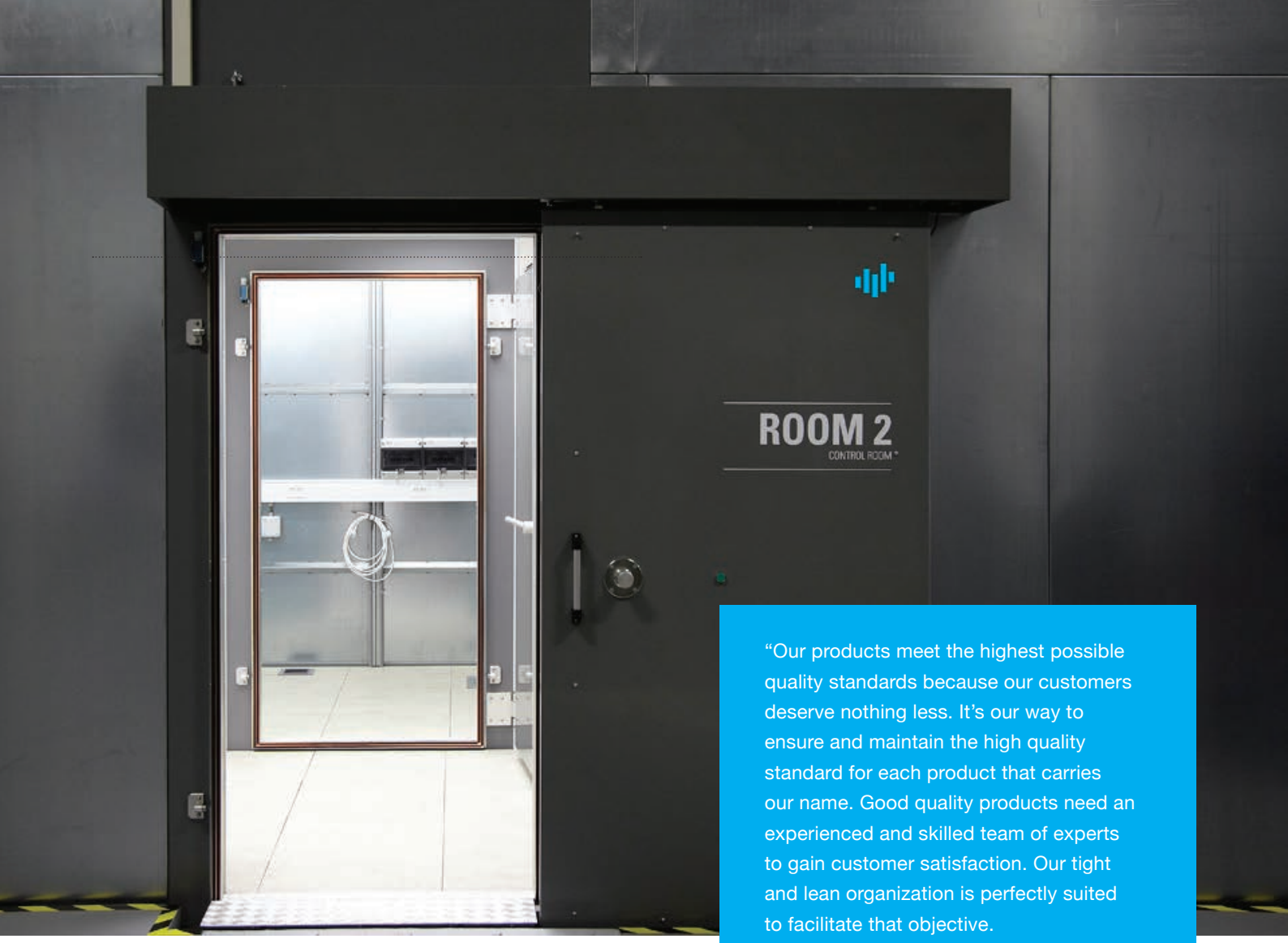
COMTEST®
ENGINEERING

Empower tomorrow's technology

RF Shielded Doors

Controlled **Electromagnetic** Environments



Comtest Engineering supplies high performance RF shielded rooms, reverberation and anechoic chambers. The company's headquarters & production facility are located in The Netherlands and were founded in 1985.

We are a professional organization and recognized for our quality and flexibility. Comtest high performance RF shielded doors, mode-stirrer systems and microwave absorbers have been internationally recognized as state of the art products. With offices in both Europe and USA we provide excellent local support and strive to gain 100% satisfied customers. Our skilled and experienced team is passionate to satisfy your need to control the electromagnetic environment!

