# Innovatiion For Creativity

## metal ceilings and facades

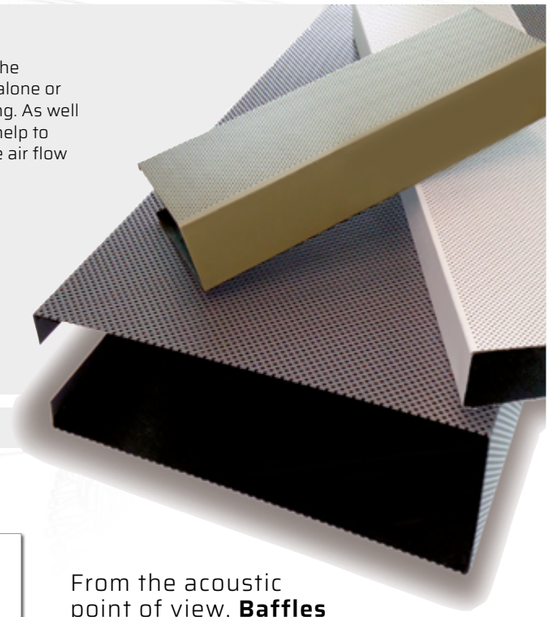
MADE IN ITALY
MANUFACTURING
QUALITY • DESIGN

# METAL BAFFLE PERFORATION SET

# SOUND CONTROL

Baffles are widely used to improve the acoustic comfort. They can be used alone or in addition to the existing false ceiling. As well as for the acoustic function Baffles help to preserve the natural lighting and the air flow coming from windows and roof.

According to project requirements, vertical elements may be totally plain to promote sound reflection or perforated and filled with acoustic pad to absorb noises. To choose the right vertical elements to apply, the acoustic material, the number of Baffles and their disposition, it is necessary to carry out a preliminary analysis of the environment and its functions. To do this, IFC cooperates with specialized companies to provide a specific service for acoustic treatment.

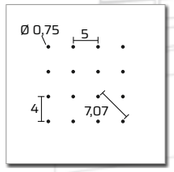


From the acoustic point of view, **Baffles** can be used as **absorbers** or **deflectors** of the sound wave.

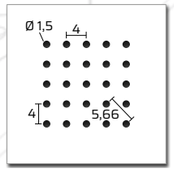
## Ø ≥ 0,75 ≤ 1,5 mm PERFORATIONS

PARALLEL

AP 0,75 / 2% P

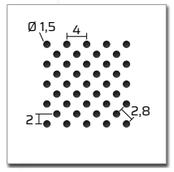


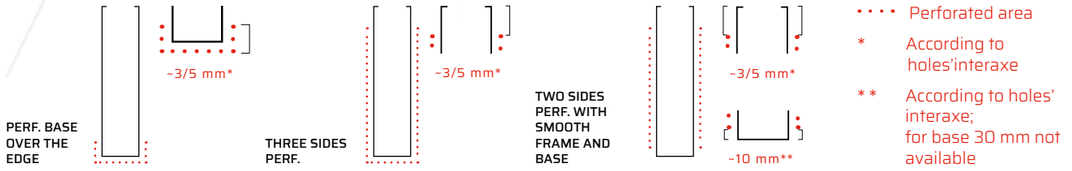

AP 1,5 / 11% P




DIAGONAL

AP 1,5 / 22% D




PERF. BASE OVER THE EDGE

THREE SIDES PERF.

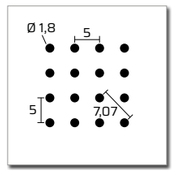
TWO SIDES PERF. WITH SMOOTH FRAME AND BASE

- • • • Perforated area
- * According to holes'interaxe
- * * According to holes' interaxe; for base 30 mm not available

