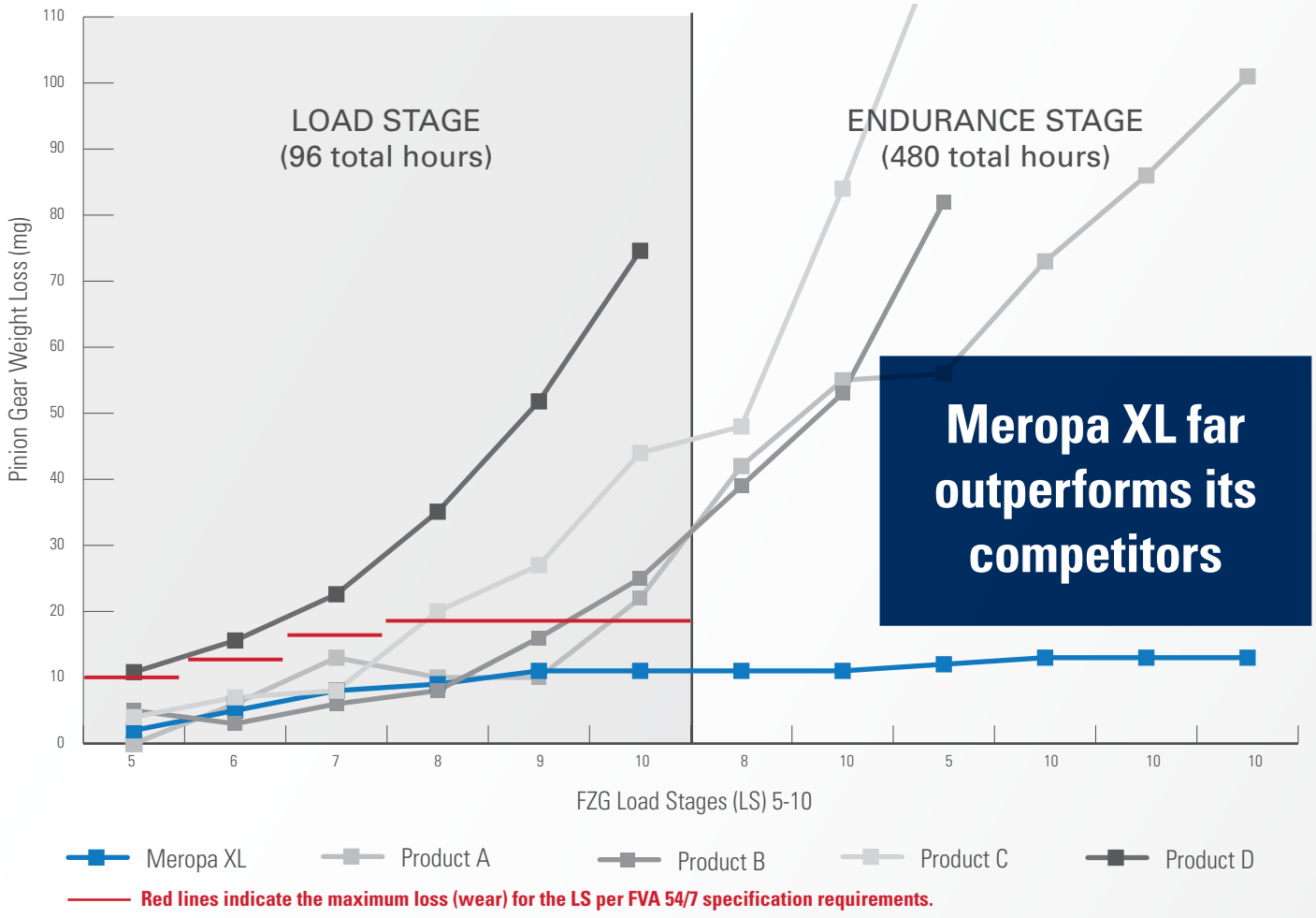
Meropa® XL micropitting resistance is proven in the FVA 54/7 test.

The FVA 54/7 test consists of a Load Stage and an Endurance Stage. It uses a step-load approach, in which a drive gear and a pinion gear are incrementally loaded in stages, from LS-5 to LS-10. The Load Stage runs for a total of 96 hours, after which the weight loss of the pinion gear is measured.

The Endurance Stage then runs for a total of 480 hours, mostly at the high-load LS-10 level. Again, weight loss of the pinion gear is measured. Any duration greater than 300 hours with low weight loss is considered outstanding resistance against micropitting. You can see how Meropa® XL far outperforms other products in the endurance stage of this test.

Learn more about micropitting prevention.
chevronindustrial.com

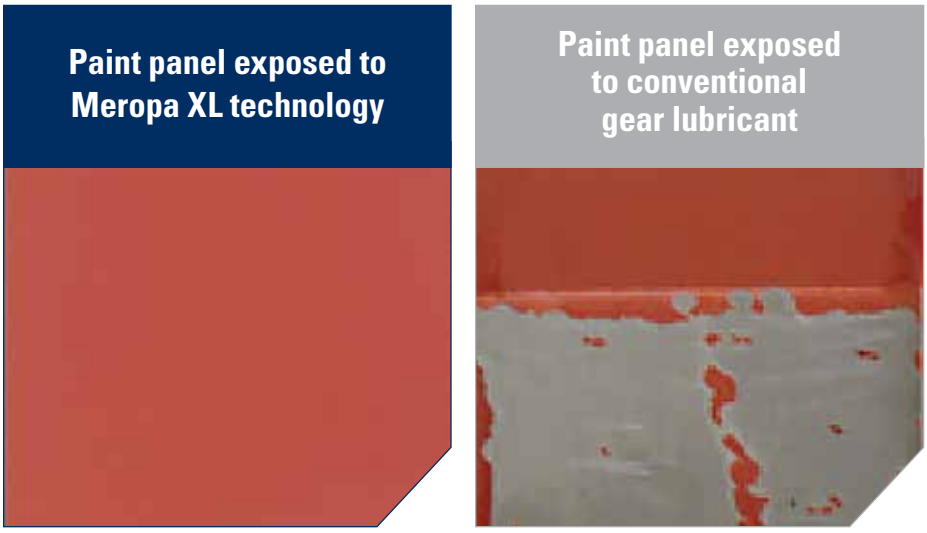
FVA 54/7 Pinion Gear Weight Loss



Maintain paint and seal integrity.

