

# LeaderTherm NXT1000

## High-Temperature Filler Material for Spiral Wound Gaskets

### DESCRIPTION

LeaderTherm NXT1000 is a premium high-temperature filler material engineered for use in spiral wound gaskets operating in severe service environments. Formulated with a proprietary phlogopite based material, NXT1000 provides exceptional thermal stability, oxidation resistance, and bolt-load retention where traditional graphite and PTFE fillers may degrade. LeaderTherm NXT1000 delivers predictable compressibility and recovery, ensuring that SWGs maintain a tight, reliable seal even under extreme thermal cycling and fluctuating process conditions.

### APPLICATION

LeaderTherm NXT1000 is designed specifically for incorporation into spiral wound gaskets used in:

- Heat Exchangers with elevated temperature cycling
- Refining and Petrochemical Process Units (e.g., heaters, reformers, FCC components)
- Chemical Processing Plants requiring long-term stability in corrosive or oxidizing environments
- High-Temperature Flanged Joints where graphite oxidation is a concern
- Industrial Furnaces & High-Heat Equipment
- Turbocharger and Exhaust Systems (NOx applications)
- Power Generation (steam systems, turbines, high-pressure lines)

Ideal for applications demanding high integrity, blowout resistance, and consistent sealing performance across a broad range of operating temperatures.

### CHEMICAL COMPATIBILITY

The inert nature of the phlogopite mica foundation gives NXT1000 broad resistance across common industrial media.

#### EXCELLENT RESISTANCE TO:

- Hydrocarbons, fuels, and lubricants
- Steam and superheated steam
- Many inorganic acids and bases (excluding strong oxidizers)
- Solvents, glycols, and process chemicals
- Oxidizing atmospheres, making it a strong alternative when graphite oxidation is a concern

#### NOT RECOMMENDED FOR:

- Strong oxidizing acids at any temperature. Verify corrosion resistance with winding metal
- Molten alkali metals of any kind

### AVAILABLE OPTIONS

LeaderTherm NXT1000 is available as a high-performance filler material for all Leader Gasket spiral wound gasket constructions, including type S, SI, SR and SRI.

LeaderTherm NXT1000 filler material can be used with a wide range of metal windings and alloy combinations, ensuring compatibility with the specific temperature, chemical, and mechanical requirements of the application. This flexibility makes NXT1000 suitable for everything from standard service to severe-service, high-temperature, or oxidizing environments.

### SEALING CHARACTERISTICS

When used as a filler in spiral wound gaskets, LeaderTherm NXT1000 provides:

#### Key Performance Attributes:

- High-Temperature Stability beyond the limits of many traditional fillers
- Superior Oxidation Resistance, supporting longer service life
- Strong Creep & Stress Relaxation Control, helping SWGs maintain seating stress
- Reliable Compressibility & Elastic Recovery for consistent sealing during thermal cycling
- High Blowout Resistance, contributing to safe performance under pressure fluctuations
- Exceptional Chemical Resistance, enabling use across broad refinery, chemical, and power-generation markets

These characteristics make NXT1000 a strong choice for fabricators and end users requiring a high-temperature, oxidation-resistant SWG filler material capable of outperforming conventional alternatives.

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## TECHNICAL DATA

|  |                       |
|--|-----------------------|
| Maximum Temperature                            | 1832°F                |
| Maximum Pressure                               | 4351 psi              |
| Minimum Recommended Seating Stress at Assembly | 10150 psi             |
| Maximum Seating Stress                         | 43500 psi             |
| Density  | 1.2 g/cm <sup>3</sup> |
| Chloride / Fluoride                            | ≤10 ppm               |
| M-Value  | 3                     |
| Y-Value  | 10,000 psi            |

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