"Our products meet the highest possible quality standards because our customers deserve nothing less. It's our way to ensure and maintain the high quality standard for each product that carries our name. Good quality products need an experienced and skilled team of experts to gain customer satisfaction. Our tight and lean organization is perfectly suited to facilitate that objective.

We welcome you to join us in an active co-operation to explore how we can serve your application!"

Bas de Groot

Managing Director

Content

Europe
Comtest Engineering BV
Zoeterwoude – The Netherlands
www.comtest.eu

Phone: +31 71 541 7531
Email: support@comtest.eu

North America & Mexico
Souderton - USA
www.comtest.us

Phone: +1 215 723 0275
Email: info@comtest.us

QualityMasters CERTIFIED ISO 9001 M
QualityMasters CERTIFIED ISO 14001 M
Rev.: 2019-01

RF Shielded Doors

Our RF shielded doors are precision engineered marvels of modern technology. Unlike the RF shielding that protects the walls, floor and ceiling from unwanted intrusion of radiation, a RF shielded door has to open and close many times, maintaining a perfect seal every time it does so. These unique demands require a high-quality sealing mechanism that ensures the integrity of the chamber while still allowing for easy access. Comtest's RF shielded doors are best-in-class and achieve their seals by using a double knife edge, matching quadruple beryllium copper finger contact strip.

Unique shielding characteristics

The shielding characteristics of Comtest RF shielded doors are achieved using a double knife edge, matching quadruple beryllium copper finger contact strip. The RF shielded doors are equipped with a unique parallel closing mechanism and locking and latching system. Comtest shielded doors are available in manual, semi- and full automatic operation. One of the options of our RF shielded doors is semi- or full automatic door operation. The standard range of swing and sliding doors consists of many different models and can be designed with a 50mm low threshold. In EMC applications both ferrites and absorbers can be affixed to the door leaf.

Benefits of a unique design

For the swing doors a double pivoting hinge with parallel closing system is used in order to ensure long life time of the double row finger stocks mounted in the doorframe. For service and maintenance the door mechanics can be reached by removing the front cover of the door. Since this is not an essential part of the shielding it facilitates all maintenance work without affecting the shielding integrity of the facility.

Manual, semi- and full automatic operation

Comtest semi- and full automatic RF shielded doors are 100% electrically operated. The benefit of electrical doors is that they are more reliable than pneumatic systems. In case of mains power breakdown, automatic doors can be operated from the internal rechargeable battery system or using a manual door handle.

Benefits of the RF Shielded Doors

Comtest shielded doors have a unique friction free parallel closing system. This multiple point latching system ensures long life time of the double row finger stocks mounted in the doorframe. While operating the door no finger stocks are stressed.

Comtest shielded doors are the most sophisticated RF shielded doors available in the market today and offer a number of significant benefits:

- Parallel closing (friction free).
- Minimum threshold of 50mm.
- User-friendly operation.
- Low force manual opening system.
- Little maintenance required.
- Electrically operated.
- High performance shielding effectiveness up to 40 GHz.
- Easy maintenance access from the outside of the shielded enclosure.

Shielding effectiveness according to EN 50147-1 March 1996		
	Frequency:	Guaranteed value
Magnetic field	10 kHz	≥80dB
	156 kHz	≥95dB
	1 MHz	≥110dB
	10 MHz	≥110dB
Electrical field	10 kHz <= f < 30 MHz	≥120dB
Plane wave	30 MHz <= f <= 1 GHz	≥120dB
Micro wave	1 GHz < f <= 10 GHz	≥100dB
	18 GHz	≥100dB
	26.5 GHz	≥100dB
	40 GHz	≥100dB

RF Shielded Swing Doors

Swing doors are used as entrance doors for lab engineers and small equipment. RF shielded swing doors have a unique friction free parallel closing system. Its double pivoting hinge 4-point latching system ensures long life time of the double row finger stocks mounted in the door frame. While operating the door no finger stocks are stressed. Comtest can design its swing doors with a removable slope for easy access with equipment. For service purposes the door mechanics can be reached by removing the outside cover of the door. Since this is not an essential part of the shielding it facilitates all maintenance work without affecting the shielding performance of the facility. Comtest can design its swing doors with a removable slope for easy access with equipment.

