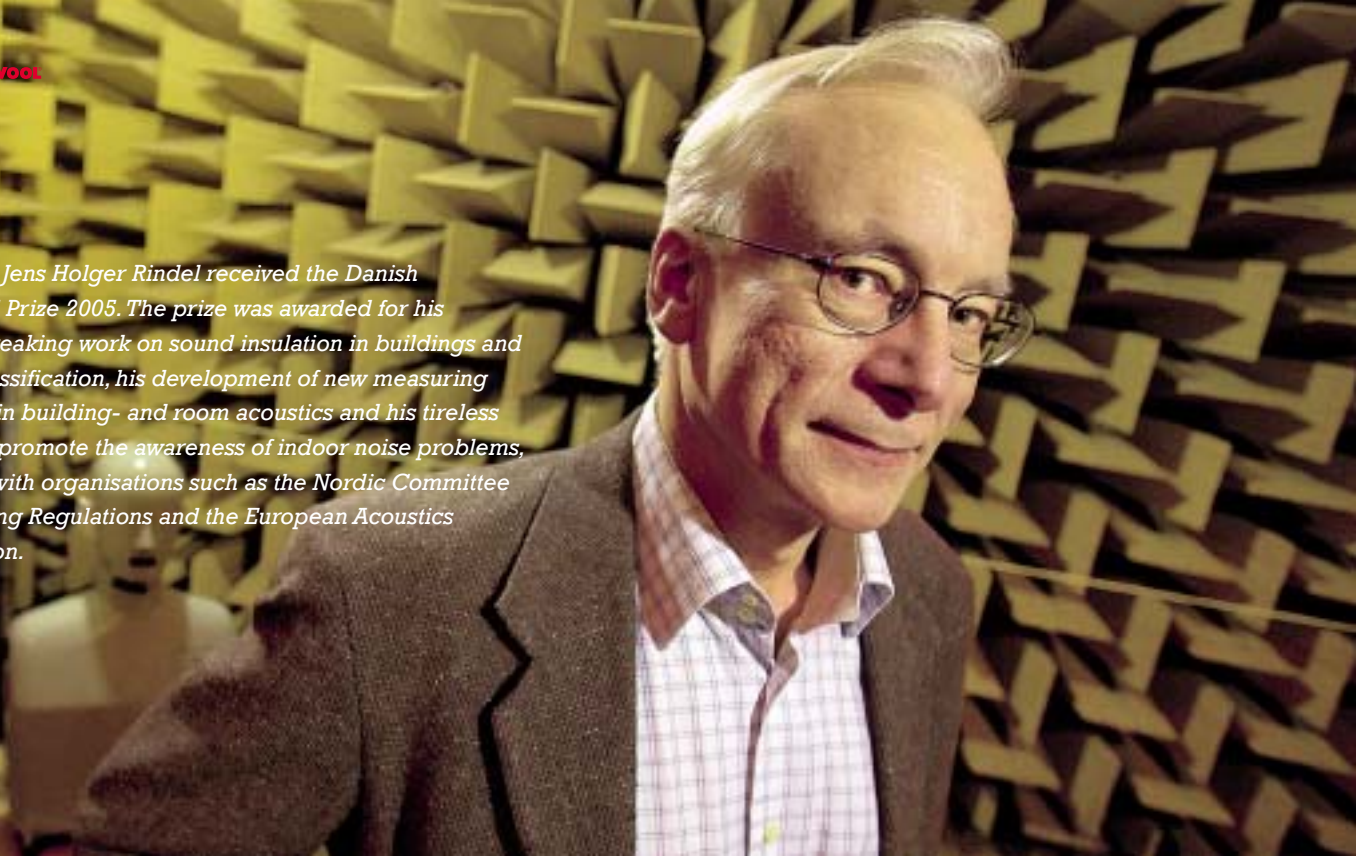


*Professor Jens Holger Rindel received the Danish Rockwool Prize 2005. The prize was awarded for his groundbreaking work on sound insulation in buildings and sound classification, his development of new measuring methods in building- and room acoustics and his tireless efforts to promote the awareness of indoor noise problems, working with organisations such as the Nordic Committee for Building Regulations and the European Acoustics Association.*



## Sound solutions

**Are you being driven crazy by the tapping of footsteps from the upstairs apartment, or by the sound of flute scales next door? Your neighbours are not the problem – rather, the sound proofing of your home is inadequate, says professor in acoustics, Jens Holger Rindel, who received this year's Danish Rockwool award of €20,000 for his work on sound insulation in multi-storey buildings.**

