Passive Heating Design Primer

Orientation, mass and glazing concepts for your first design meeting

Understand the core ideas

1. **Orientation comes first**
   The direction a house faces on its lot shapes how much winter sun it can capture, and is largely set once construction begins.
2. **Thermal mass stores heat for later**
   Materials like concrete, tile or masonry placed in direct sun absorb daytime warmth and release it gradually.
3. **Glazing and overhangs work as a pair**
   Window placement and roof overhang depth are usually designed together, not separately.

Questions to bring to your design team

1. **Which rooms would benefit most from south facing glazing**
   Ask which spaces in your layout are used most during the day, since those tend to benefit most from solar orientation.
2. **What does an appropriate overhang depth look like for this lot**
   Overhang sizing depends on latitude and window height, and is worth discussing specifically for your site.
3. **Where would thermal mass make sense in this design**
   Ask whether a feature floor or accent wall could be positioned to catch direct winter sun.

Keep the full picture in view

1. **Passive design works alongside mechanical heating**
   Insulation, air sealing and a properly sized heating system remain part of the plan regardless of orientation choices.
2. **Ask how orientation interacts with the site constraints**
   Street frontage and neighbouring structures may limit ideal orientation, and your designer can explain the realistic options.

Bring orientation into the first design conversation, not the last.

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