RF Shielded Swing Door Standard Range

The standard dimensions for RF shielded swing doors are:

- 900*2100mm
- 1200*2100mm
- 1500*2100mm

RF Shielded Double Leaf Swing Doors

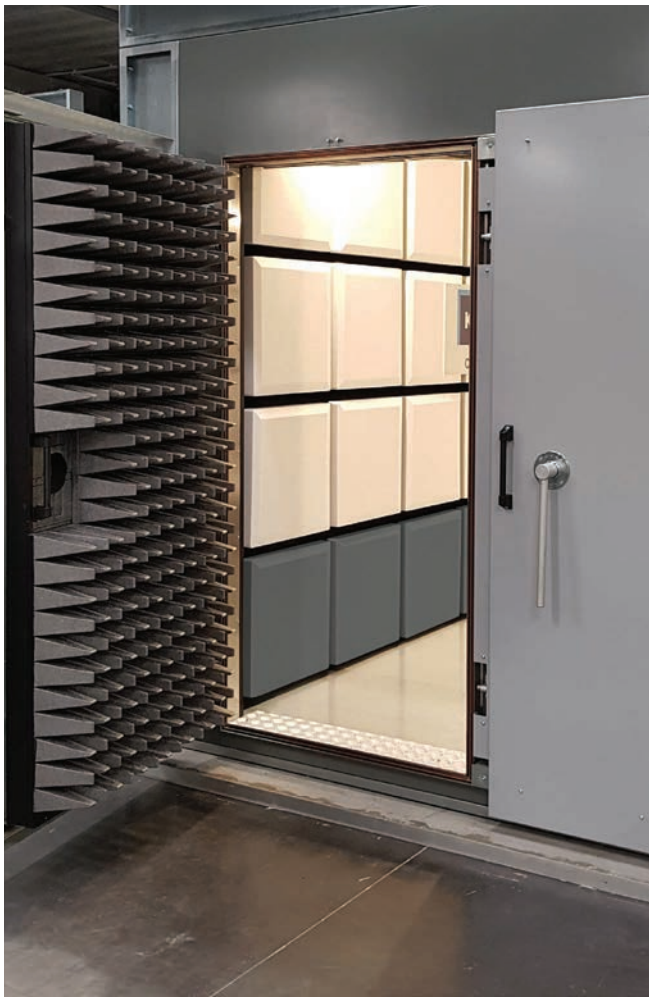
Double leaf swing doors are used in situations where for example larger EUT need to be rolled in- and outside of the component testing facility.

RF Shielded Double Leaf Swing Door Standard Range

The standard dimensions for RF shielded double leaf swing doors are:

- 2000*2100mm
- 2400*2400mm
- 3000*3000mm
- 6000*6000mm

In addition to our standardized models all sliding doors are available in customized dimensions to satisfy our customers' individual requirements.



RF Shielded Sliding Doors

RF Shielded Sliding Door Standard Range

The standard dimensions for RF shielded sliding doors are:

- 900*2100mm
- 1200*2100mm
- 1500*2100mm

In addition to our standardized models all sliding doors are available in customized dimensions to satisfy our customers' individual requirements.

Sliding doors are suitable for shield room and reverberation chamber applications. For EMC chambers it is possible to mount ferrite tiles on the door leaf if necessary. The main benefit of the sliding door is lacking the swing radius. This is convenient when there is limited space available. These RF shielded sliding doors have a unique friction free parallel closing system. Its 4-point latching system ensures long life time of the double row finger stocks mounted in the doorframe. While operating the door no finger stocks are stressed.

For service purposes the door mechanics can be reached by removing the outside cover of the door. Since this is not an essential part of the shielding it facilitates all maintenance work without affecting the shielding performance of the facility.

Threshold-less Entrance

To achieve a flush entrance Comtest RF shielded sliding gates can be installed with an automatic up/down platform or a removable slope. The up/down platform is operated from the door control cabinet.

RF Shielded Gates

For large EUT the Comtest sliding gates can be used as a full automated entrance. Sliding gates are designed for mounting hybrid absorbers and/or ferrite tiles onto the door leaf. While operating, the RF shielded sliding gates will have a typical “X-Y’ movement. The X-movement travel distance is influenced by the length of the absorbers attached to the door leaf. The Y-movement travel distance is influenced by the width of the door leaf. RF shielded sliding gates have a unique friction free parallel closing system. This multiple (>6) point latching system ensures long life time of the double row finger stocks mounted in the door frame. While operating the door no finger stocks are stressed.

For service purposes the door mechanics can be reached by removing the outside cover of the door. Since this is not an essential part of the shielding it facilitates all maintenance work without affecting the shielding performance of the facility.

Safety

All full automatic doors are equipped with a safety system to prevent obstructed motion. The operation of this door is done from a separate cabinet. Push buttons are used to operate the RF shielded sliding gate. As long as the buttons are pushed the door will move in the given direction. Once the button is released the door will stop its movement immediately.