Meropa XL is compatible with multiple types of sealants and paint coatings, which helps reduce the possibility of seal leaks and paint blistering inside the gearbox. Competitor products with overly-aggressive chemistries can attack the paint coatings and cause filtration plugging. Through careful balancing of the product formulation, Meropa XL helps promote the long-term integrity of the gearbox materials, from seals and filters, to the internal paint coating.

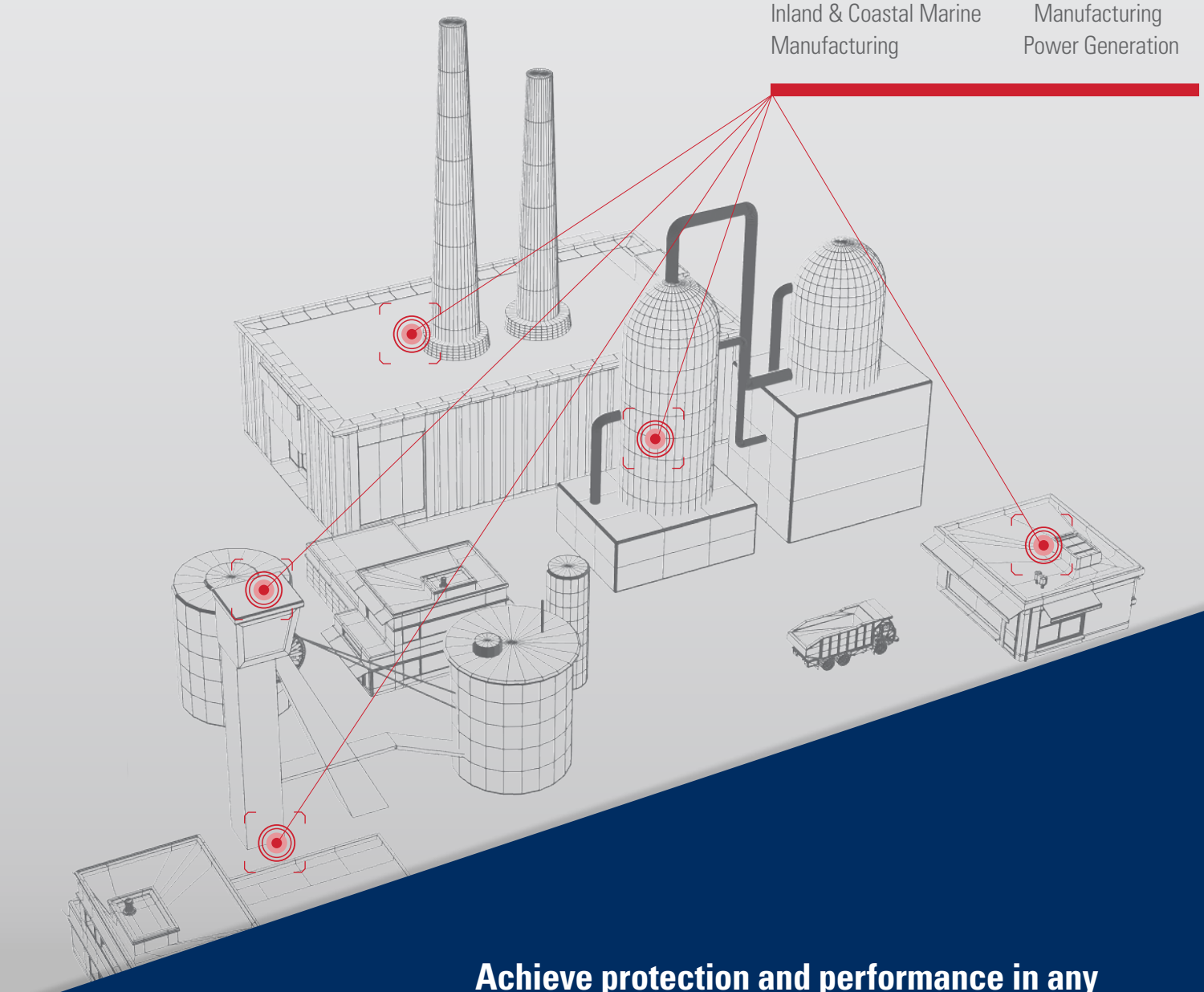
Meropa XL has passed the rigorous FLENDER specification, which confirms its compatibility with Siemens MD gearbox paints.



ISO 150, 220, 320, 460

INDUSTRIES

Agriculture
Aggregates & Cement
Construction
Forestry & Wood Products
Inland & Coastal Marine Manufacturing
Mining
Oil & Gas
Petrochemical
Plastic Products Manufacturing
Power Generation



Achieve protection and performance in any industrial environment.

Meropa® XL is precisely formulated for today's hardest-working gearboxes, in the most extreme environments and toughest industrial applications. It provides relentless protection, to help your equipment and your operation Run Better Longer.

For more information, visit **www.chevronindustrial.com.**

Learn more at chevronindustrial.com

A **Chevron** company product

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