

Quiet Hotelroom  
Design & Build Guide

# Hotel Architecture



QUIET  
HOTEL ROOM



November 2016

# The Quiet Room® label

## Guide for architects and developers

### Table of contents

<b>1</b>	<b>Introduction – the Quiet Room® label</b>	<b>3</b>
<b>2</b>	<b>Purpose and use of this guide</b>	<b>4</b>
<b>3</b>	<b>Advantages of certification with the QR label at the development or building stage</b>	<b>5</b>
<b>4</b>	<b>Standards of the Quiet Room® label</b>	<b>6</b>
4.1	Relevant sound levels	6
4.1.1	Airborne sound insulation between rooms	6
4.1.2	Airborne sound insulation between rooms and traffic areas	7
4.1.3	Reverberant sound period	8
4.1.4	Service equipment sound level	8
4.2	Corresponding limiting values and sound categories	9
<b>5</b>	<b>Building errors and soundproofing solutions</b>	<b>10</b>
5.1	Building errors	10
5.2	Soundproofing solutions	10
<b>6</b>	<b>Design &amp; Build Total Soundproofing Concept</b>	<b>11</b>
<b>7</b>	<b>Communicatie</b>	<b>12</b>



*Attention: The use of the name Quiet Room® label or any other related term is only allowed after official certification and registration with the Quietroom Foundation.*

*It is not allowed to use the name Quiet Room® label for any purpose of publicity, marketing or advertising without previous permission from the foundation.*

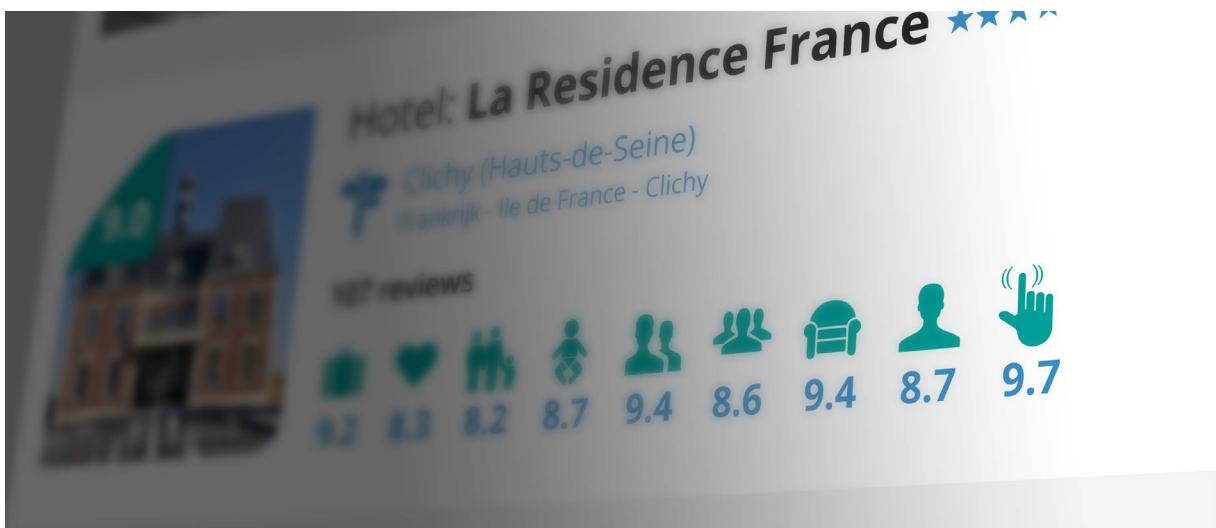
# 1 Introduction – the Quiet Room® label

Noise pollution is one of the most frequent complaints made by hotel guests around the world and it has led to an increased demand for silent hotel rooms. As a result of the advent of social media, complaints are getting more exposure and client reviews are having a bigger impact on hotel revenues. This has stimulated hotels to invest more in soundproofing, but until recently there were no objective standards by which to judge the insulation of hotel rooms.

The Quiet Room® label, developed in 2014 by the **Dutch Knowledge Centre Sound Insulation (KGI)**, provides guidelines and an objective standard for the (absence of) noise pollution in hotel rooms. Hotels which are interested in the label, can have their rooms measured for sound and if these meet the standards, they are certified in one of three silence categories.

