

16<sup>th</sup> Lecture**Traditional heating**

**What to burn:** fire wood, coal, wastes, dried plant pieces, oil, (gas)  
(The smoke is destructive to building materials if condensation)

**Where:** stove (open systems)

- fresh air from the room
- draft needed → air-tight (!!!) chimney
- the draft depends on ..... you have learned
- fire place
- ***large flue is needed***

**Burning process:**

combustible material + oxygen = heat + smoke + slag + flue dust (soot)

Results:

- fresh air supply is needed
- smoke outlet is needed
- the slag has to be taken away periodically (daily) (door of the stove)
- the flue has to be cleaned periodically (approx. every two month) soot-pot + door on the chimney and roof access → pavement on the roof (!!!)
- to drive out the condensed water (if the smoke cools down too much)

**The chimney**

- material (brick and mortar – heavy, samott – heavy, metal - light)
- support
- height – draft need
- height – geometry of the roof
- position (inside, roof)
- relation with timber
- relation with the load-bearing elements (expansion)
- relation with people (flat roof)

How to arrange a shaft? → **TEST**

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**Basic rule for the way of thinking when constructing:**

If any damage happens, the possible less loss should be suffered.

Sample

**Way of thinking:**

**EFFECTS, INFLUENCIES, →→→ REQUIREMENTS** (noise level, heat ins. capacity, ...etc.)

To fulfil the requirements

1. Find a structure (Product)
2. Construct (combine materials, layers, ...etc.)

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Try to find out ALWAYS the possible problems about the building you had planned.

- to avoid them, or at least
- to be well prepared to fight against the constructor (and/or the customer, but THAT IS A PROBLEM)