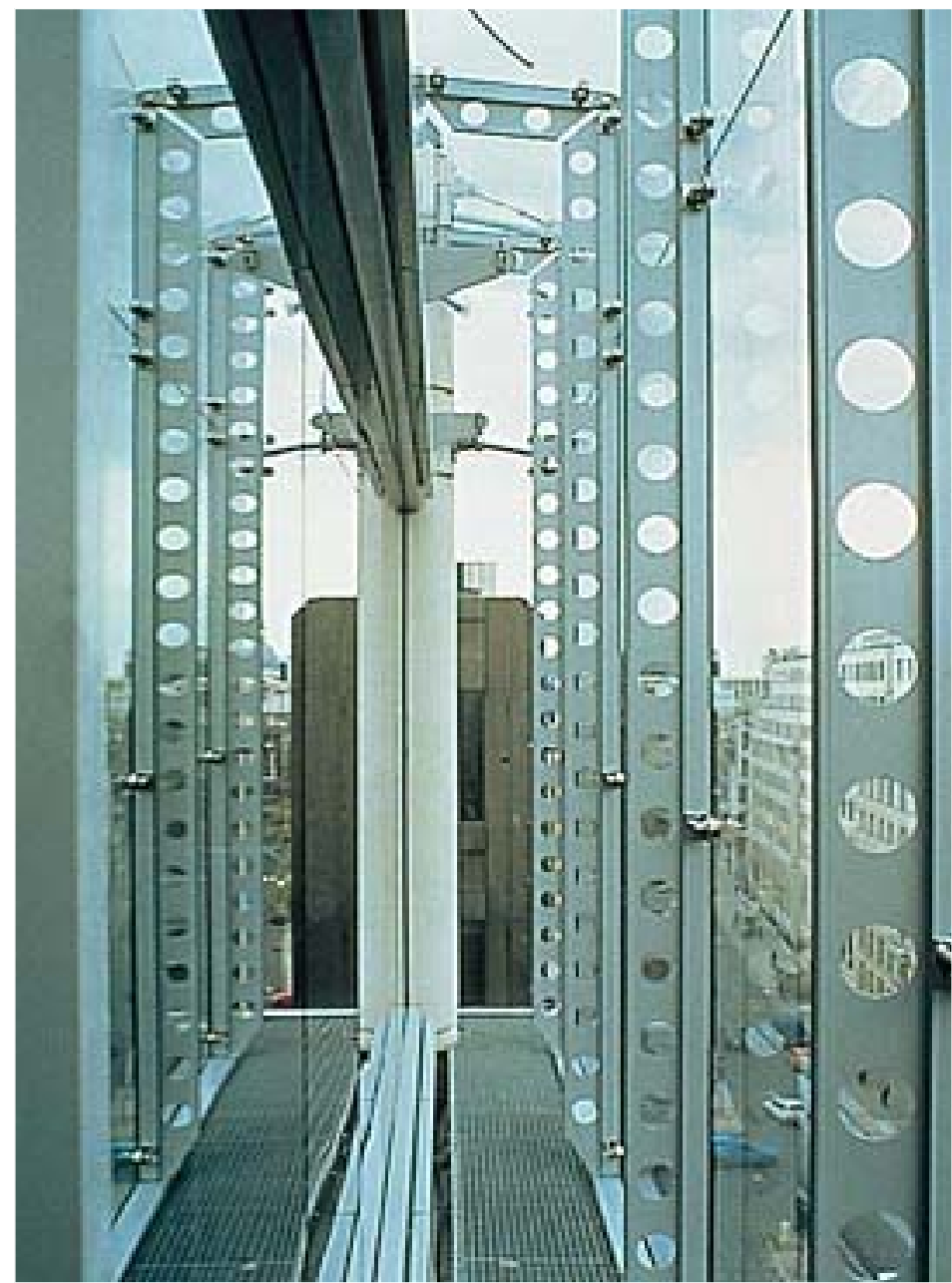


# Doppia pelle continua (double skin facade)

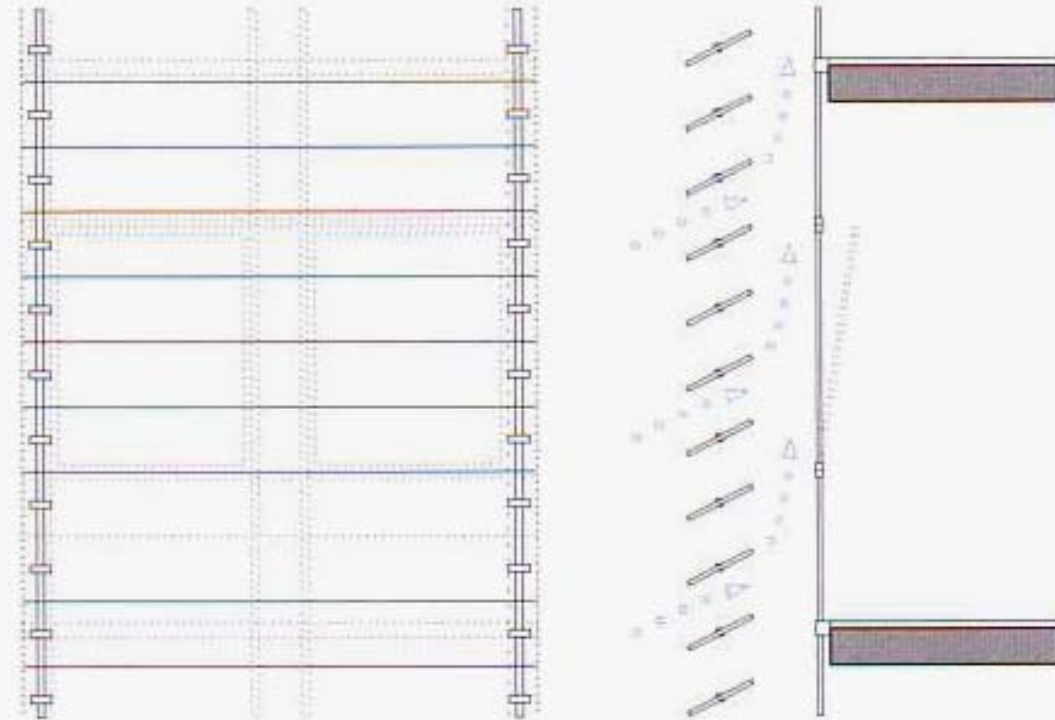


# Principi progettuali

## Doppia pelle continua adattiva (double skin controllable facade)

E' la facciata a doppia pelle più costosa. La pelle esterna è costituita da un sistema che può essere aperto o chiuso meccanicamente. L'apertura estiva evita il surriscaldamento dell'intercapedine e le lamelle orizzontali possono svolgere un effetto di riflessione dei raggi solari. In estate c'è un conflitto tra l'esigenza di aprire per il caldo e chiudere per il rumore. È adatta ad edifici dove la componente di sistemi di climatizzazione naturale è importante.