The **independent Quietroom Foundation** grants the QR certificates and monitors the quality of the QR label and adherence to its standards. At present, over 140 hotels in Europe have been certified and there is growing interest from the US market. Also, there is huge interest among travellers who can find out about certified hotels through the foundation's website, [www.quiethotelroom.org/eng/](http://www.quiethotelroom.org/eng/).

Hotels which do not meet the standards of the QR label can engage the services of KGI to provide the necessary acoustic insulation. However, many hotels hesitate to take these measures because of the costs and the loss of revenue from unavailable rooms. One of the ways to solve this problem is by planning or implementing the necessary soundproofing measures at an earlier stage, i.e. when designing and/or developing the hotel.



Quiet hotelroom is more than a logo its an experience !



## 2 Purpose and use of this guide

This guide is aimed at architects and developers who are engaged in the design and development of new hotels and the conversion of existing premises, e.g. office buildings, into hotels. The guide provides insight into the most important aspects of the Quiet Room® label, such as:

- » the sound aspects relevant to the evaluation of hotel rooms
- » the applied limiting values for noise pollution
- » the various silence categories of the QR label

Also, the guide provides examples of frequently occurring building errors with regard to soundproofing and of possible solutions and measures which can be applied at the design, development and/or building stages.

With its **Design & Build Total Soundproofing Concept** (chapter 6), KGI has developed a fast and efficient method to implement the necessary soundproofing for hotel premises that are under construction or being renovated, and at the same time provide certification for the QR label.



Quiet hotelroom is more than a logo its an experience !

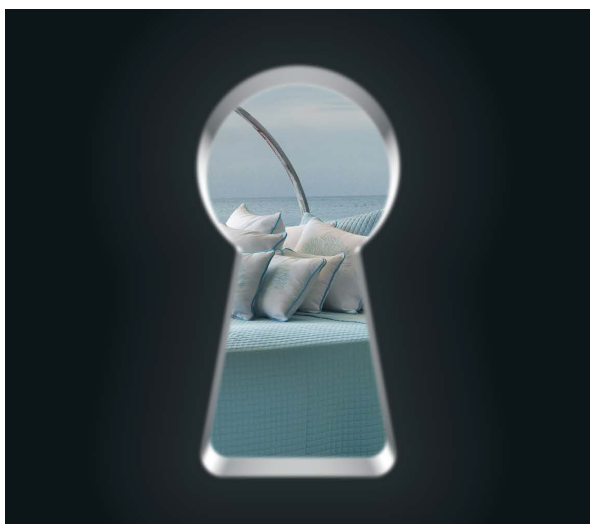


### 3 Advantages of certification with the QR label at the development or building stage

By implementing soundproofing measures which conform to the standards of the Quiet Room® label and obtaining the accompanying certification at the stage of development or renovation of hotel premises, instead of when the hotel has been fully developed and is already in use, the costs can be greatly reduced.

**It also guarantees hotels that their rooms meet strict acoustic standards without the need for extra investments or loss of revenue.**

**The advantage for architect and developers is that buildings which have been developed and built according to the QR standards and have obtained the QR label, are more interesting to hotel owners, are more marketable and have a higher value.**



**Quiet hotelroom is more than a logo its an experience !**





## 4 Standards of the Quiet Room® label

### 4.1 Relevant sound levels

To obtain qualification for the Quiet Room® label, the reverberant sound period as well as three different sound levels must be determined, i.e.:

