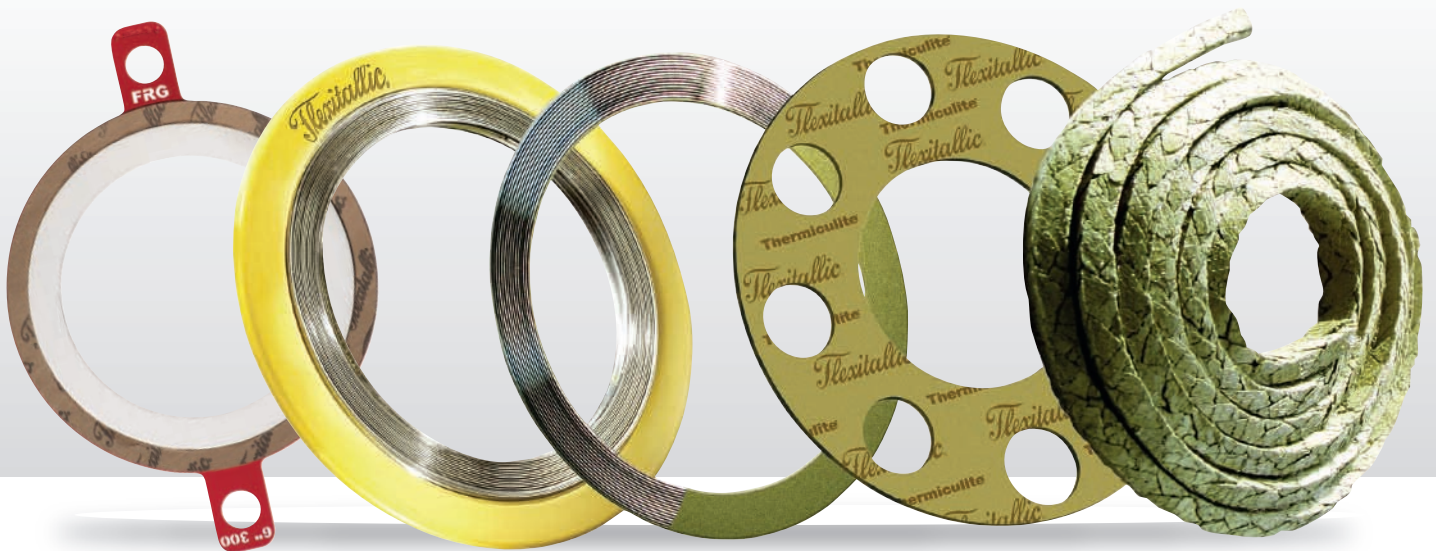


*Flexitallic*

# THERMICULITE®

Intense heat.  
Extreme cold.  
Aggressive chemicals.



# FLEXITALLIC

The Flexitallic Group is the international market leader in the manufacture and supply of high quality, high value industrial static sealing products, delivering industrial gaskets on a global scale.



## **About us**

As the developer of the spiral wound gasket in 1912, we have built on this legacy of innovation with revolutionary products including Thermiculite<sup>®</sup> and Sigma<sup>®</sup>, The Flange Rescue Gasket winner of the NACE and Dupont Plunkett Awards, and most recently the Change<sup>™</sup> Gasket, set to transform the global sealing industry.

We have a global network of Allied Distributors across 30 countries. This ensures local demand is met quickly, providing a combination of the highest product quality and outstanding customer service.

Our extensive and varied product offering includes spiral wound gaskets, RTJ gaskets, Flexpro<sup>™</sup> Kammprofiles, sheet materials, dynamic and static packings, pipe support and custom rubber products. Drawing upon the group's rich history and present day values of leadership, quality, service and technology, we are at the forefront of developing sealing solutions for industries around the world.

In addition to a wide range of products, we also deliver world-class technical support and Joint Integrity training.



Based on sales and geographic reach, the Flexitallic Group has become *the* global supplier of industrial gaskets.

**Innovative Product Range**

We have a rich history of innovation, which has seen us lead the industry with many new products.

Over the years, our products have gained a reputation for quality, reliability and technology that is second to none.

**Customised Engineering Solutions**

Our Application Engineering, Production Engineering and R&D teams work closely together to design, develop and manufacture bespoke sealing solutions.

We have been responsible for a number of truly revolutionary products, including Thermiculite®, Sigma® and the Flange Rescue Gasket, which ensure we are able to continually meet the ever more stringent requirements of our customers.

**Flexitallic® Safe**

Over the last century, our aggressive R&D efforts have helped customers become Flexitallic® Safe. From the first Spiral Wound Gasket in 1912 to the ever evolving applications for Thermiculite®, our goal is to develop materials that push the parameters of heat, pressure and chemical resistance.

**Our Commitment to Quality**

We place great emphasis on maintaining international quality standards, and are approved to ISO 9001:2008, ISO 14001:2004 and OHSAS 18001:2007, API 6A and API 17D, to ensure we meet the highest possible standards for all our products and services.