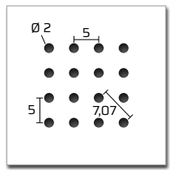
## Ø ≥ 1,8 ≤ 2 mm PERFORATIONS

PARALLEL

AP 1,8 / 9,5% P

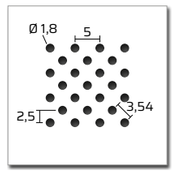



AP 2 / 12,5% P

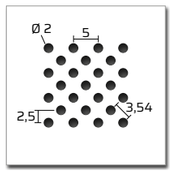


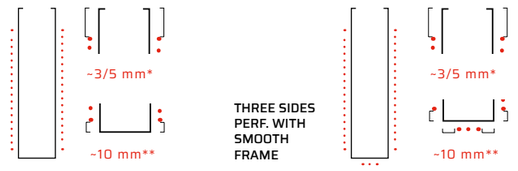

DIAGONAL

AP 1,8 / 19% D




AP 2 / 25% D




TWO SIDES PERF. WITH SMOOTH FRAME AND BASE

THREE SIDES PERF. WITH SMOOTH FRAME

MATERIALS Drillable steel-aluminum thickness

| PERFORATION | | THICKNESS 0,6 | THICKNESS 0,7 | LN | LF |
|---|---|---|---|---|---|
| AP 0,75/2% | P | ▪ | NA | 1020 | 935 |
| AP 1,5/11% | P | ▪ | ▪ | 830 | 805 |
| AP 1,8/9,5% | P | ▪ | ▪ | 900 | 800 |
| AP 2/12,5% | P | ▪ | ▪ | 1250 | 1200 |
| AP 1,5/22% | D | ▪ | ▪ | 1300 | 1300 |
| AP 1,8/19% | D | ▪ | ▪ | 900 | 800 |
| AP 2/25% | D | ▪ | ▪ | 1250 | 1200 |

NA= Not available
LN= Max coil lenght
LF= Max perforation lenght
6/10 only for 30 H100 and 50 H100 models.



## PLAIN OR PERFORATED?

**DIFFERENT SOLUTIONS TO RICH THE RIGHT ACOUSTIC PERFORMANCE ULTRA-REFLECTIVE SMOOTH SURFACES OR PERFORATED BAFFLES WITH ACOUSTIC PAD TO ABSORB THE WAVE SOUND.**

Simple but high performance design: the vertical elements, with their thin shape, decorate and enlarge spaces; chosen in **smooth version** Metal Baffles are compact, bright and thanks to their ultra-reflective surface the sound wave reverberates in the room; on the other hand, **perforated with acoustic material**, Metal Baffles play an important role to balance sound reverberation and absorption improving speech intelligibility.

**A choice to take according the room features, the use of the building and the presence of surfaces that reflect or absorb sound energy.**

## CASE HISTORY

**Evaluation of SOUND ABSORPTION of a public conference room: installation of PERFORATED BAFFLES WITH ACOUSTIC TISSUE.**

**Goal:** assuring the right acoustic absorption.

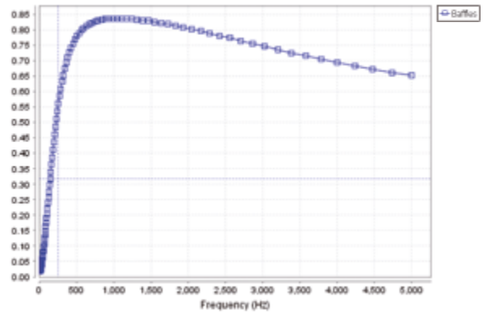
**Room features:**

| | |
|---|---|
| Open space dimension | 8x12 m |
| Unfinished floor height | 3,50 m |
| Baffle height | 20 cm |
| Plenum | 30 cm |
| Useful height | 3 m |

**Activities:** installation of Baffles covering the total surface of the ceiling.
Baffle models = B30 h 200 / Aluminum: 7/10 perforation AD 2/25% D 45° and acoustic tissue
Baffle height = 3,5 m

**Test Result:** as reported in the graph, Baffles operate both as absorbers and as acoustic resonators, in this configuration, they reach excellent results of sound-absorption at frequency of 1000 Hz.

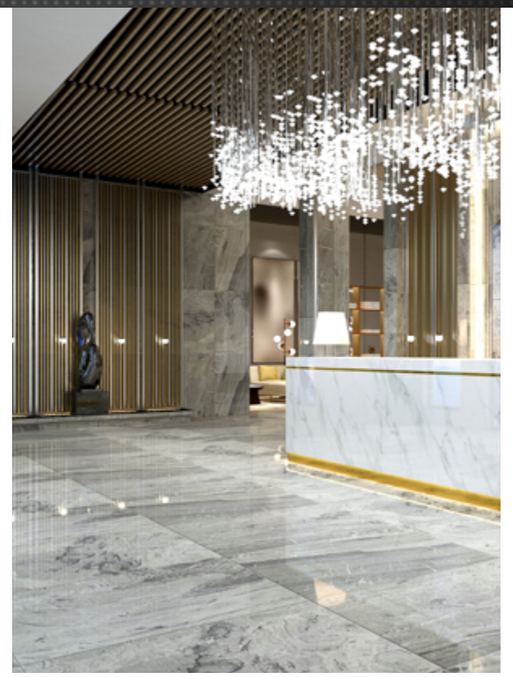
**Acoustic result report:**




| SIMULATION | αw | NRC |
|---|---|---|
| Baffles | 0,8 | 0,75 |



Working on the reverberation time and on the intelligibility of speech, **Metal Baffles** with **perforated surfaces** and coupled with specific **sound-absorbing materials**, are an excellent technical solution to characterize the environment by improving the **acoustic comfort**. Customizable by finishing, colors and perforation mode, **Metal Baffles** are **custom made systems**, properly conceived to satisfy the specific requirements of each project.



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