

Istituto Tecnico per Geometri “Angelo Secchi”

Building Materials

Greta Leoni 3°B

Anno scolastico 2008/09

Summary

- Stone
- Brick
- Mortar
- Concrete
- Steel
- Non-Ferrous Metals
- Wood
- Complementary materials: plastic and glass

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Stone

Stone is an aggregates of minerals which are composed of inorganic chemical substance.

The stone must have:

- ✓ workability;
- ✓ durability;
- ✓ hardness;
- ✓ strength;
- ✓ density;
- ✓ appearance.



The stone used for flooring the bathroom or the kitchen.

Stone/2

There are four types of stone:



1) Limestone;



2) Sandstone;



3) Slate;



4) Granite.

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Brick

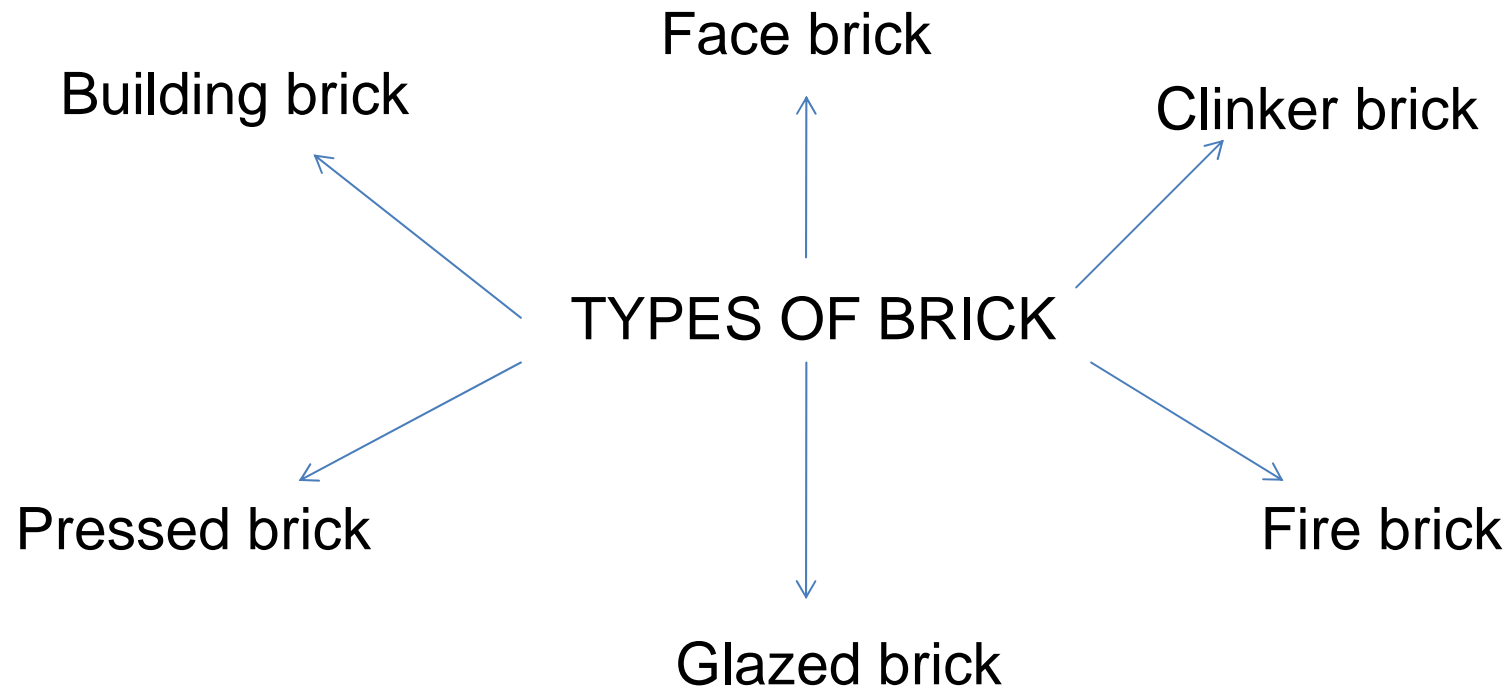
Brick is an artificial building material and for do it you have to mix clay with sand, iron oxide and calcium carbonate at high temperature.