We also invest heavily in test and quality assurance equipment to maintain our reputation for the highest quality products.

Our materials are subjected to a wide range of tests as specified by statutory regulations and customer requirements. These approvals enable our customers to make informed choices as to the suitability of a product for each and every application.

**Inside Industry**

We pride ourselves on not simply supplying products, but by supporting customers with a detailed knowledge of their industry and applications, so that products and services are tailored to their specific needs.

This unique approach means that we focus on providing more than just a product, but also a complete solution that adds genuine value to our clients.

**Global Distribution... Local Support**

Our products are distributed through a global network of Allied Distributors.

These carefully selected distribution partners are strategically located within their territory to deliver the best possible service and products to our customers. This approach means our products and know-how are available to the global industries we service.

**Allied Distributor**



**Licensee Manufacturer**



## THERMICULITE®



Thermiculite® is an innovative, versatile and complete gasket material, making it the industry's leading sealing solution.

**Thermiculite®**  
innovative. versatile. complete.

### **INNOVATIVE.** **Cutting-Edge Material Technology**

Ever since inventing the spiral wound gasket in 1912, Flexitallic has been at the forefront of fluid sealing innovation.

In 1998, Flexitallic set new standards for sealing technology with the introduction of Thermiculite® Critical Service Series gasket material available in Tanged Sheet – and later in Spiral Wound Filler and Flexpro™ (kammprofile) Facing styles.

Exclusive to Flexitallic, this revolutionary material, comprised of chemically and thermally exfoliated vermiculite\*, simulated structure of exfoliated graphite, with one notable exception – it maintains integrity through a wide range of high temperatures.

All Thermiculite® Critical Service Series products are designed and engineered for high temperature processes in services up to 1000°C (1832°F).

\*Vermiculite, a naturally occurring mineral with a plate-like structure, demonstrating an exceptional broad range of chemical and temperature resistance.

### **VERSATILE.** **A New Level of Performance**

Through our continued dedication to research and development, Flexitallic are also able to offer Thermiculite® Performance Service gasket material.

Thermiculite® Performance Series gasket material – developed for use in more moderate temperature applications – maintains the same broad chemical resistance and freedom from oxidation that has made Thermiculite® Critical Service Series such a success.

### **COMPLETE.** **The Total Static Sealing Solution**

This innovative and versatile material is available as a stand alone Coreless sheet material, as a filler for SWG's, as a facing for Kammprofiles/Flange Rescue Gasket, and also in many of our other product lines.

Since its inception, Thermiculite® gasket material has proven itself as an effective long-term sealing solution in thousands of the most demanding industrial sealing applications.

With the combination of Thermiculite® Critical Service (800 Series) and Thermiculite Performance (700 Series), a single, proven material can be used for virtually all of your sealing requirements.

**That's why we call Thermiculite®  
The Total Static Sealing Solution.**



There is no comparison.  
When it comes to  
worry-free sealing,  
choose Thermiculite®.

#### Total Freedom From Oxidation

Conventional graphite gaskets are susceptible to attack by oxidising agents. This occurs from oxygen flowing within the media, or simply from oxygen present in the atmosphere surrounding the flange. The rate at which graphite oxidises depends on the application temperature and the concentration of oxygen present. But when it does happen – the end result is seal failure.

The unique composition of Thermiculite® gasket material ensures that seals maintain their integrity at maximum service temperatures far exceeding that of graphite.

There really is no comparison. When it comes to worry-free sealing, choose Thermiculite® Critical Service Series or Thermiculite® Performance Series and eliminate the risk of oxidation altogether.

#### PROVEN TRACK RECORD IN THE FOLLOWING INDUSTRIES

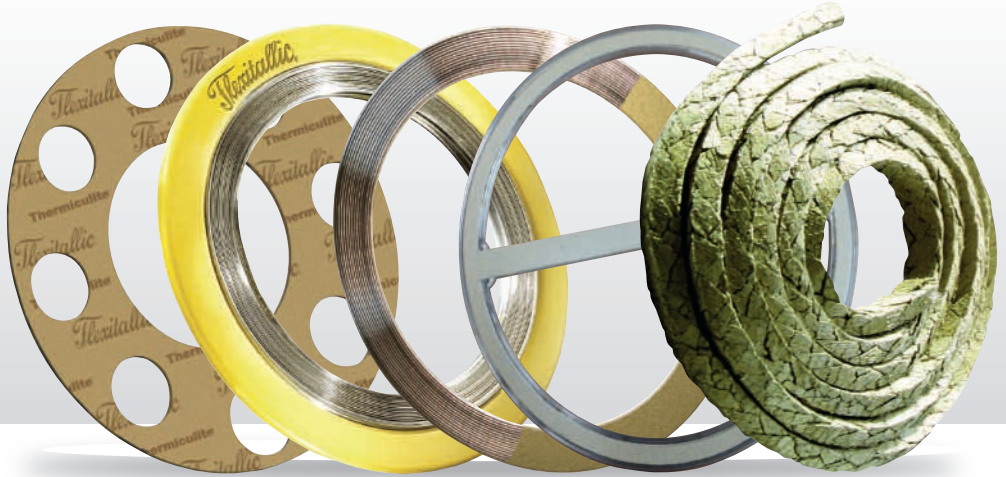
- Power Generation
- Fertiliser (Aggro-Chemicals)
- Oil & Gas Exploration
- Industrial Chemicals
- Aerospace
- Oil Refining
- Solid Oxide Fuel Cells
- Green Energy  
Renewable Energy  
(Solar Thermal,  
Bioethanol and  
Energy from  
Waste EfW)



