

**Brick House by Zhang Lei (AZL Architects)**

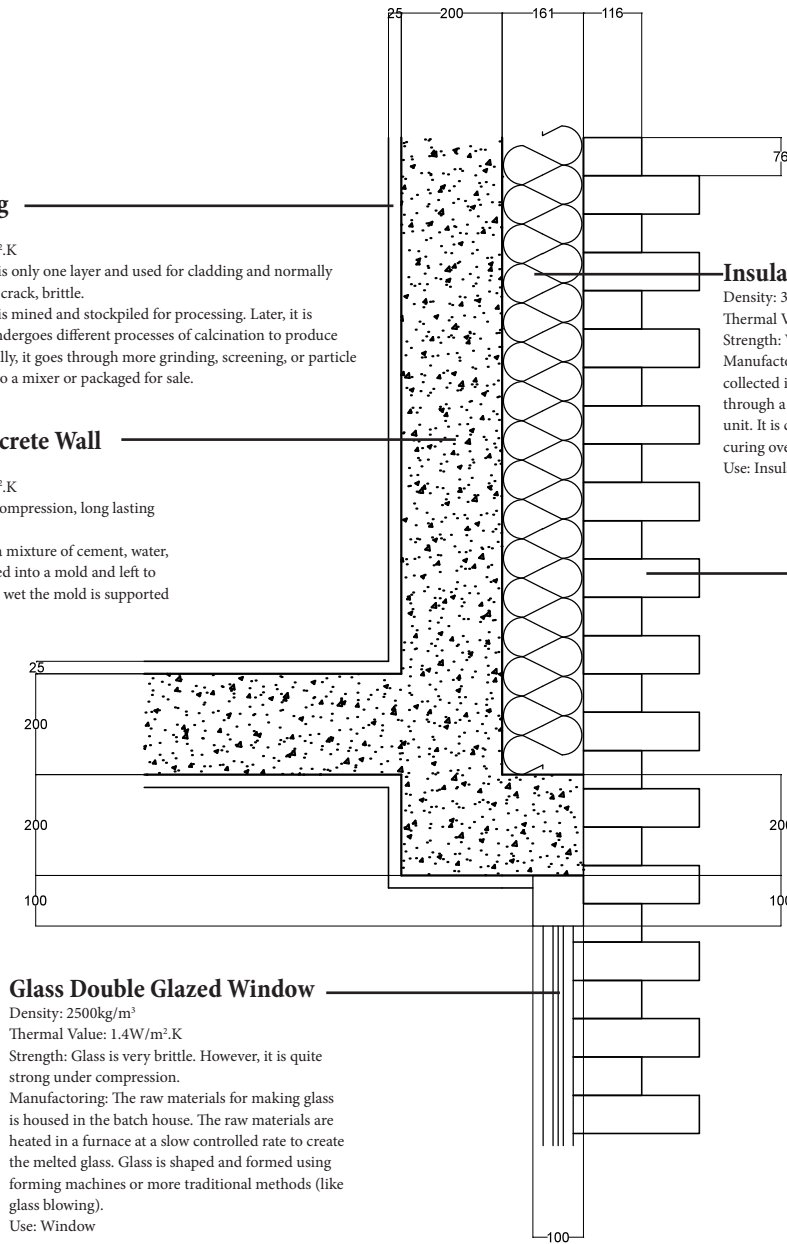


**Plaster Cladding**

Density: 881kg/m<sup>3</sup>  
 Thermal Value: 0.28W/m<sup>2</sup>.K  
 Strength: Very weak as it is only one layer and used for cladding and normally painted on. Can falke off, crack, brittle.  
 Manufacturing: Gypsum is mined and stockpiled for processing. Later, it is crushed and ground. It undergoes different processes of calcination to produce alpha or beta plaster. Finally, it goes through more grinding, screening, or particle classification and then into a mixer or packaged for sale.  
 Use: Cladding

**Reinforced Concrete Wall**

Density: 2400kg/m<sup>3</sup>  
 Thermal Value: 1.83W/m<sup>2</sup>.K  
 Strength: Strong against compression, long lasting and cheap  
 Manufacturing: Made of a mixture of cement, water, and aggregates. It is poured into a mold and left to dry. When the concrete is wet the mold is supported by form work.  
 Use: Structural Wall



**Insulation**

Density: 35kg/m<sup>3</sup>  
 Thermal Value: 0.022W/m<sup>2</sup>.K  
 Strength: Very flexible and elastic. Soft and spongy.  
 Manufacturing: Raw materials are selected and collected into bins and weighed. The materials go through a cupola furnace and a fibre forming binder unit. It is collected and pressed and passed through a curing oven, slitter, and finally a guillotine.  
 Use: Insulation

**Brick Façade Cladding**

Density: 1845kg/m<sup>3</sup>  
 Thermal Value: 2.70W/m<sup>2</sup>.K  
 Strength: Compressed MU15  
 Manufacturing: Clay is dug and placed on a metal grid and roller. The clay is mixed with sand and water and the shape of the brick is formed using a mold. The bricks are placed in a drying oven. They are then placed in a moderately heated kiln (200° C-980° C) and then a highly heated kiln (870° C-1300° C). For 48-72 hours the clay is cooled. After this process, the bricks are packaged and delivered.  
 Use: Façade decoration cladding

**Glass Double Glazed Window**

Density: 2500kg/m<sup>3</sup>  
 Thermal Value: 1.4W/m<sup>2</sup>.K  
 Strength: Glass is very brittle. However, it is quite strong under compression.  
 Manufacturing: The raw materials for making glass is housed in the batch house. The raw materials are heated in a furnace at a slow controlled rate to create the melted glass. Glass is shaped and formed using forming machines or more traditional methods (like glass blowing).  
 Use: Window