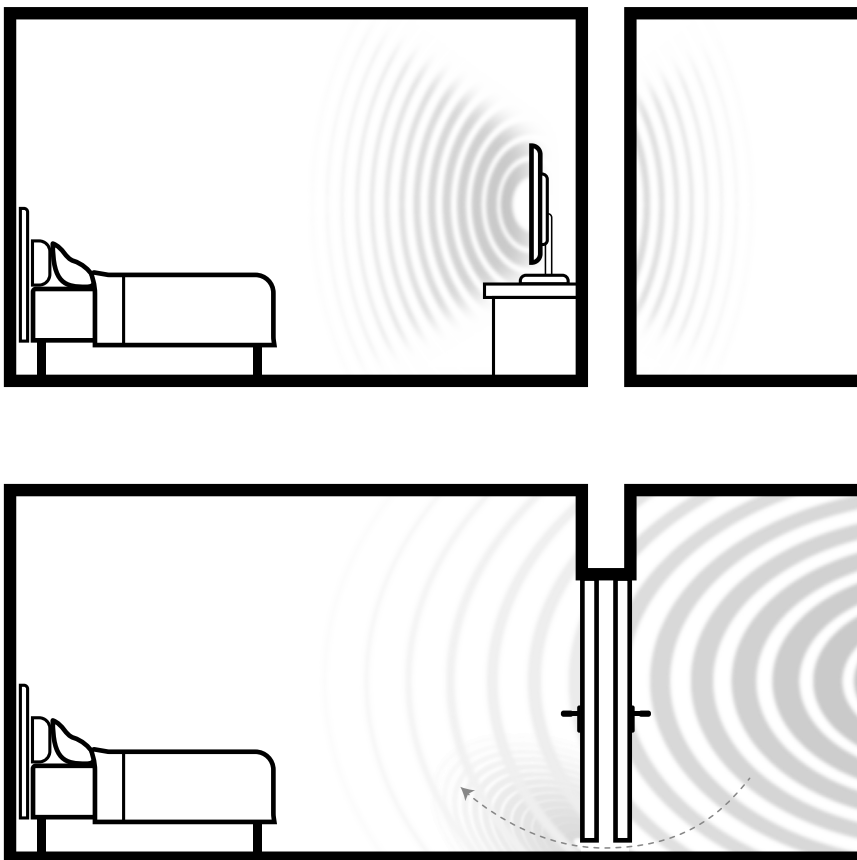
- » the airborne sound insulation between rooms
- » the airborne sound insulation between rooms and traffic areas
- » the service equipment sound level

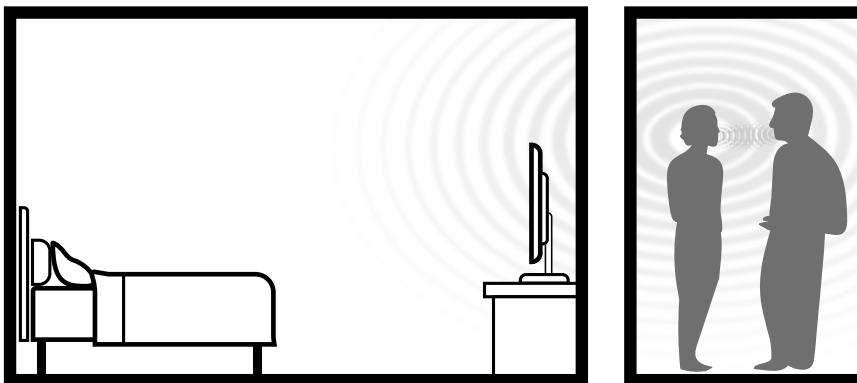
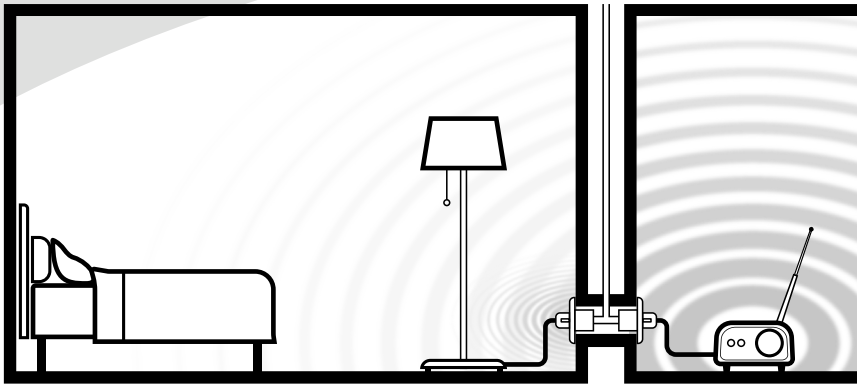
These sound levels obtain for hotel rooms and must be measured separately for each room.