How bricks are made:

- ✓ Stiff-mud process;
- ✓ Soft-mud process;
- ✓ Dry-mud process.



Brick/2



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Mortar

Mortar is a mixture of Portland, cement, sand and water.

It is easily handled and it has a good plastic quality.

Mortar is used:

- ✓ to band bricks,
- ✓ building,
- ✓ concrete block
- ✓ other masonry elements.



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Concrete

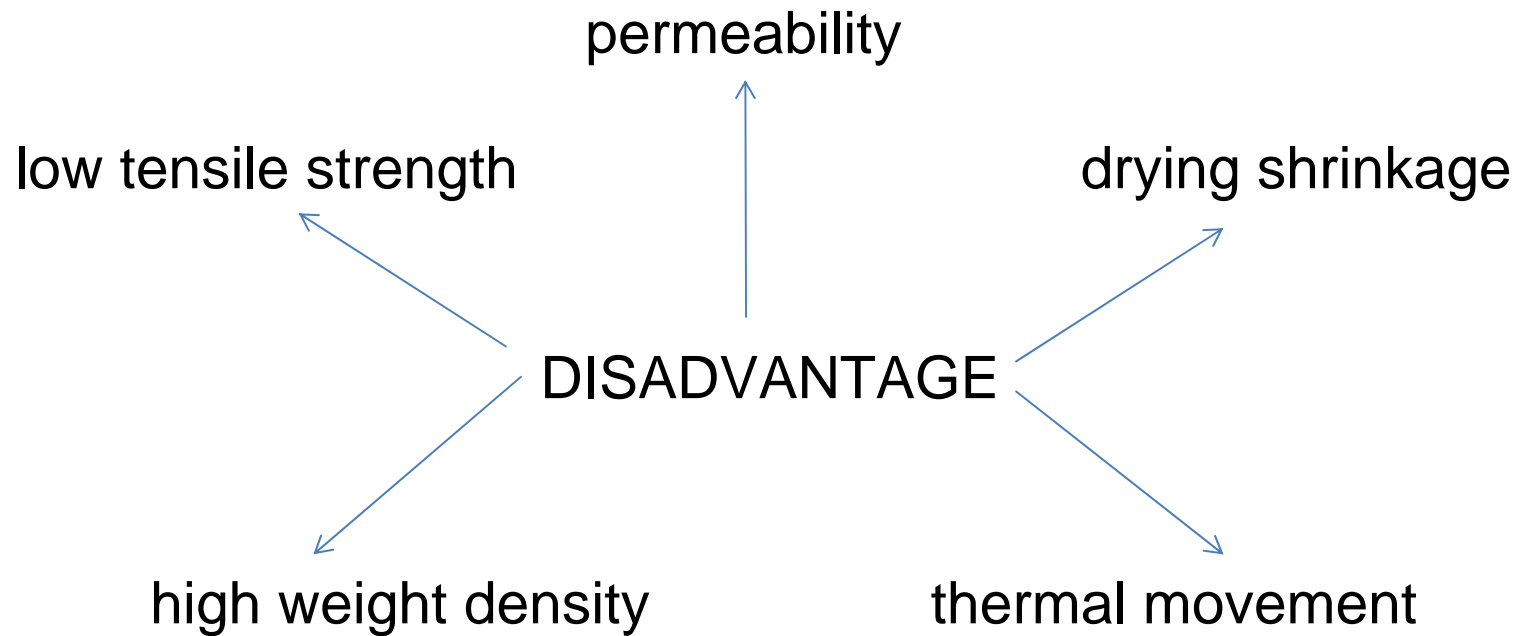
Concrete is used for highways and runways.

Concrete is:

- ✓ Economical;
- ✓ Versatile;
- ✓ universal.



Concrete/2



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Steel

Steel is a structural materials, steel combines high strength and stiffness with elasticity, and it is classiflicated incombustible material.

