



HDLE

Product Information Bulletin

THE PROBLEM:

As early as 1989, industry sources estimated that more than half of the 6.3 million pounds of toxins released in North Baton Rouge over the course of a year came not from spills, smokestacks, and waste but from the sum of tiny emissions.

Subsequent fugitive emissions research at a large U.S. refinery determined that in a single year, 630 flanges with leak rates over 500 ppm released 380,000 pounds of VOCs (Volatile Organic Compounds) into the atmosphere, per AQMD (Air Quality Management District) calculations.

These leaks had tangible financial impacts.

- Environmental fines: \$160,000
- Charges for wire wraps and injections by leak sealing contractor: \$150,000
- Approximate company labor charges: \$130,000

Total impact: \$440,000, or \$700 per leak!

THE SOLUTION FOR FUGITIVE EMISSIONS:

After extensive research into potential improvements, we introduced the HDLE (High-Density, Low Emission) spiral wound gasket. This proven design includes:

1. A tightly wound sealing element with increased density.
2. APX-2 graphite to obtain low oxidation.
3. Wider graphite material that extends above the metal windings.
4. Full compliance with ASME B16.20.

For solutions tailored to your plant's needs, reach out to your nearest LGG Industrial location by visiting our website.



Advanced Sealing

Standard spiral wound gaskets consistently fall short of emission control standards, despite regulatory updates. HDLE gaskets offer a superior sealing solution, dramatically reducing emissions and providing a direct upgrade path.



In complying with the new ASME B16.20 testing requirements, we recently performed sealability tests comparing standard spiral wound gaskets to HDLE gaskets. These tests were conducted by Yarmouth Research Lab* and utilized Methane as a test medium.

SUMMARY

- The spiral wound gasket has been a mainstay of refining and chemical processing for over 100 years.
- The need for improved sealability, and the need to reduce VOC emissions, has driven the research that has shown how spiral wound gaskets can be upgraded to meet new sealing requirements.
- The HDLE gasket (shown above) has been tested in multiple platforms to demonstrate that it is able to meet the sealing demands of the modern process industry.

*Yarmouth Research - Document available on request

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ASME B16.20 METHANE TEST RESULTS AT YARMOUTH RESEARCH LAB

Size	Standard Spiral Wound	HDLE
3" 150#	59 ppm	0.1 ppm
6" 300#	46 ppm	0.5 ppm
8" 150#	122 ppm	2.1 ppm
12" 150#	38 ppm	0.5 ppm
Average	66 ppm	0.8 ppm

Low Emission (LE) gaskets must register less than 10-ppm leakage.

The HDLE gasket provides 80 times better sealing than the standard option.

HELIUM - EN-13555 TESTING:

