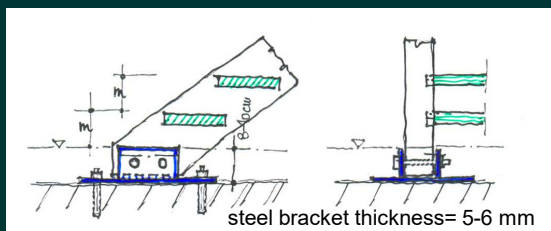
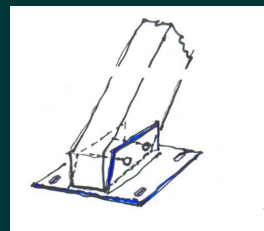


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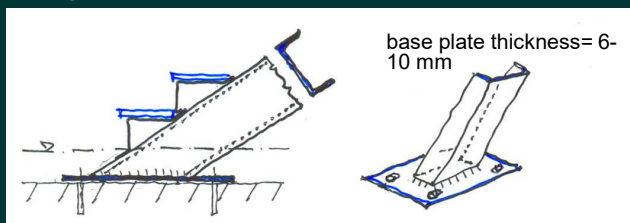
### stringer - lower slab connection



sitting timber beam to slab with bracket



oval bore for adjustment

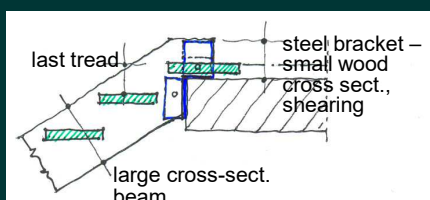


sitting steel beam to slab with base plate (oval bore)



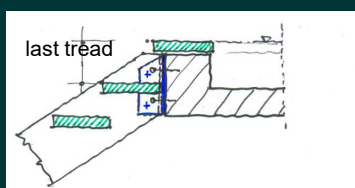
### stairs and slab joint

stairs – design of mounted stairs 5

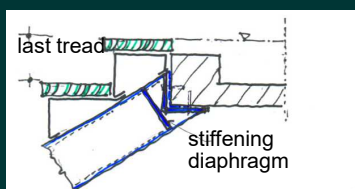


### stringer - upper slab connection

sit on slab



joint to the slab side – kept in plane



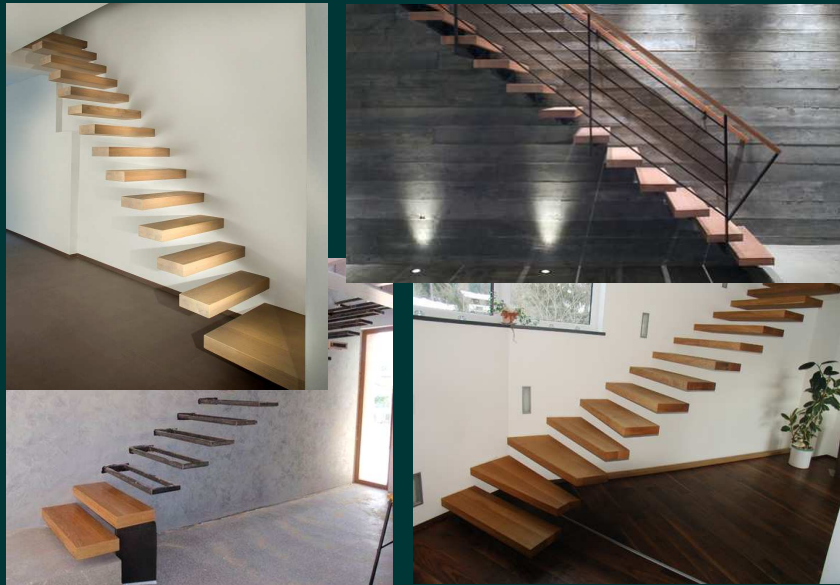
joint to the bottom of the slab  
– usually for steel beams  
with treads sit on it

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### stairs and slab joint

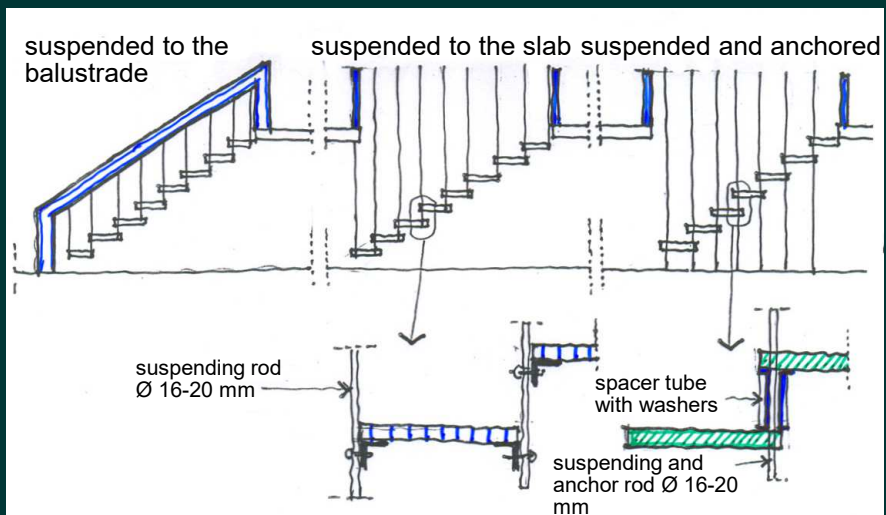
stairs – design of mounted stairs 6



**steel + timber stairs**  
stairs – design of mounted stairs 6

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### suspended wood stairs



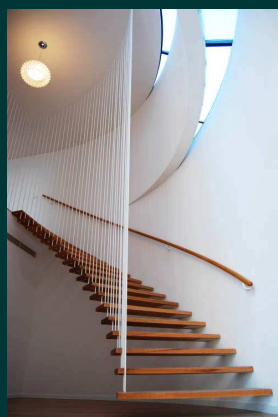
**suspended steps**  
stairs – design of mounted stairs 7

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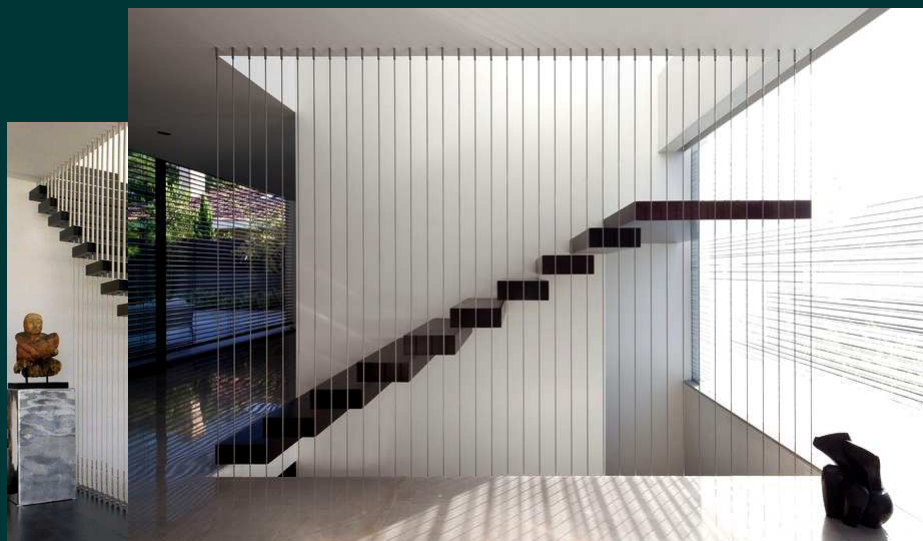
### suspended wood stairs



**suspended steps**  
stairs – design of mounted stairs 7



**suspended steps**  
stairs – design of mounted stairs 7

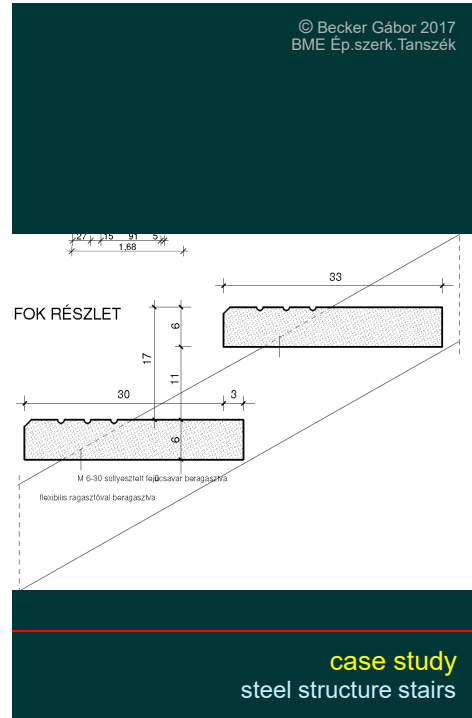
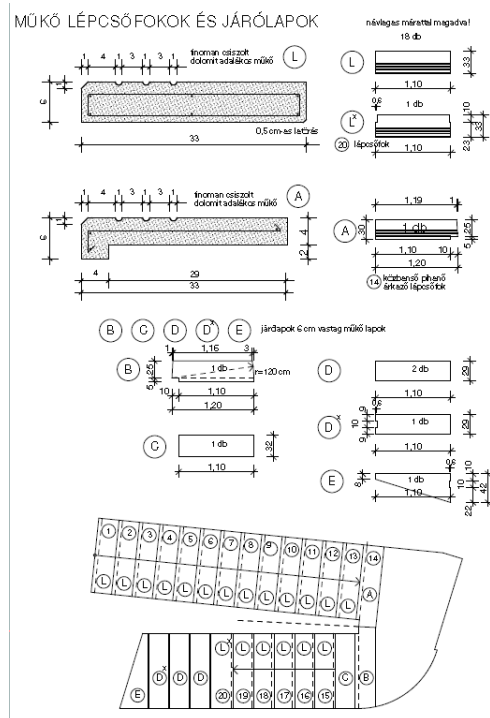
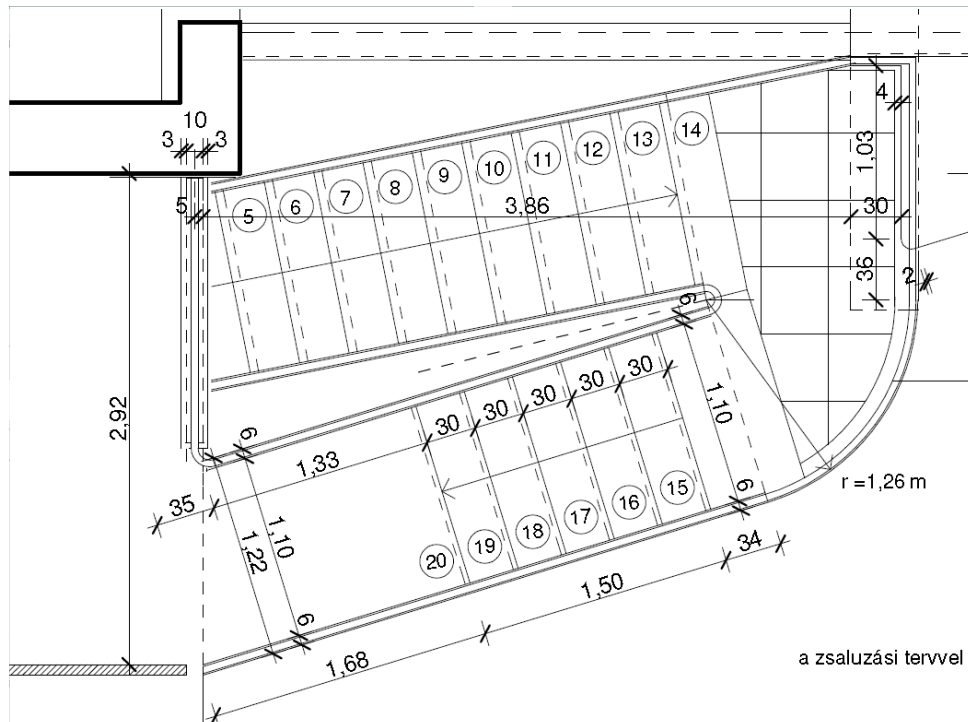


suspended steps  
stairs – design of mounted stairs 7

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case study  
steel structure stairs







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**acoustics of stairs:** walking **generates vibration** of the slab → transmits vibration down

**two ways of separation:**

- separation of the entire stair structure – **point-like support**
- separation of flights, floated landings – **linear support**

**"Italian" stairs:** **step-long landings** between the treads, max. 8% on the walkline

**barrier-free ramp:** max. 5%, sectioned with landings, double railing

**balustrade** – for stairs and landings longer than 1 m or higher than 0.95 m

- solid balustrades: silicate-based, brick, steel sheets, glass
- perforated: banisters, bars, mesh, wire, perforated sheet

**handrails of stairs** – for any flight width over 2 m has to be placed on both sides, in an easy-to-grab way

**wood and steel stairs** – mounted, usually with service function or within the unit

**timber material:** **hardwood, softwood**, warping → longitudinally cut, gluelam board

- **stringers** made from wood and steel
- **treads** from wood and steel – their connection to the stringer
- **lower slab connection** of stringers: leaning against the slab, steel

bracket

- **upper slab connection** of stringers: from above, to the front, from

below

**suspended** wood stairs: to railing, to slab, anchored, fixing of treads

**summary**

stairs – acoustics, mounted stairs



**steel and glass**

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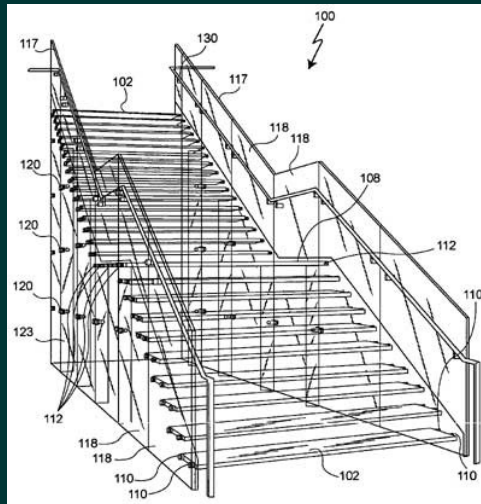


**samples**

acoustics, mounted stairs



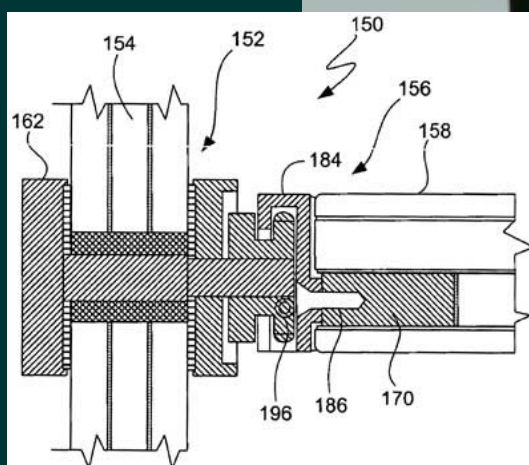
## glass and glass



## samples

stairs – acoustics, mounted stairs

## glass and glass



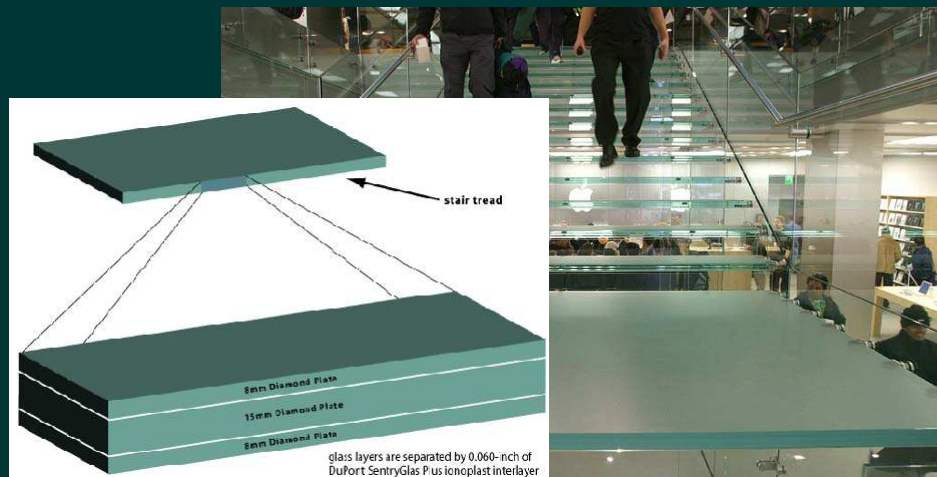
## samples

stairs – acoustics, mounted stairs



## glass and glass

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**samples**  
stairs – acoustics, mounted stairs

## ramps

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**bad samples**  
stairs – acoustics, mounted stairs