Steel is used for:

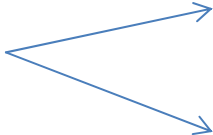
- ✓ light and heavy structural framing;
- ✓ windows;
- ✓ doors;
- ✓ hardware;
- ✓ fastenings.

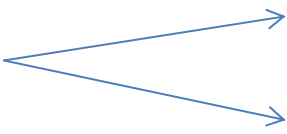


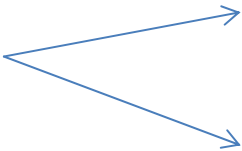
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Non-Ferrous Metals

Alluminium  It's strong, soft, light weight
Is used for windows, doors, roofing and trim hardware.

Lead  It's soft, malleable corrosion resistant.
Is used for sound insulation.

Copper  It's ductile, light electrical and thermal conductor.
Is used for roof and flashing.

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Wood

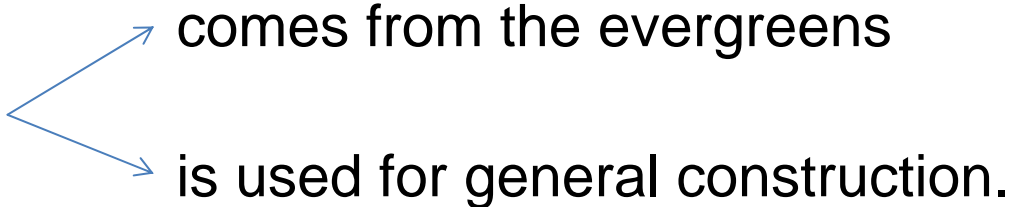
Wood is:

- ✓ strong;
- ✓ durable;
- ✓ easy to work;
- ✓ light in weight.

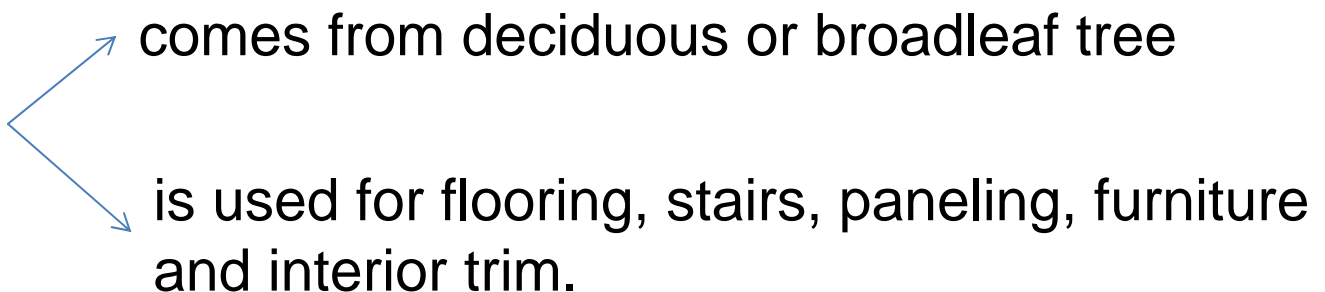


Wood/2

There are two classes of wood:

Softwood 

- comes from the evergreens
- is used for general construction.

Hardwood 

- comes from deciduous or broadleaf tree
- is used for flooring, stairs, paneling, furniture and interior trim.

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Plastic

The plastic is used in the windows.

Their advantages are:

- 👍 the frame members are good insulators;
- 👍 they can be fixed directly to masonry;
- 👍 They need virtually no maintenance;
- 👍 they come in a wide range of styles and some colours;
- 👍 They are usually made to measure so matching awkward sizes is easy.

Plastic/2

Their two main disadvantages are:

- 👎 they can discolour with time;
- 👎 it's difficult to fit extra security devices.



Glass

Glass is chemically inert, transparent, hard, brittle material.

It is used for:

- Epoxies → adhesives, coating compounds;
- Phenolics → electrical parts, laminates, foamed insulation;
- Polyesters → fibreglass-reinforced plastics, bathroom fixtures, window frames;
- Silicones → brick and masonry waterproofing.

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