

# Telecommunication

Microwave Absorption



Vita Technical Foams

Vita Group

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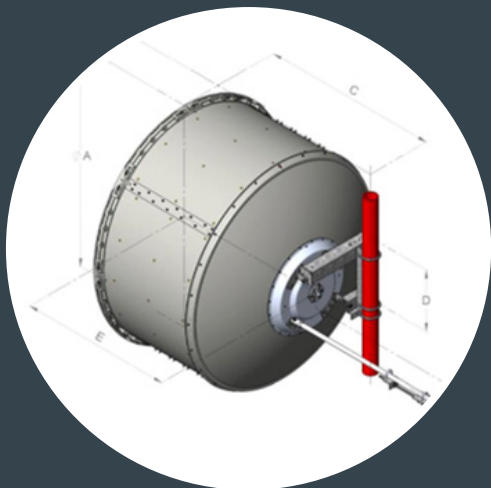
# Telecommunication Microwave Absorption

**Vita delivers a comprehensive range of microwave absorbent products developed for free space and cavity resonance application. Products include carbon impregnated reticulated foam, carbon impregnated non-woven needled textiles and custom composite products.**

Vita's technical department provides full testing and verification service along with customer focused product development, including:

- Customised formulation development
- Target specific frequency bands
- Incorporated shielding / absorption solutions

Our RF/Microwave Absorbers and Dielectrics line features flexible, low loss dielectrics, EMI noise reduction, heat path disposition and microwave absorption.

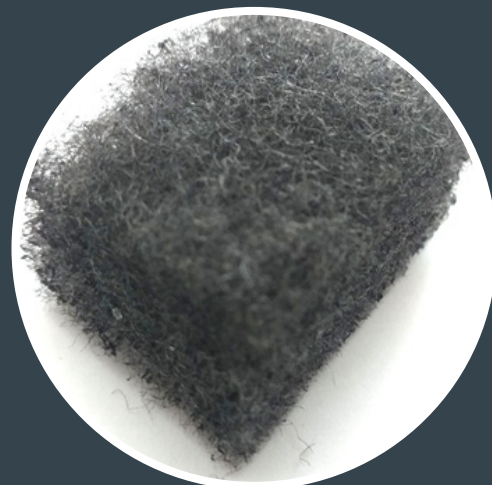


**Vita's manufacturing and technical expertise** is exceptional meeting both local and international standards, solving our customers' problems with a wide range of materials. By providing an extensive range of products we can satisfy many types of complex needs easily and efficiently.

Consistent supply and control is ensured through total control from concept to completion, a discipline that has helped secure long-term customer relationships and partnerships.

Vita specialise in the following manufacturing areas:

- **Impregnation** – highly tuned formulations to impart specific characteristics
- **Lamination** – materials, films, fabrics from breathable membranes to reinforced aluminium foil
- **Water Jet Cutting** – state of the art technology, giving key benefits
- **Contour Cutting** – horizontal and vertical CNC controlled machinery to ensure accurate 3D parts
- **Profiling** – egg box profiling, produces high surface area components



