



**BUILDING without
excessive noise!**

**Learning from
the best practises
in France**

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About the author

01dB contributes to reducing noise and vibrations to levels required by regulations or set out in sustainable development strategies. 01dB is aimed at the industrial sector, town councils, the transportation, public works and construction sectors, wind power and the leisure industry.



1. Noise pollution: a recurring problem

Between 2000 and 2010, the French population grew by 4.1 million people (source: INSEE). To cope with this phenomenon, towns are developing quickly by renovating buildings and infrastructure, and constructing new buildings. New building works start every day. The day-to-day consequences for neighboring residents cannot be ignored.

According to polling company TNS Sofres, noise pollution is a day-to-day issue for eight out of ten French people. Noise at home, neighborhood or workplace affects the population as a whole, across the entire country, in both urban and rural areas.

While noise may be generated indoors, for example in open-plan offices, in general the source is outdoors, including noise from traffic and worksites. Worksites are one of the main sources of urban noise.

Worksites cause various types of inconvenience:

- **Visual pollution:** cranes, scaffolding, and so on.
- **Noise pollution:** noise generated by all machinery on the worksite and by trucks driving along surrounding streets.
- **Vibrational pollution:** vibrations generated by trucks and worksite machinery.





In 2013, the CIDB ([the French center for information and documentation on noise](#)) processed more than 6,750 information requests and complaints. Noise from worksites is one of the leading causes of complaints.

Another noteworthy point is that nearly half of all complaints relate to noise sources that have existed for many years. When the noise generated by a new worksite is combined with existing noise pollution, it is easy to understand the exasperation of those concerned.

Other than setting up committees and associations, neighboring residents often have few means at their disposal to express their discontent to town councils and building owners. Dialog between the parties is not always easy, and rarely provides full satisfaction. In some cases, work on the site may be interrupted for several days, or even weeks.

A solution must therefore be found to create a better-controlled sound and vibration environment. Communication and dialog between builders and residents is essential in reducing these disputes.



2. A common objective: reduce noise pollution

A) An objective for town councils

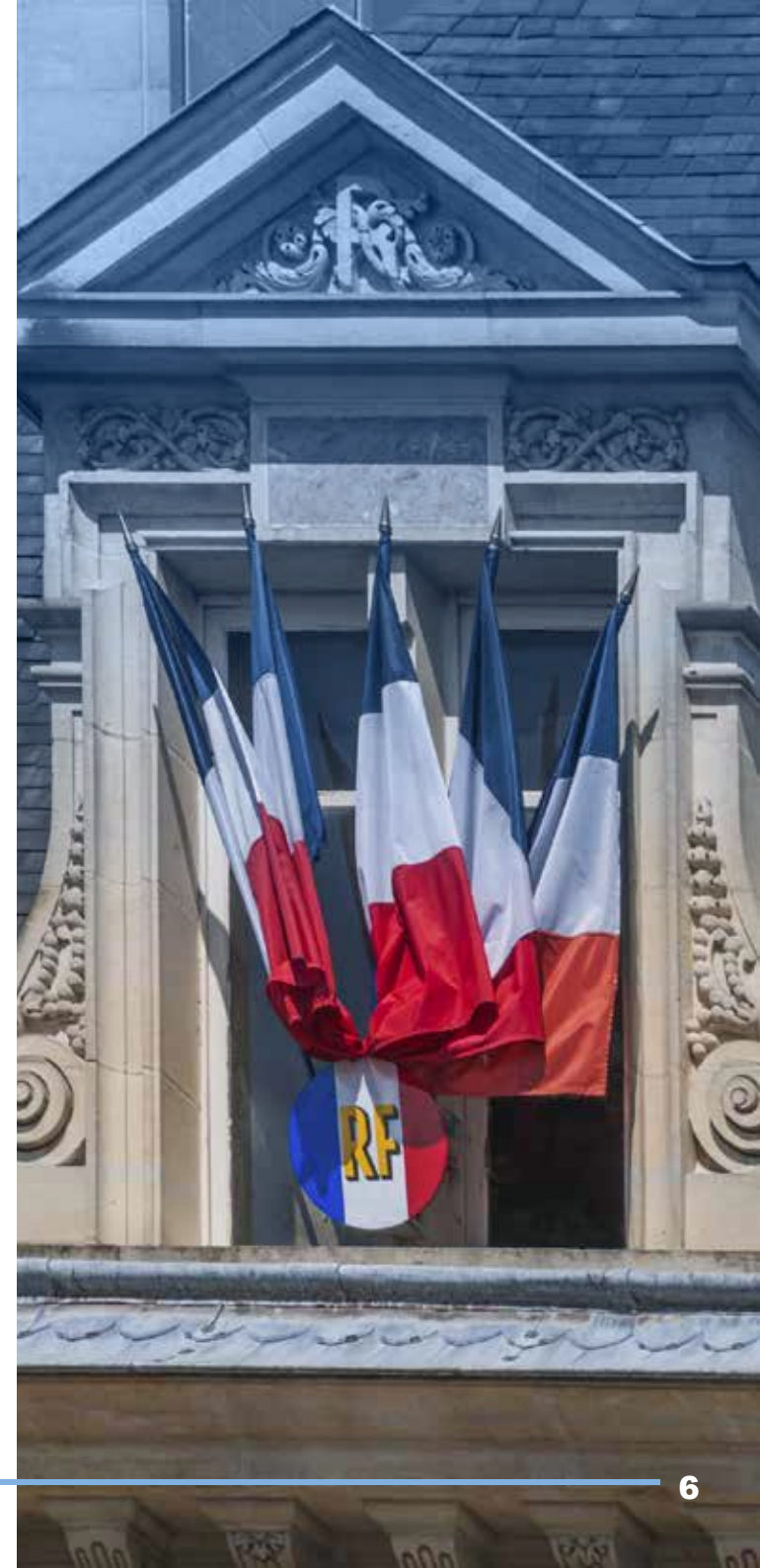
Every day in France, thousands of new worksites for the construction or renovation of buildings and infrastructure start. While this creates more comfortable housing for some, it also results in unwanted noise and vibrations for others. Conflicts can thus arise.