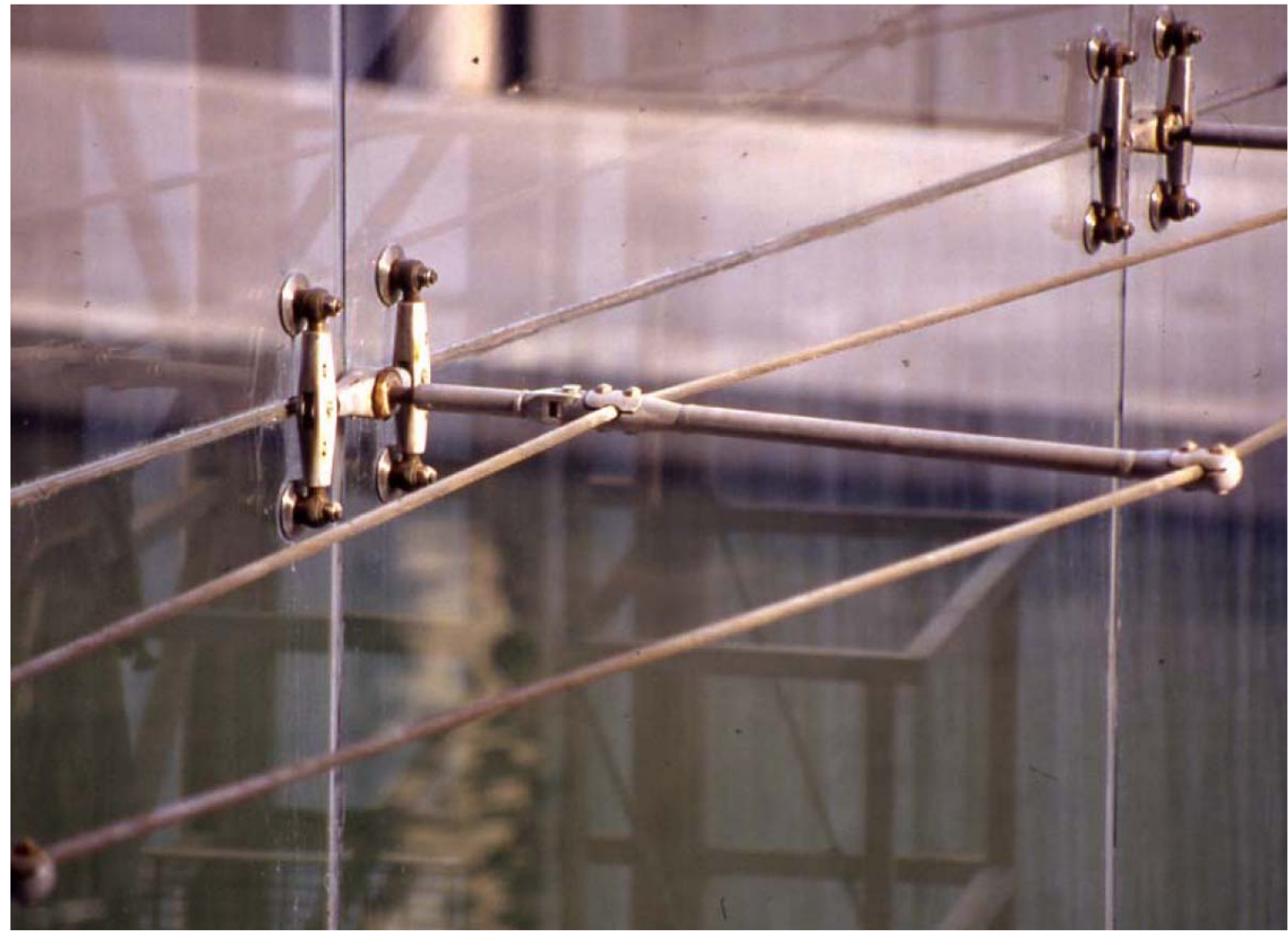
Structural aspects	generally the facade is not load-bearing
Thermal aspects	no overheating in the facade cavity
Sound reduction	little to high with natural ventilation depending on control
Advantages	adjustable to outside conditions by means of control systems high transparency
Disadvantages	very high technical content
Typical use	administration buildings, as facing panel in refurbishment projects
Typical locations	locations with high wind speeds and medium noise load