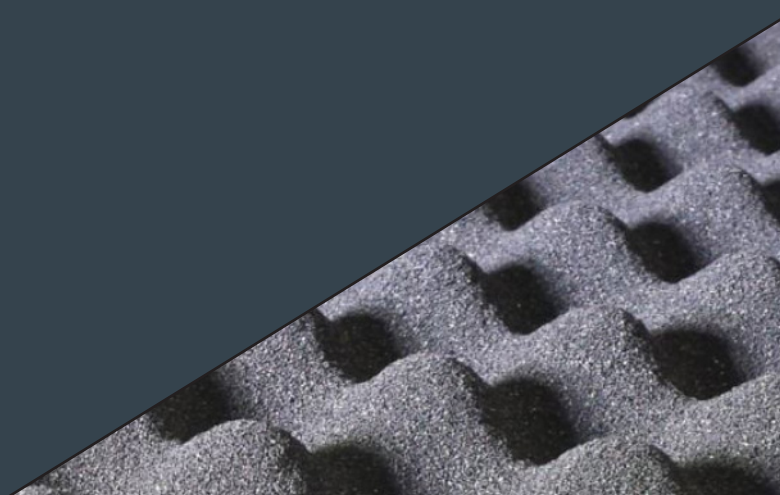
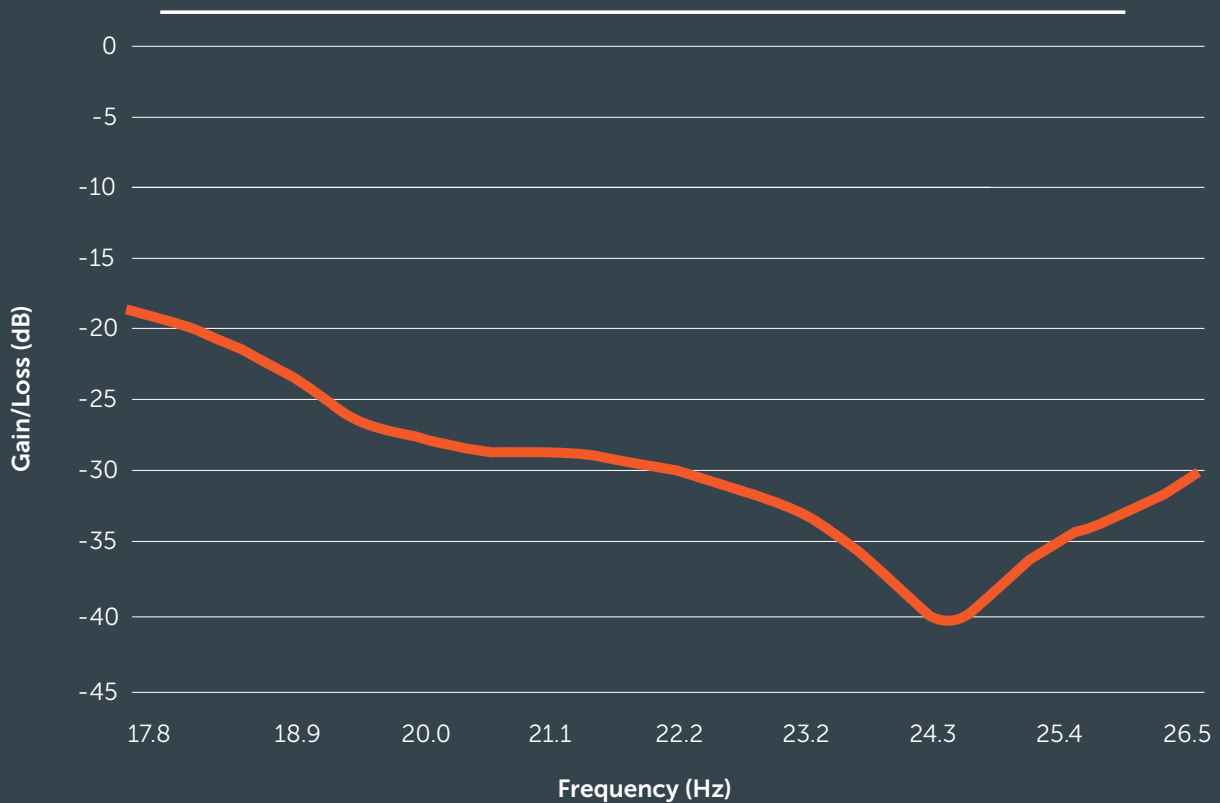
# Microsorb FB15/200/240

## Microsorb FB15/200/240

is non-woven needled polyester fibre impregnated with a specially formulated acrylic binder containing a high loading of conductive carbon. The impregnation process gives a differential loading of carbon from front to rear, minimising reflection. The binder has been formulated for optimum carbon retention, producing a low shedding product.

Property		Typical Result
Nominal Thickness (mm)		30
Nominal Unit Weight (gm <sup>3</sup> )		750 Minimum
Surface Resistance	Front (soft side)	2 - 4 k $\Omega$
	Back (hard side)	<1.0 k $\Omega$
Operating Temperature		Minimum -30°C Maximum intermittent +110°C Continuous +80°C
Microwave Absorption (NRL Arch technique, 10° angle)		-16dB minimum absorption from 18GHz

**TYPICAL MICROWAVE ABSORPTION OF MICROSORB - FB15 200/240 (30MM)  
NRL ARCH TECHNIQUE, 10° ANGLE**



# Microsorb ST29/200/100

**Microsorb ST29/200/100** is an open cell polyether foam impregnated with a specially formulated acrylic binder containing a high loading of conductive carbon. The binder has been formulated for optimum carbon retention, producing a low shedding product.

**Microsorb ST29/200/100** can be supplied in flat sheet, profiled sheets for improved microwave absorption and cut bespoke parts.

