BRICKWELL

Aerated Autoclaved Concrete

"BRINGING YOU AND TECHNOLOGY TOGETHER"

AERATED AUTOCLAVED CONCRETE PANEL (AAC)

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Autoclaved Aerated Lightweight Concrete (AAC) PANELS:

Autoclaved Aerated Lightweight Concrete (AAC) Panels - though largely new to India, is not a new building material. Developed in Sweden in the 1920s in response to increasing demands on timber supplies ACC is a lightweight manufactured building stone. Comprised of all natural raw materials viz., cement, Quick lime, and Silica Sand. AAC is used in a wide range of commercial, industrial, and residential applications and has been in use in Europe for over 70 years, the Middle East for the past 40 years, and South America and Australia for approximately 20 years. According to one manufacturer, AAC now accounts for over 40% of all construction in the United Kingdom and more than 60% of construction in Germany

AAC Product Types AAC, unlike traditional concrete masonry units ("CMU"), is a solid panel /material system with integrated insulative and structural components, and is available in a variety of products that can be used in both load and non-load-bearing applications. Complete load bearing applications, however, are limited to low-rise construction, though cladding and large panels are available to take advantage of AAC's insulative, fire proofing, and other benefits on mid- and high-rise projects. Additionally, the large wall, floor, and roof panels, measuring up to 10 feet long, 2 feet wide, and in various thicknesses, are also used in load-bearing capacities and are common in commercial and industrial applications. AAC Panels, also called "units" are stacked using thin-set mortar, as opposed to the traditional cement-based mortar used in CMU construction.

Due to AAC's design flexibility and combined structural and insulation components, an entire structure can be built using the one material. Exterior surfaces can be finished with stucco, traditional veneers or siding, while interior walls can be plastered, painted, or left unfinished, in addition to traditional sheetrock finishes.

Further, ACC is easy to use and can be cut and manipulated with normal wood-working tools. With cement, lime, Silica Sand as raw materials, adopting two-way and welded steel reinforcement mesh(reinforcing bar) processed by special anti-rust liquid , produced in high temperature, high pressure and steam curing, it's a kind of porous silicate plate of high performance, and has many incomparable performances of good fire-resistance, fire prevention, sound insulation, heat insulation, thermal insulation etc. It can be categorized into external wall panels, partition panels (internal panels), roof panels, floor panels according to usage.

AAC panel is processed according to the pre-defined sizes by actual field measurement. As a prefabricated product, it's of high precision, sawable and drillable. Used in dry operation, it is convenient to install in a simple process, greatly shortening the construction period, and improving the efficiency and quality of construction.

The reinforcement is calculated and determined according to the work load, the specifications of the panel.

Specifications:

Width:600mm

Length:2400-3000mm

Thickness of 75-200mm per 25mm interval.

AAC panel can be used directly in internal wall of concrete structures and steel structures, such as in hotels, schools, offices, market places and houses etc. The internal walls such as household walls, separating walls, partition walls in bathrooms and kitchens etc conform to hang various things such as air conditioning, water heater, radiator, hanging cases etc.

Compared with traditional internal wall partition materials, AAC internal panels have obvious advantages in various technical performances: lightweight, high strength, thermal insulation, fire resistance, sound insulation, seepage prevention, frost resistance, durability, anti-seismic, high softening coefficient, no radiation, good creativity, scientific installing method, convenient and quick construction.

AAC internal panels are reinforced by antirust double-layer and two-way steel mesh. They have good load-bearing capacity, the static hanging weight in a single point being 120kgs. They are produced in high temperature, high pressure and steam curing, with the minimum shrinkage ratio in the inorganic materials, caulked with special polymer binders, which can effectively prevent cracking.

AAC internal panels are the thinnest among those with the same capacity in sound insulation and fire protection. Using AAC internal panels can effectively increase the usable area of a building, and reduce energy consumption. Without using structure columns, beams and other auxiliary components, it can reduce the wall load, thereby reduce the cost of the building.

AAC panels can be used directly in exterior walls of concrete structures and steel structures. As an excellent heat insulator, they surpass most other similar building materials. They are also a guarantee of a comfortable and pleasant environment inside the buildings, with lower heating and cooling costs throughout the lifespan of a building.

AAC panels improve the reliability and security of node strength in external walls. During the rotation and extension in plane of the connecting nodes of wall panels, AAC panels ensure that the walls can be adapted to the interlayer displacement in different directions of the main structure, and satisfies the need for the interlayer deformation of the main structure conforming to the seismic design intensity.

The installation node of AAC external panels is scientifically designed, with high strength and a certain amount of rotating performance. It can bear an interlayer displacement between 1/200 and 1/50 without damage or only a minor damage.

AAC panels are regarded as constructional elements with flexible connection in terms of seismic design, so their stiffness and seismic bearing capacity are not counted. Structure members supporting the AAC external panels can count the effect of seismic action of AAC wall panel as an additional effect, and meet the anchoring requirement of connecting accessories.

AAC floor panels, with a scientific reinforcement design scheme and raw materials proportion during production, ensures excellent bearing capacity and combination properties of good bearing and thermal insulation.

With light weight, good overall performance and small inertia force in earthquake, AAC floor panels give the buildings a good anti-seismic capacity, and are applicable in the buildings of earthquake-prone areas

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AAC roof panels are of light weight, being only 1/3 of ordinary reinforced concrete pre-stressed hollow slabs, so 5-6 pieces of panels can be hoisted at one time in the construction. Furthermore, asphalt felt waterproof coiled material can be directly laid in roof, thus avoiding wet operations, speeding up the construction progress and shortening the construction period.

AAC roof panel roofs should use slope structure, instead of mortar or other materials, for the building to find the slope. After the complete installation of AAC roof panels, waterproofing membranes can be directly adhered, or can be pasted after a thin layer of polymer mortar is made.

Thank You . . . !!!

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