Town councils are responsible for keeping noise under control, which places them at the heart of these disputes. The council authorizes works, by issuing building permits, and in many cases is also the first point of contact for neighboring residents.

It is thus in the council's best interests to keep noise within reasonable limits, so as to:

- **improve the quality of life of residents,**
- **ensure that worksites comply with regulations,**
- **reduce the number of complaints and disputes between residents.**

Keeping noise and vibrations under control is also a way of showing that the council staff is committed to the well-being and living conditions of residents. Communication about a project can be a means of integrating a worksite into the urban setting, explaining that the inconvenience is being taken into account and demonstrating that building work can take place without excessive noise.





B) An objective for project owners

On any worksite, a host of machines generate noise and vibrations which propagate into the surrounding area. Neighboring residents, and also construction workers, are continually exposed.

Reducing noise and vibration pollution is necessary to comply with regulations, but also constitutes a competitive advantage and avoids complaints from neighboring residents.

C) What the french law says

A building permit is not a noise-making permit.

“No particular noise may, through its duration, repetition or intensity, adversely affect the peace of the neighborhood or human health [...].”

[Article R1334-31 of the French Public Health Code](#)

In order to protect residents, the mayor may:

“by a justified ruling, [...] apply particular requirements concerning times, access to certain places and acceptable sound levels to activities taking place in public areas, with the exception of activities providing a public service [...].”

[Article L. 2213-4 of the French Local Authorities Code](#)



The Court of Appeal of Aix-en-Provence sentenced the owner of a worksite to compensate neighboring residents affected by pollution. The work had been carried out as specified in the building permit. (CA Aix-en-Provence, October 28, 2011, Juris-Data No. 025213)

Another way of looking at the issue is to state that the impact of noise pollution may be restricted as follows:

- **depending on place: adjacent to noise-sensitive facilities such as hospitals, retirement homes, schools, and so on.**
- **depending on time: noise can be limited to specific times of day or even to specific times of the year.**

Example: the Court of Cassation authorized a coastal town to prohibit any building work between July 1 and August 31, anywhere within the town boundaries (CC, case No. 90-19.405/B dated March 10, 1993).

- **depending on noise levels: it is possible to set a threshold in decibels, which implies that worksite noise must be measured or monitored.**

Mayors are also entitled to stop worksites if the intensity of disruption is excessive or adversely affects the peace of the neighborhood and/or the health of residents.