RF Shielded Sliding Gate Standard Range

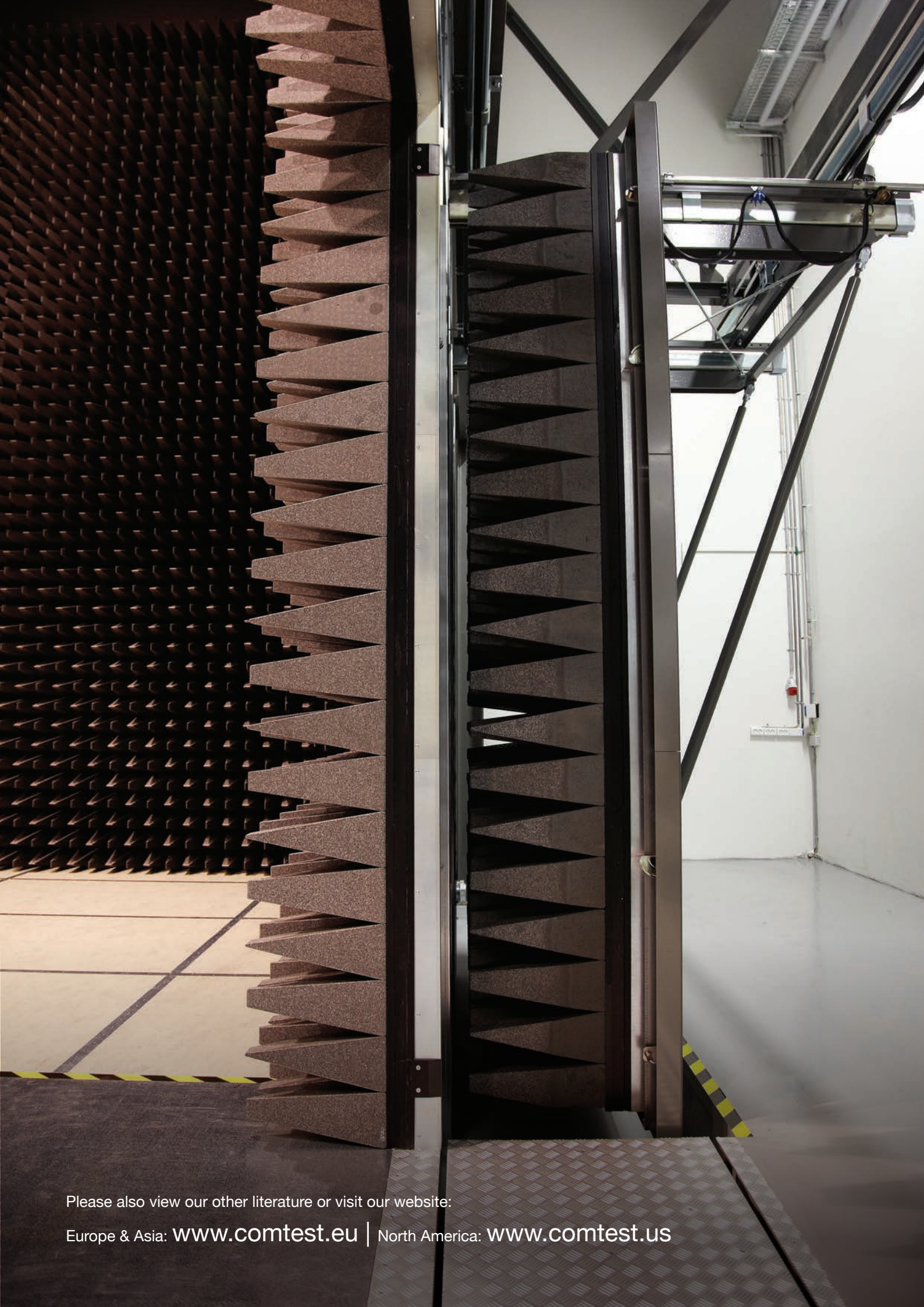
The standard dimensions for RF shielded gates are:

- 2400*2400mm
- 3600*3600mm
- 4000*4000mm

In addition to our standardized models all sliding doors are available in customized dimensions to satisfy our customers’ individual requirements.

Threshold-less Entrance

To achieve a flush entrance Comtest RF shielded sliding gates can be installed with an automatic up/down platform or a removable slope. The up/down platform is operated from the door control cabinet.



Please also view our other literature or visit our website:

Europe & Asia: www.comtest.eu | North America: www.comtest.us

Controlled **Electromagnetic** Environments

COMTEST® ENGINEERING

Comtest Engineering b.v.
Hoge Rijndijk 205
2382 AL Zoeterwoude
The Netherlands

+31(0)71 541 75 31
www.comtest.eu