### **Quiet please!**

We live in a noisy world. The roar of car motors, the constant humming of machines or people on the phone at work and the music blasting from supermarket loudspeakers – these are just some of the sounds that constantly bombard us. It is no wonder that we want our homes to be a quiet retreat or at least a place where we are in control of the sounds we want to hear such as our favourite music or a good film or hearing our children playing happily. Yet, for those living in multi-storey accommodation (in the EU that is just over 44% of the population), the home is more often a place where you feel you must constrain yourself, hushing the children and turning down the volume of the stereo for fear of disturbing the neighbours.

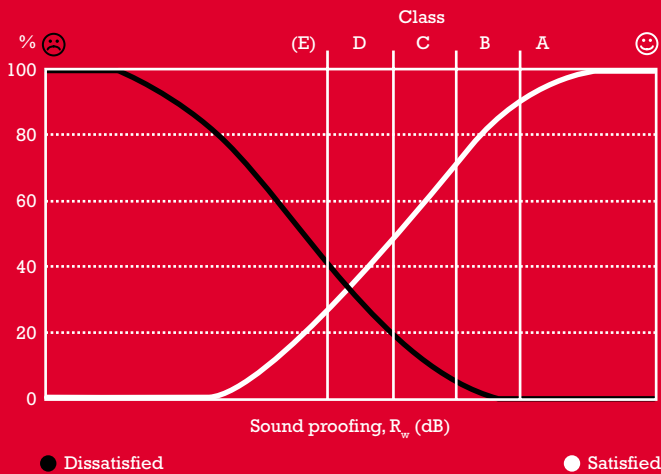
Professor of acoustic technology at the Technical University of Denmark and 2005 winner of the Danish Rockwool award, Jens Holger Rindel, believes that sound proofing is not just a luxury, but a necessity. "Instead of putting strong constraints

on ourselves and demanding absolute silence from our neighbours, we should demand better sound proofing in our homes," he says. "It is a quality of life issue, which is ultimately also an economic problem. Although difficult to measure, noise induces stress and lack of sleep and has a negative impact on our ability to perform at work and thereby on the economy as a whole."

### **Silence is golden**

"In most countries we continue to build houses without adequate sound proofing," Rindel states. The problem partly lies with outdated building regulations. "In a few countries – Austria is the prime example – building regulations have been adjusted according to surveys registering residents' need for sound insulation. However, in most other countries building regulations are largely determined by habitual construction patterns, which are generally inadequate," Rindel stresses. In some countries the acoustic level of sound

## DS 490 Danish sound classification of dwellings



*Jens Holger Rindel has devised a classification system categorising the quality of sound insulation by way of five different classes. Following current regulations in Denmark and many other countries, most new buildings today belong in the D category, which means that up to 40% of the residents continue to be disturbed by indoor noise between dwellings. Merely optimising the use of the current technology, however, would allow building to a class C standard and with further technical development class B is within reach.*

proofing requirements has not changed since the late 1950s. In the EU, regulations fail to set standards across member countries and in North America sound insulation regulations also vary a great deal from state to state.

Knowing that good sound proofing can be included in new buildings for only 2–3% of the construction costs and that later renovations are considerably more expensive, it is hard to understand why so few new buildings make the most of existing insulation technologies. With new building techniques the cost of good sound proofing can be minimized, but even taking into account the extra building costs, noise insulation can be a profitable investment for the developer. A recent Swedish survey shows that people are willing to pay much more than the extra building costs if they could have a home with good sound insulation – in fact 60% of all residents (nearly all those living in multi-storey housing) are willing to pay a 10% higher rent to live in sufficiently sound insulated homes, proving that silence can truly be golden.

### Building for the future

There is a lack of coordinated initiatives, in particular building regulations that would reduce neighbour noise. “It is just a matter of time,” Rindel assures. “The preparatory work for common European legislative initiatives is being done by organisations such as the European Acoustics Association, which is working towards a common expert recommendation

for the harmonization of the measuring methods, terms and classification systems within the EU.”

“It is largely a question of political will and public pressure for better standards,” Rindel says. “The real challenge, however, is to think beyond the current regulations and to build for the future. Adequate sound proofing is a means to build for a better quality of life.”

### Ann-Sophie Klemp Group Communications

*Noise induces stress and causes unhealthy time and energy consuming conflicts between neighbours.*