As far as the building site is concerned, workers are protected by [Article R232-8](#) of the French Labor Code: *“The employer is required to reduce noise to the lowest level reasonably possible with regard to current techniques. Exposure to noise must remain at a level compatible with workers’ health, in particular through the use of hearing protection.”*

Project owners are also required by law to take the neighborhood into consideration:

“Will be punished by a fine [...] any person who, on a public or private worksite [...] is the cause of noise which adversely affects the peace of the neighborhood or human health, and who:

- *Did not follow the conditions of use of equipment or machinery established by the competent authorities,*
- *Or neglected to take appropriate precautionary measures to limit noise,*

Or exhibited abnormally noisy behavior.”

[Article R48-5 of the French Public Health Code](#)

Note that the french law establishes an obligation of means, not an obligation of results.

Care must be taken to avoid negligent actions, as well as excessive or abnormally noisy behavior.

As a result, these regulations are particularly restrictive for project owners, who can be held responsible for all types of disruption. Accordingly, it is important to take a proactive approach to protect workers and residents before any complaints arise.



3. Solutions to worksite noise

A) Green Worksite guidelines

One method is to create “Green Worksite” guidelines. These guidelines set out the measures to be taken to restrict all types of disruption to neighboring residents and the environment. Project owners must then be encouraged to sign the guidelines and undertake to minimize disruption, at a low cost for the council. Keeping noise and vibration pollution under control is one of the components of the “Green Worksite” guidelines.

Applying Green Worksite guidelines means working in a way that protects the environment, workers and neighboring residents. This is beneficial in every way: enhanced image, a better-organized and less hazardous worksite, better working conditions, fewer complaints from neighboring residents, and so on.

Noise is not unavoidable!



There are a host of tools and methods available to reduce noise and vibration pollution on worksites. It is possible to build without excessive noise by adopting the right methods (such as using a nibbler rather than a jackhammer or placing site huts where they will act as a noise screen).

B) Communication

It is clear today that, when embarking on a worksite, it is necessary to forewarn and involve residents of what will be happening in their neighborhood.

As an analogy, imagine you are organizing a noisy party in an apartment.

- If you do not tell the neighbors in advance, there will always be someone who knocks on the door to complain.
- If you simply leave a note on the elevator door, however, they will be a little more understanding and will more readily put up with the disturbance as long as it doesn't become unbearable for them.

There are a wide variety of ways of communicating with residents to inform them of worksites:

Leaflets and posters to present the project to neighboring residents and businesses.

A website can incorporate videos of the worksite, information about noisy periods, and so on.





A monitoring terminal is installed on the worksite, to continually record noise and vibration levels. The data can be viewed in real time on a secure website. If thresholds are exceeded, the system informs worksite managers by e-mail and/or text message.

Public meetings and worksite visits: Communication will help neighboring residents understand and accept the worksite.

Organize at the beginning of the construction site an information meeting for local residents, informing them about planned disruption. (Dust, noise, and so on). If this is possible, plan a site visit (helmets must be provided and safety measures must be followed).

The purpose is to integrate the site into its environment, and get local residents adhere to the project.

The aim is to demonstrate that the council staff are doing their best to reduce disruption and that the worksite avoids excessive noise (keeping within levels that cannot be avoided).

C) Noise monitoring

The “Green Worksite” guidelines encourage project owners to set up continuous noise monitoring.

This is an effective means of understanding sources of disruption (which machines? at what times?) in order to propose objective responses to issues (for example, avoid using a machine after 5 pm).

By encouraging this low-cost solution (less than 0.2% of the total project cost), paid for by the project owner, disruption from a worksite is continually monitored. Monitoring can also be used to provide answers in the event of complaints from residents.

Conclusion

Taking worksite noise and vibration pollution into consideration is...

- A social improvement initiative for the town and its residents
- An environmental improvement initiative for project owners and businesses
- A simple action with minimal additional costs

Noise and vibration pollution generated by worksites are not unavoidable. Simple and effective solutions exist to reduce and monitor disruption.



For more information

French noise information and documentation center (CIDB):

<http://www.bruit.fr/>

01dB – A partner for local authorities and companies, for monitoring noise in France and around the world.

Sources

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