REQUIRED SERVICE LIFE IN YEARS	MAXIMUM SERVICE TEMPERATURE		
	Graphite	Thermiculite® 800 Series	Thermiculite® 700 Series
1	366°C (691°F)	1000°C (1832°F)	550°C (1022°F)
3	332°C (630°F)	1000°C (1832°F)	550°C (1022°F)
5	321°C (610°F)	1000°C (1832°F)	550°C (1022°F)
10	304°C (580°F)	1000°C (1832°F)	550°C (1022°F)

The Tightness Testing Research Laboratory (TTRL) at Ecole Polytechnic in Montreal on behalf of the Pressure Vessel Research Council (PVRC) performed independent testing to show that the maximum service temperature for graphite in long-term service is much lower than quoted in manufacturers' literature. This table summarises those results.

## THERMICULITE® CRITICAL SERVICE SERIES



Effectively manage your gasket selection process, simplify inventory requirements, and receive proven long-term sealing with Thermiculite® gasket material – The Total Sealing Solution.

**Thermiculite®**  
innovative. versatile. complete.

### Why Thermiculite® Critical Service Series?

- Total freedom from oxidation
- Chemical compatibility exceeds graphite
- Can be used in temperatures up to 1000°C (1832°F)
- Fire safe
- Proven track record
- Wide range of metals available



#### Thermiculite® 815 Tanged Sheet

High temperature sheet reinforced with a 0.1mm (0.004") 316 stainless steel tanged core. Available in thicknesses of 0.8mm (1/32"), 1.5mm (1/16") 2.0mm (5/64") and 3.0mm (1/8"), in metre (standard) and 1.5m x 1.5m (60" x 60") sheet. Cut gaskets also available in all shapes and sizes.



#### Thermiculite® 835 Spiral Wound Filler

High temperature filler material for spiral wound gaskets. Wide range of metals available.



#### Thermiculite® 845 Flexpro™ (kammprofile) Facing

High temperature Filler and Facing material for kammprofile gaskets. Wide range of metallic core materials available.



#### Thermiculite® 855 Change™

High temperature Filler and Facing material for use with the Change™ Gasket.



#### Thermiculite® 894 Packing Material

Critical service packing made from expanded vermiculite foil and Inconel wire.

# THERMICULITE® PERFORMANCE SERIES



Choose Thermiculite®  
– contact your local  
Allied Distributor today.

## Allied Distributor



### Why Thermiculite® Performance Series?

- Total freedom from oxidation
- Broad chemical compatibility range
- Fire safe
- Genuine opportunity for gasket standardisation and inventory consolidation
- Wide service capability



### Thermiculite® 715 Coreless Sheet

High performance coreless sheet material. Replacement of compressed fibre sheet line, SF2401, SF2420, SF3300, SF5000 and tanged graphite sheet. Available in thicknesses of 0.8mm (1/32"), 1.5mm (1/16") and 3.0mm (1/8") in cut gaskets and 1.5m x 1.5m (60" x 60") sheet.

## RECOMMENDED SERVICE CONDITIONS FOR THERMICULITE® CRITICAL SERVICE & PERFORMANCE SERIES

	CRITICAL SERVICE SERIES				PERFORMANCE SERIES
	815	835	845	855	715
<b>Product Type</b>	Tanged Sheet	Spiral Wound Filler	Flexpro (kammprofile) Facing	Change Gasket Filler	Coreless Sheet
<b>Temperature Range</b>	Up to 1000°C (1832°F)	Up to 1000°C (1832°F)	Up to 1000°C (1832°F)	Up to 1000°C (1832°F)	Up to 454°C (850°F)
<b>Pressure Range</b>	Class 150 to 300	Class 150 to 2500	Class 150 to 2500	Class 150 to 2500	Class 150 to 300
<b>Typical Use</b>	High temperatures, nominal pipe sizes, non-standard gaskets, problem applications, critical seals.				Available in cut gasket and 1.5m x 1.5m sheet

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## About The Flexitallic Group

The Flexitallic Group is a global leader in specialised sealing solutions and products serving the oil and gas, power generation, chemical and petrochemical industries in emerging and developed markets. Focused on the upstream, downstream and power generation sectors, it has operations in France, the United States, Canada, Mexico, the United Kingdom, Germany, the United Arab Emirates, Kazakhstan and China plus a network of worldwide licensing partners and distributors.

[www.theflexitallicgroup.com](http://www.theflexitallicgroup.com)