## FACCIATA SOSPESA O A FISSAGGIO PUNTUALE (*FRAMELESS GLAZING*)

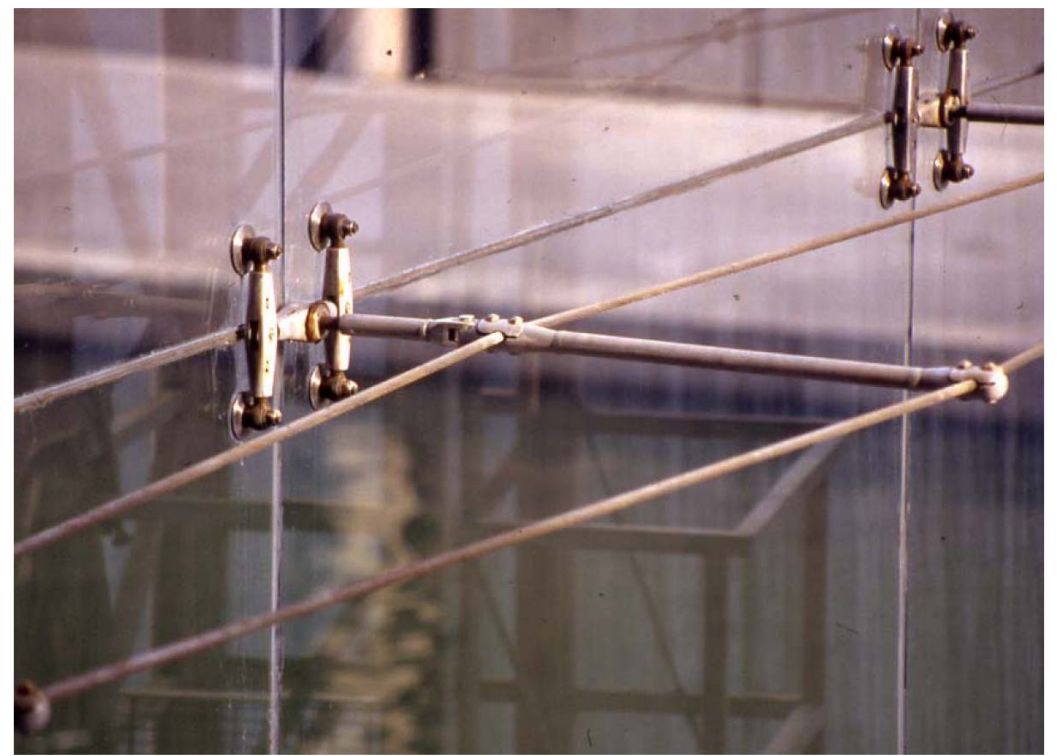
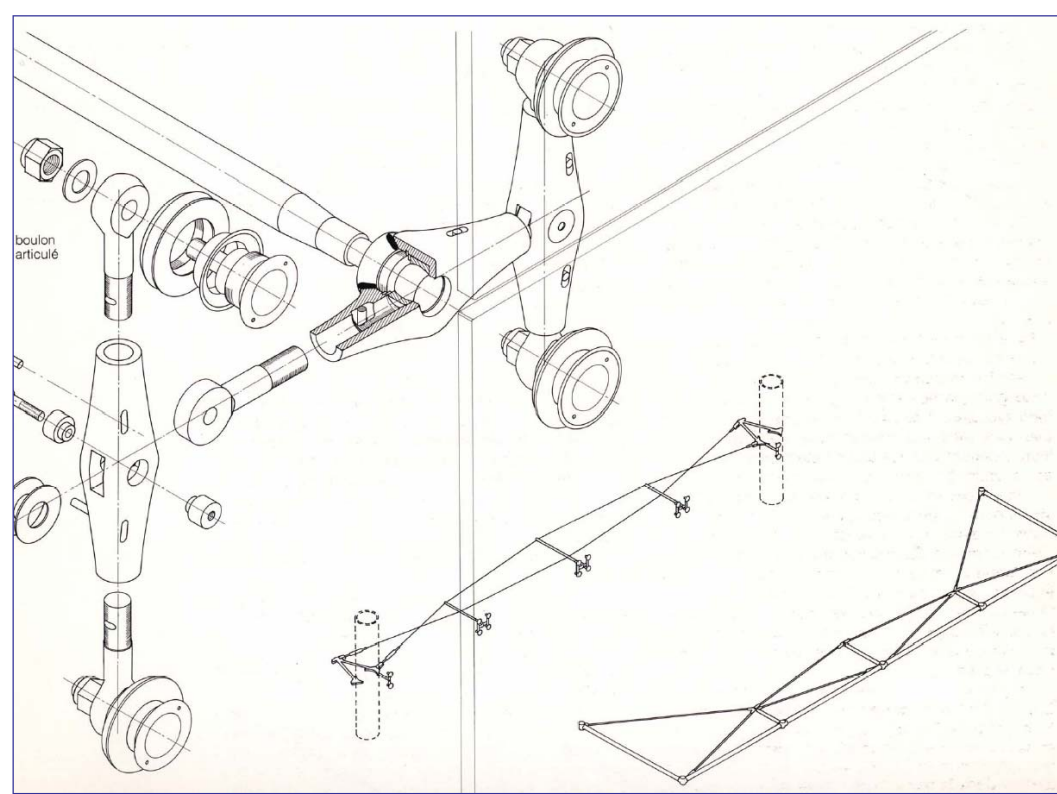