#### 4.1.1 Airborne sound insulation between rooms

The airborne sound insulation between rooms is the difference in sound level between the receiving area (the area in the hotel room containing the bed) and the source area (the adjacent area in hotel room no. 2).

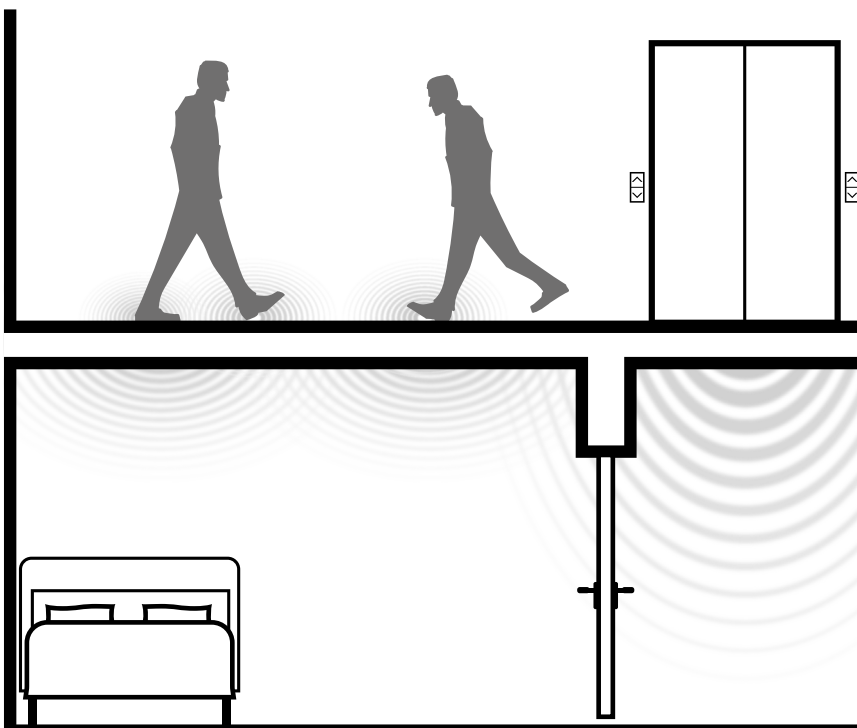
Measuring the airborne sound level between rooms involves measuring the decrease in speech, radio or television noises between the reception area and the source area. The airborne sound insulation is expressed as  $D_nTA$ . The higher the value, the better the sound insulation of the dividing construction.

