Mortarless Concrete Blocks

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MORTARLESS CONCRETE BLOCKS

THE NEED
Traditional concrete block systems are expensive to construct, not as structurally sound as concrete walls, and do not have the ability to conceal any mechanical or electrical systems easily.

![Figure 1: The Six Integral Modules](image)

THE TECHNOLOGY
The Intralock System is a mortarless concrete block building system comprised of blocks with six different internal configuration that form three separate air cores when stacked in a single thickness. Blocks are stacked without mortar, and the center core of the stacked blocks is filled with grout to form a solid concrete core that separates the other two air cores. This grout flows around and through each block, bonding it to the surrounding block and forming a grid of columns and beams that tie all of the blocks and walls together without mortar joints.

The other two air cores form interior and exterior interconnecting vertical and horizontal air channels that provide insulation, soundproofing, and a four hour fire rating. They may also be used for piping, wiring, externally-serviced pest control, or alarm systems inside the wall.

THE BENEFITS
The Intralock system provides many benefits including speed of construction, a stiffer wall, and a versatile wall system. The system is easy to construct, as there is no mortar
to be placed between each block, and quality, as far as plumb and level are concerned, can be controlled much more easily. Since the center void space is filled with grout, a very stiff wall is created, very much like a concrete wall. Also, steel can be easily added to the wall in the groutable void. The wall system is versatile because many mechanical or electrical systems can be concealed within the wall.

**STATUS**
Since its development in 1981, over 100 commercial and residential buildings have been constructed.

**BARRIERS**
This technology has very few barriers to implementation. It uses conventional materials in a new way, and as such requires little retooling of existing concrete block plants to begin production. One problem may arise from the lack of official testing of this type of system. Material cost may also a barrier.

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**REFERENCES**

**REVIEWERS**
Peer reviewed as an emerging construction technology

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