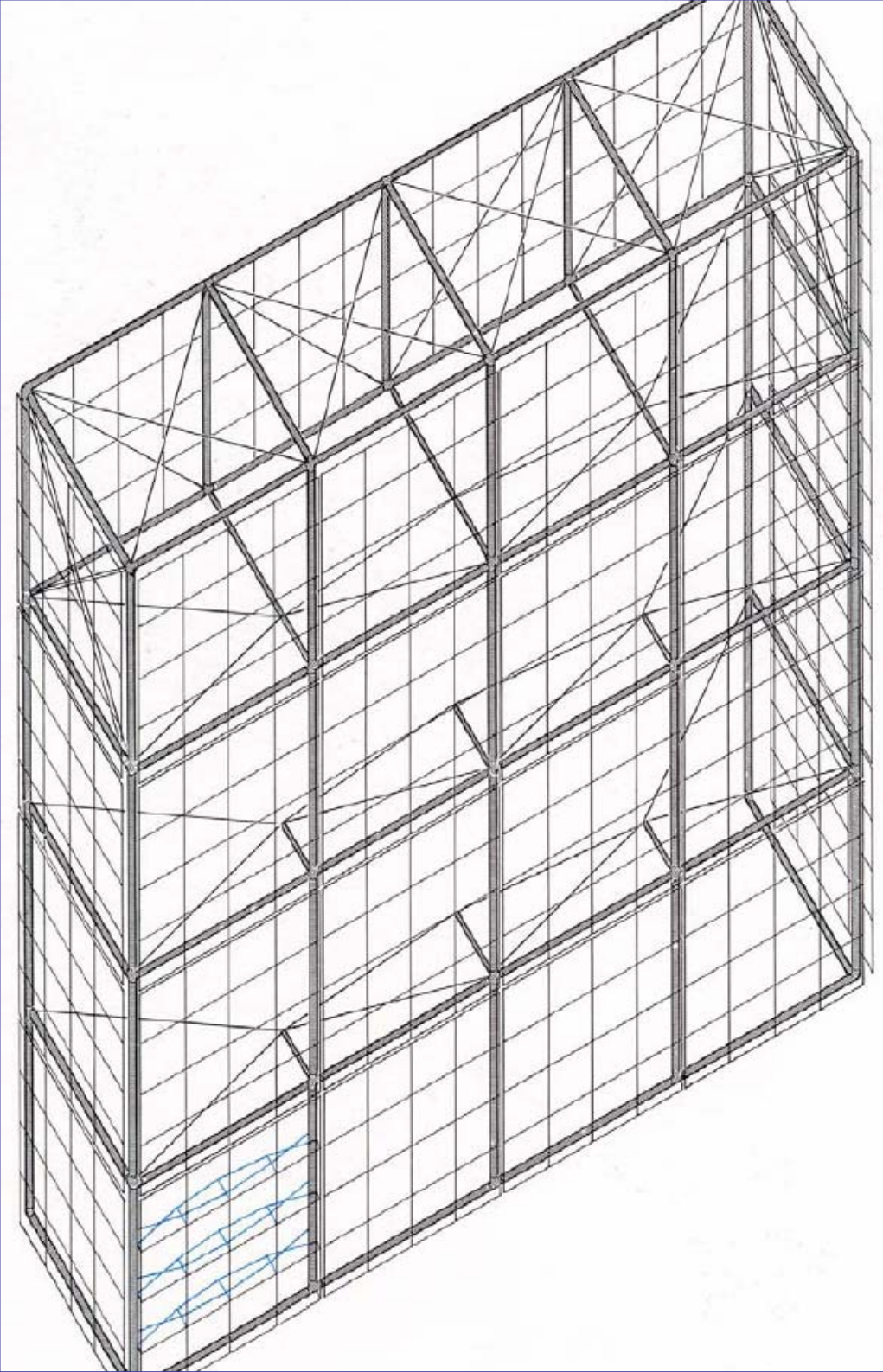
LE FACCIATE SOSPESSE SONO COSTITUITE DA UNA SOTTILE STRUTTURA PORTANTE ATTRAVERSO LA QUALE VENGONO SOSPESSE LE LASTRE DI VETRO.