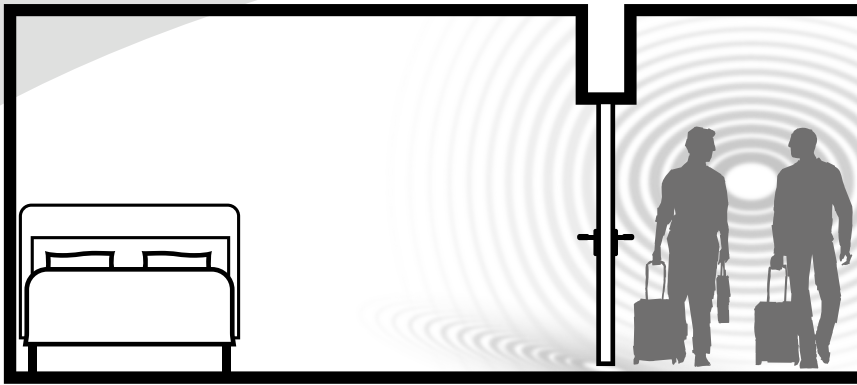




#### 4.1.2 Airborne sound insulation between rooms and traffic areas

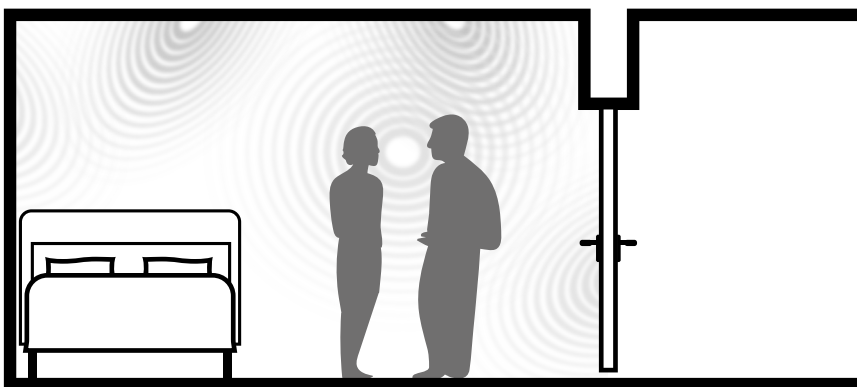
The airborne sound insulation between rooms and traffic areas is the difference in sound level between the source area (here the traffic area) and the receiving area (the adjacent area in the hotel room). Measuring the airborne sound level between rooms and traffic areas involves measuring the decrease in speech, radio or television noises between source area and receiving area. The airborne sound insulation between rooms and traffic areas is expressed as  $D_nTA$ .





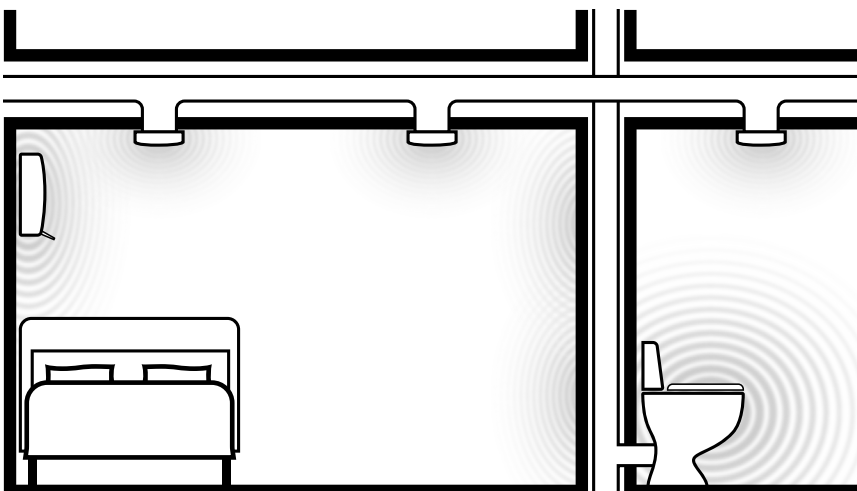
### 4.1.3 Reverberant sound period

The reverberant sound period is the period which expires between switching off an airborne sound source in an area and the moment at which the sound level in that area has dropped to a value which is 60 dB lower than at the moment of switching off. Say a sound source produces a sound pressure level of 90 dB. From the moment the source is switched off it takes 0,6 seconds until the sound pressure level has dropped to 30 dB. The reverberant sound period in this case is 0,6 seconds. The reverberant sound period is expressed as  $T_i$ .



### 4.1.4 Service equipment sound level

The service equipment sound level is the noise produced by technical installations in the hotel room such as ventilation, refrigerator and toilet. Measuring the service equipment sound level determines the characteristic A-weighted service equipment sound level. The characteristic A-weighted service equipment sound level is expressed as  $L_{i,A,k}$ .





## 4.2 Corresponding limiting values and sound categories

	Category 1	Category 2	Category 3
Airborne sound insulation between rooms	52-57 dB	57-62 dB	≥ 62 dB
	QRLC3®	QRLC2®	QRLC1®
Airborne sound insulation between rooms and traffic areas	≥ 30 dB		
Reverberant sound period	≤ 0,7 sec		
Service equipment sound level	≤ 30 dB		

## 5 Building errors and soundproofing solutions

### 5.1 Building errors

A project developer or investment company is building a hotel or redeveloping an existing building, e.g. an office building. Subsequently these parties lease the building for 30 years to a hotel chain/hotel operator. The building or redevelopment is carried out in the cheapest possible manner, i.e. as quickly as possible and using cheap building materials. Once the hotel operator has leased it, noise complaints occur frequently but are not remedied.

