



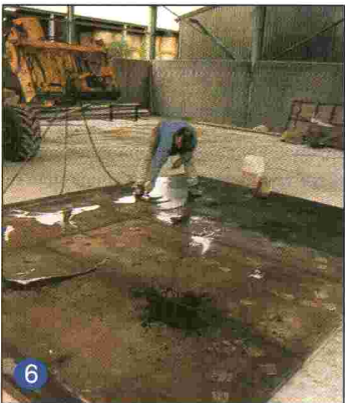
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Central to the new wall is this staggered row of starter bars, set 400mm apart. Each is 3m high, turns through 90° inside the floor slab, extends 1m inside it and is tack-welded to the floor reinforcing mesh. Standard starter bar thickness is 10mm, though John Martin prefers 16mm for extra strength. For a 2.4m wall, vertical starter bar length is 1m.



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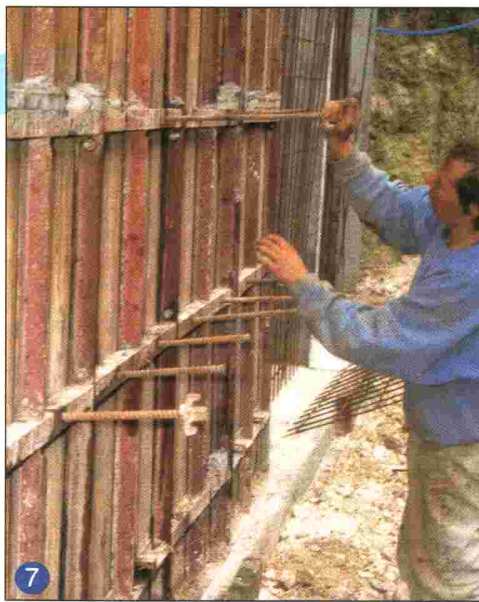
The wall will be 3.6m high, so standard sheets of 200mm x 200mm x 6mm reinforcing mesh are extended by half. Mesh is wired or tack-welded to the starter bars. Wall thickness will be 355mm, or the depth of the existing steel stanchions (right and left). Most walls are 305mm thick to correspond to normal stanchions, but John Martin likes to build his barns with wider items. Bringing the wall flush to the steelwork makes for simpler shuttering — and makes future work with a loader bucket easier.



6

Shuttering is treated to a coat of release agent before it goes up, prolonging ply life and giving the wall a smooth surface finish.

With the outside shuttering lifted in place by materials handler, removable 20mm tie-bars are slid home. Plenty are needed to counter the massive pressure to come from liquid concrete. Bought-in, the ties have a shallow, coarse-pitched thread to give fast fixing and immunity from concrete spills. Wing nuts clamp them home.



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Over each tie-bar goes a plastic sleeve, cut from bulk lengths to stanchion depth and finished at each end by a removable cap. The sleeves do two jobs — space the shuttering apart, and provide a chamfer-edged dry passageway for the ties. Once the slab has set and the shuttering is taken down, the end caps will be winkled out and the tube sealed, either by a plug (normal walls) or expanding foam (liquid-containing walls).



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Reinforcing mesh must sit parallel with the wall faces and 50mm inside them. Plastic wheels clipped to the mesh take care of spacing — they will be entombed.



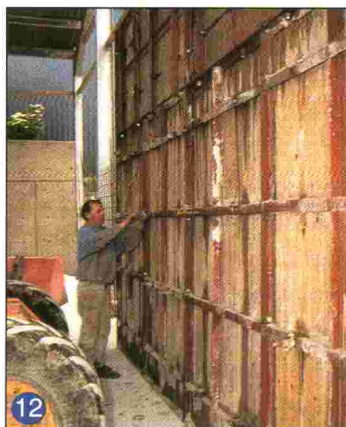
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If the wall needs to seal against liquid leakage at floor level, a strip of Hydrotite (expensive, at about £4.50/m) is laid down the centre line. It expands on contact with water to seal the joint.



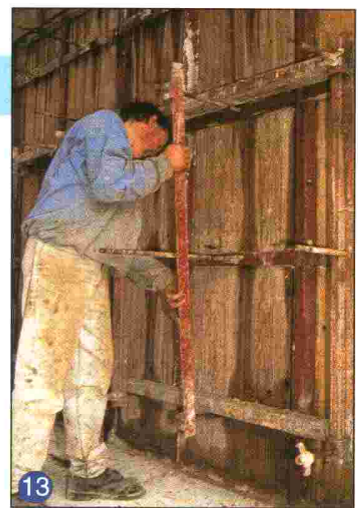
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The bay ready to take its inside shuttering.



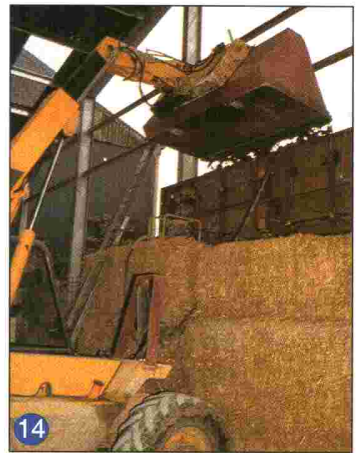
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With the inside shuttering lined up, ties are pushed through and a few wing nuts spun on to hold everything together.



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Some 10t of concrete will be trying to bow the shuttering, so extra bracing goes into the most-stressed lower section to lock it straight. Horizontal lengths of 100mm x 50mm box are clamped to the inside face by verticals and tie bar. Lastly, all wing nuts are taken up with a spanner to pull panels tight to the spacers and stanchions.



14

In it goes — smart work with the JCB bucket puts ready-mix concrete where it does the most good. Each fill is settled in place with a vibrating poker. This boils out air pockets in no time and using one is vital. Pouring and poking the wall took 20 minutes.



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Angled stripping pressed into the wet mix (left and right) will leave a chamfered top edge when removed. The poker rests (top), having done its job. All that is left is to clean up, wait 16-20 hours and repeat the process for the next bay.