QUESTO TIPO DI FACCIATA, GRAZIE ALLA NATURA DEI GIUNTI E DELLA STRUTTURA, E GRAZIE ALLA TRASPARENZA DEL VETRO, RISULTA ESTREMAMENTE PERMEABILE ALLA LUCE.



PETER RICE,  
SERRE AL PARCO DELLA  
VILLETTE, (1987) PARIGI



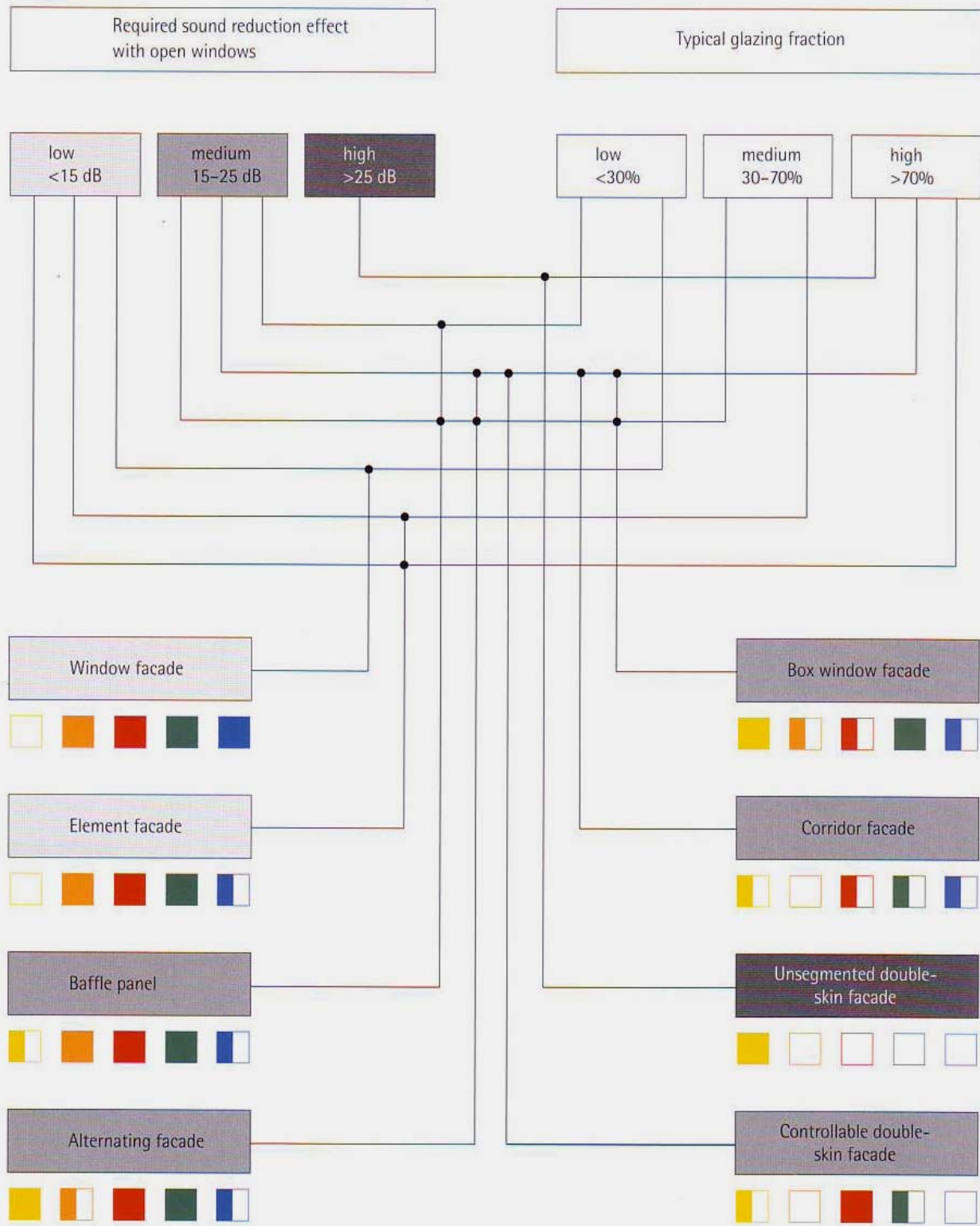


# Principi progettuali

Tab. 3.1.2 Comparison of various facade concepts

	Sound reduction effect with natural ventilation	Sound / odour transmission through facade cavity	Overheating of the facade cavity	Space requirement	Cleaning cost
Window facade	low	-	-	low	low
Element facade	low	-	-	very low	medium
Baffle panel	medium	-	low	low	medium
Alternating facade	high	-	- / high	medium	medium
Box window	high	-	high	medium	high
Unsegmented double-skin facade	very high	high	very high	high	very high
Corridor facade	high	medium	hoch	high	high
Controllable double-skin facade	variable	variable	low	high	very high





**Fig. 3.1.50 Decision chart for practical facade concepts**

The important criteria in the selection of a facade system are the sound reduction effectiveness of the facade with open windows and the transparency of the building, which depends on the glazing fraction. Suitable systems result from the combination of the selected initial criteria. The different specific characteristics of each system are shown by colour coding. The coloured squares represent three grades of performance: good (filled), medium (half-filled) and poor (empty).

Thus the combination of requirements of medium sound reduction with a high glazing fraction results in the recommendation of a controllable double-skin facade. This ensures good ventilation in windy conditions (yellow) and has a high space requirement due to the second facade plane (orange). The controllability avoids overheating in the facade cavity (red). With the flaps closed, however, sound and odour can be transmitted from room to room through the facade (green). The cost of cleaning is high due to the large glass area and technical equipment (blue).

- Yellow: Controllability of the supply air flow
- Orange: low space requirement
- Red: low overheating
- Green: low sound and odour transmission through the facade cavity
- Blue: low cleaning cost

