

**BAM**

Bundesanstalt für  
Materialforschung  
und -prüfung

## Report

on the Evaluation of a Gasket Material for Oxygen Service

**Reference Number** II-1705/2008 II E  
**Copy** 1. Copy of 2 Copies

### 1 Application

**Customer** Flexitallic Ltd.  
Scandinavia Mills  
Hunsworth Lane  
CLECKHEATON BD19 4LN  
UNITED KINGDOM

**Order Date** July 2, 2008

**Reference** Order No. PO168382

**Receipt of Order** July 7, 2008

**Test Samples** Gasket material FLEXITALLIC THERMICULITE 867 for  
oxygen service. A test sample was not required for this  
evaluation.  
BAM-Order No. II.1/49 353

**Evaluation  
according to** Pamphlet M034 "Sauerstoff"  
Annex of pamphlet M034-I  
„Liste der nichtmetallischen Materialien, die von der  
Bundesanstalt für Materialforschung und -prüfung  
(BAM) zum Einsatz in Anlageteilen für Sauerstoff als  
geeignet befunden worden sind“ (Edition:  
October 2007)  
according to rule BGR 500 „Betreiben von  
Arbeitsmitteln“ part 2, chapter 2.32 „Betreiben von  
Sauerstoffanlagen“, Edition: April 2008.

All pressures of this report are excess pressures.

This test report consists of page 1 and 2 and annex 1.

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In case a German version of the test report is available, exclusively the German version is binding.

TEST REPORT



## 2 Documents

- 1 Application of July 2, 2008
- 1 Certificate of composition – Thermiculite 867 (annex 1)
- 1 Safety data sheet
- 1 Material data sheet

## 3 Evaluation

According to its certificate of composition (annex 1) the material FLEXITALLIC THERMICULITE 867 consists of the following:

- high purity talc (magnesium silicate)
- high purity silica flour (natural quartz)
- chemically exfoliated vermiculite
- chemically exfoliated vermiculite dispersion stated to contain “zero” organic content.

The above components are mixed, formed and dried with no other additives.

On basis of this certificate and the requirements of pamphlet M034 “Sauerstoff”, there are no objections, regarding technical safety, to use the gasket material FLEXITALLIC THERMICULITE 867 for gaseous and liquid oxygen service.

## 4 Comments

This evaluation refers exclusively to the described material in the “Certificate of Composition – Thermiculite 867”.

Products that have been evaluated by us, and which are on the market, shall be marked according to our evaluation in the BAM test report. A label on a product saying that a BAM evaluation has been performed and (or) citing our reference number, only, is not tolerable. The use of the product and its safe operating conditions must also be given.

It shall be clear that the product may be used for gaseous and liquid oxygen service. The maximum safe oxygen pressure of the product and its maximum use temperature as well as other restrictions in use shall be given.

The “Certificate of Composition – Thermiculite 867” is part of this report.

**Federal Institute for Materials Research and Testing (BAM)**  
**12200 Berlin, November 25, 2008**

**Division II.1**  
**“Gases, Gas Plants”**

  
Dr. Chr. Binder  
Head of Working Group

**Working Group**  
**“Safe Handling of Oxygen”**

  
Dipl.-Ing. K. Arlt  
Engineer in Charge

Copies:

- 1. Copy: Flexitallic Ltd.
- 2. Copy: BAM – Working Group “Safe Handling of Oxygen”

# JOHN ASHWORTH & PARTNERS Ltd.

*Consulting Scientists, Polymer & Paint Technologists,  
Analytical Chemists, Flooring Consultants.*



## REPORT

PREPARED FOR

Flexitallic Limited  
PO Box 3, Marsh Works  
Dewsbury Road,  
Cleckheaton  
West Yorks  
BD19 5BT

SUBJECT

Certificate of Composition – Thermiculite 867

REPORT No.

R1495/08

DATE

21<sup>st</sup> May 2008

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R1495/08

*Services:- Chemical Analysis, On-Site Investigations, Expert Witness, Problem Solving, Research and Development, Innovation.*

*Area of Expertise:- Solvents, Paints, Coatings, Plastics, Rubbers, Building Materials, Flooring.*

D.T.I. S.M.A.R.T. Award Winners 1989, 1992, 1994

Clean Technology Award Winners 1990

Conservation Award Winners 1990

On the 7<sup>th</sup> May 2008 I visited the premises of Flexitallic Limited in Rochdale, where I inspected all aspects of the manufacturing process of Thermiculite 867. This included:-

Inspection of raw materials and intermediates  
Inspection of the mixing and sheet forming processes  
Examination of raw material data sheets.

The components of the Thermiculite 867 are as follows:-

Reference 141564444 – a high purity talc (magnesium silicate)  
Reference 141564805 – a high purity silica flour (natural quartz)  
Reference 183510001 – a chemically exfoliated vermiculite  
Reference 183510003 - a chemically exfoliated vermiculite dispersion stated to contain “zero” organic content.

The above components are mixed, formed and dried with no other additives. I can therefore confirm that the Thermiculite 867 is composed entirely of inorganic materials and consequently is free from any organic constituent.



John Ashworth MPRI PhD MBAE  
Principal

Report checked by:

A. Calvert

Angela Calvert  
Technologist

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