

thermowall

Step 1

Plan the outline of the building to the proper set-out dimensions calculated to suit the Thermohouse formwork, (designed project specific). Rise the footings to DPC level using the TH-16 (open block) and the TH-17L/R (corner blocks). Place the corner blocks using all the same handed blocks on alternate courses, TH-17L for courses 1,3,5,7 etc and a TH-17R for the intermittent courses 2,4,6,8 etc.

Form the outside corners, then lay the straight blocks towards the centre of each wall section, cut/shorten a TH-16 to complete this section, keep the off cut handy, it will be used elsewhere.

For the construction of the inside corners, cut the TH-16's to form the corner in an overlapping format enclosing the cavity of the formwork. Check that all walls are straight and level, shim or trim where necessary, this will be more prominent where care has not been taken with the foundations which ideally should be +/- 5mm. Prop and shutter corners etc...where necessary, install horizontal steel reinforcement, where required, by placing it on top of the internal webs within the block cavity and prepare for concrete. Remove all the locking stubs from the top of the forms and provide a level surface for the DPC membrane at ground floor level.

Step 2

Restarting on the ground floor level, insert DPC/DPM (this DPC will also be required at ground floor level above a basement construction) and raise formwork in the same manner as before continuing with the next course of corner forms TH-17L/R and include for rebated forms TH-17RL/RR to door or window openings/ reveals.

Install the rebate blocks to form the closure at the location of each door. Complete the installation of first course with straight blocks, using a previous waste cut or by cutting to length where required. Install horizontal steel reinforcement, where required, by placing it on top of the internal webs within the block cavity.

This is a short overview of the wall construction. For further information, details and diagrams please consult the Thermohouse Technical Manual.



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Step 3

Install the second course of blocks so that this course is offset from the first, in a running bond pattern of 300mm or more (occasionally, infill pieces of 150mm can be accommodated where required). At this point check for level across all of the blocks. If the courses are not level, use shims or trim the block as required.

Start by raising the wall with the most window and door openings, this wall will require the largest amount of cuts and produce the most off cuts which can be used in many other areas or the larger wall build areas, construct up to 5 or 6 courses and continue in this fashion constructing the next wall with the most openings finally working towards the walls with the largest build area or least amount of openings. Use waste cuts from forming window ope's as you go and use as many as possible on the walls with the largest build area.

Step 4

Ensuring all laid courses are leveled, install alignment bracing around the entire wall of the structure at 1.0 to 1.2m centers to ensure that the walls are straight and plumb and to enable alignment adjustment before and during the pour. The bracing also serves the dual purpose of providing a secure and safe framework to facilitate the pouring of the concrete.

A horizontal straining wire can be placed along the course work (bottom, centre & top) from corner to corner and through to the external openings as additional support to stop any horizontal movement during the concrete pour.

Window heads should be constructed using a TH-57 (50mm) horizontal insert to avoid any cold bridging across the lintel, this should be inserted flush with the lower edge of the internal insulation TH-20 (50mm), the external insulation TH-21 (100mm) should be 25mm lower to provide a 25mm rebate for the fitting of joinery frames. If cutting a standard form TH-16 to construct the lintel, the metal inserts should be cut where required to allow the insertion of the TH-57.

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Step 5

Place the blocks to full wall height for single storey construction. Cut the vertical reinforcing steel to length and install it from top of the wall.

Step 6

Pour the concrete into the walls using a concrete pump. Start the pour at the centre of one wall and fill to approximately 1m in height. Continue pouring in one direction and return to first point. Repeat the process for each subsequent meter. Use a slender concrete vibrator (maximum 25mm poker) to vibrate the concrete, to remove all air pockets within the wall and to obtain full compaction of the concrete.

Step 7

Screed off the concrete until it is even with the top block and install anchor bolts if necessary. These bolts can be used to install the wall plate, if required.

Step 8

Remove the bracing after the concrete has cured and proceed with further stages of construction.

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