The property sector is short-changing itself in the development and construction of hotels. Owners, developers and investors should look beyond traditional procedures. In the coming years, more and more vacant office buildings will be converted into hotels. In Amsterdam alone there is room for more than 100 hotels. But you take insulation and soundproofing standards into account when you convert a building into a hotel. At present, this is often overlooked.

The recently opened Ramada Hotel in Amsterdam is a good example of this. It used to be an old office building which has been re-developed into a hotel and 434 of its rooms have qualified for the Quietroom label. The owners have consciously chosen to invest in quality and expect to fully recover their investment.

### 5.2 Soundproofing solutions

A few quotes from a round-table discussion between architects and hotel owners, held in Dubai in 2014:

“By considering the building as a whole, using performance based specification rather than the more traditional product led specifications, then we can design hotels to meet the demands of the consumer and in line with international standards and give them what they expect – A Good Night’s Sleep.”

“The early involvement of specialist acousticians will ensure that a project meets requirements and when it is handed over to an operator there will be no need for work to be done to bring it up to standard. In the case of hotels this would mean closing rooms and so causing huge inconvenience to guests and loss of revenue.”

“Greater attention to detail in the initial phases of a project can lead to huge savings further down the line. The design period does not cost a lot of money, but every piece of the concept you get right is a problem which will not need to be faced on-site. This period is the crucial one and that is a lesson that has been learnt in Europe and the USA about a million times.”

“Dry wall products are better suited for soundproofing than traditional blockwork. Dry wall is far lighter and needs to be much less dense than blockwork to achieve the same level of soundproofing. It gives a greater level of control – it is easy to change the configuration of a whole floor, which would be an absolute nightmare with blockwork. If professional dry wall companies are involved at an early stage, the savings on a project will be massive.

**-article by Nick Ames, designMENA.com**

## 6 Design & Build Total Soundproofing Concept

In response to the demand for quick, efficient and comprehensive solutions for the soundproofing of hotel rooms, KGI has developed the Quiet Room® Design & Build Total Concept. This turnkey package, geared to the acoustic insulation of existing hotel rooms, comprises all necessary expertise, consultancy and soundproofing measures to make hotel rooms quieter as well as certification for the QR label.

With a view to newly constructed hotels and redevelopment of existing buildings into hotels, KGI has developed a specific adaptation of the concept. The purpose is identical: facilitate architects and developers with a comprehensive soundproofing solution for hotel rooms. The solution may comprise one or more of the following stages:

- » QR Quickscan inspection of the existing situation and sound levels
- » consultancy with regard to necessary measures and a concept proposal including costs
- » implementation of soundproofing measures
- » certification for the QR label

**The major advantage of this approach is that you as an architect/developer will have access to the best possible combination of acoustic expertise, experience and state-of-the-art soundproofing methods. In addition, certification for the QR label guarantees that the finished hotel building will be more attractive to hotel operators and have a higher market value.**



## 7 Communicatie

The independent Quietroom Foundation safeguards the quality of the Quiet Room® label and stimulates the development of silent hotel rooms as well as awareness of the QR label by means of its website, [www.quiethotelroom.org/eng/](http://www.quiethotelroom.org/eng/), through social media and by publishing articles and press releases.

Every year the Foundation grants the Quiet Hotel Awards to one or more hotels which show outstanding performance with regard to silent hotel rooms. The awards take into account the location, the number of rooms with a QR label, the soundproofing measures and client reviews in social media.

If you need more information about the Quiet Room® label en/of de certificering, please contact:

### **Quietroom Foundation**

Keizersgracht-241  
1016-EA-Amsterdam  
+31(0)840030094  
[info@quiethotelroom.org](mailto:info@quiethotelroom.org)  
[www.quiethotelroom.org](http://www.quiethotelroom.org)

Attention: The use of the name Quiet Room® label or any other related term is only allowed after official certification and registration with the Quietroom Foundation.

It is not allowed to use the name Quiet Room® label for any purpose of publicity, marketing or advertising without previous permission from the foundation.

Quiet hotelroom is more than a logo  
**it's an experience !**





Quiet Hotelroom  
Design & Build Guide



# Hotel Architecture

November 2016