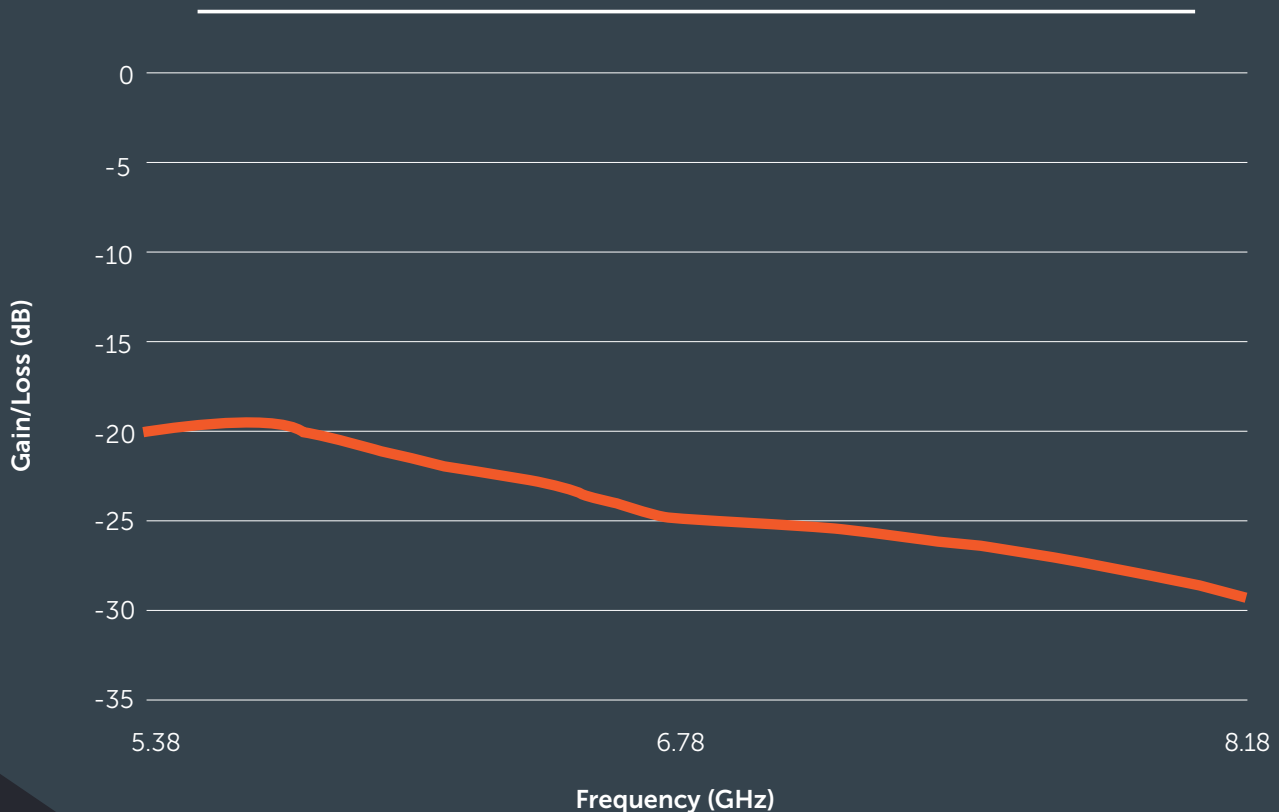
## Common Applications

Telecommunication domes and antennae, RAM panels for military use.

Property	Typical Result
Nominal Thickness (mm)	20mm base, 28mm rise (Profiled) 50mm flat sheet (Flat Sheet)
Nominal Density (gm <sup>3</sup> )	29
Surface Resistance	<1.0 k $\Omega$
Operating Temperature	Minimum -30°C Maximum intermittent +110°C Continuous +80°C
Microwave Absorption (NRL Arch technique, 10° angle) Profiled foam nominally 20mm base, 28mm rise	-19dB minimum absorption from 5.9 to 8.2GHz

## TYPICAL MICROWAVE ABSORPTION OF MICROSORB - ST29/200/100 PROFILED 20MM BASE, 28MM RISE

### NRL ARCH TECHNIQUE, 10° ANGLE



# Microsorb RT20/200/100

**Microsorb RT20/200/100** is a reticulated open cell polyether foam, impregnated with a specially formulated acrylic binder containing a high loading of conductive carbon. The impregnation process gives a differential loading of carbon from front to rear, minimising reflection. The binder has been formulated for optimum carbon retention, producing a low shedding product.

Property	Typical Result
Nominal Thickness (mm)	16
Nominal Density (gm <sup>3</sup> )	28
Operating Temperature	Minimum -30°C Maximum intermittent +110°C Continuous +80°C
Microwave Absorption (NRL Arch technique, 10° angle) Profiled foam nominally 20mm base, 28mm rise	-16dB minimum absorption from 18 to 26.5GHz

## Microsorb RT20/200/100

can be supplied in flat sheet and cut bespoke parts.

## Common Applications

Telecommunication domes and antennae, RAM panels for military use.

**TYPICAL MICROWAVE ABSORPTION OF MICROSORB - RT20-200/100 (16MM)  
NRL ARCH TECHNIQUE, 10° ANGLE**

