

CARIBBEAN CONSTRUCTION & TRADING INC.

Located at 8 & 9 Coverden East Bank Demerara

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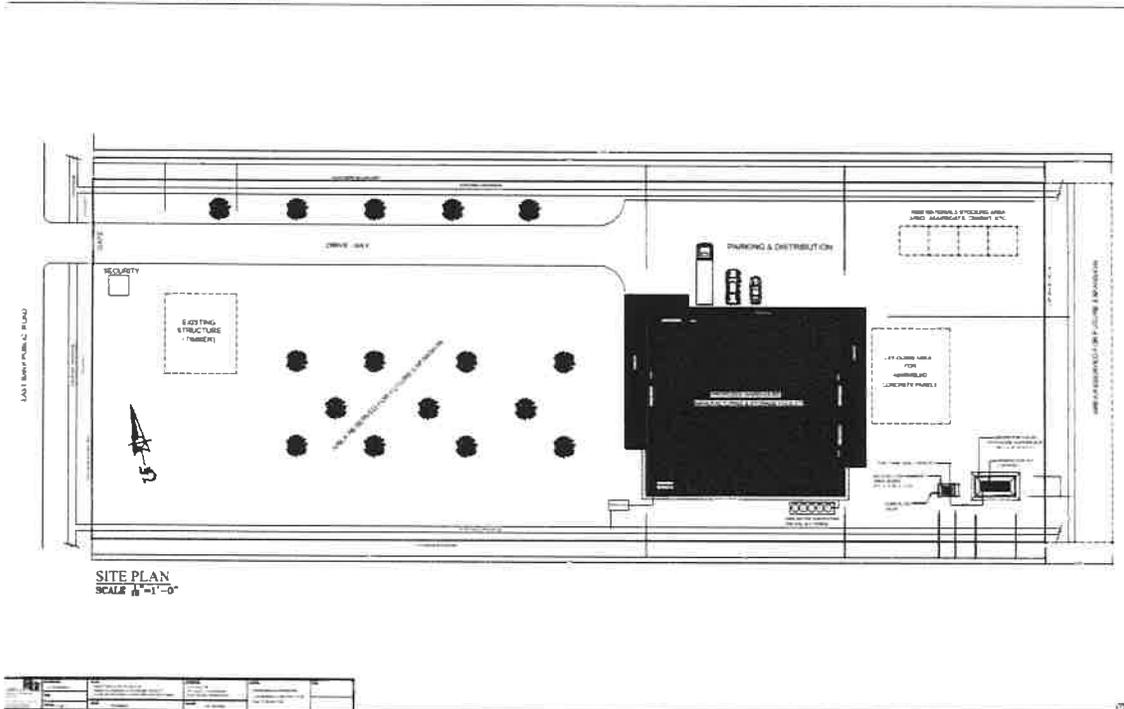
Site Description:

The proposed site for the project is located in Te Huis te Coverden on the East Bank of Demerara 29 kilometres or 18.01 miles from the capital city Georgetown. The site's spatial boundaries encompass of a 200ft (length) x 100ft (width) of privately owned land. The temporal boundaries of the project are from September 2022 to June 2023.

Land Requirements and Layout:

The project will utilise an area of 200ft (length) x 100ft (width) to accommodate its operations and infrastructure. The layout of the site will be designed to efficiently utilize the available land while meeting the project's needs. It will include designated areas for various components such as buildings, equipment, storage, access roads, parking, and any other necessary facilities.

Layout of the operation:



Receiving Water:

The identification of receiving water(s) for the project is essential to assess the impact and ensure compliance with environmental regulations. Waste water will be channel in well design internal drains with water filtration system and water separators with guidance from the EPA. Rainwater will be stored in tanks onsite to be reuse for the operation, stormwater runoff will be directed to receiving waters via storm drains or other drainage systems. Final discharge will be drained via a small drainage canal situated to the south of the property, approximately 3m from the facility.

Present Land Use:

The project area is currently characterized as agricultural and residential. The contiguous areas surrounding the project site are primarily utilized for farming.



The Project Design Construction to Closure;

Construction Stage:

Site preparation and clearing are completed however this required minimum works. Construction of infrastructure (roads, buildings, utilities) are established already and we are currently on the phase of installation of equipment and machinery for testing and commissioning of systems for training of personnel.

Operation Stage:

Raw material sourcing and procurement which is typically cement, rough and fine aggregates, which are usually stone and sand, and water. Material handling and storage play crucial roles in the manufacturing of concrete panels. Efficient handling and proper storage practices ensure the quality of materials, minimize waste, and maintain a safe working environment.

Raw materials such as cement, aggregates, and additives will be store in designated areas that protect them from moisture, contamination, and extreme weather conditions to prevent material degradation.

Employ appropriate material handling equipment such as forklifts, conveyors, and pallet jacks to move materials efficiently and safely within the manufacturing facility. Ensure operators are properly trained and follow safety protocols. Establish a systematic approach for batching and mixing materials. Use accurate weighing systems and automated mixers to ensure the proper ratio of ingredients, minimizing material waste and maintaining consistent quality. If steel reinforcement is used in the concrete panels, ensure proper storage to prevent corrosion and maintain structural integrity. Protect reinforcement bars from moisture and avoid contact with the ground to prevent rusting.

Store formwork and molds in a designated area where they are protected from damage and deformation. Keep them clean and free from debris to ensure accurate panel dimensions and surface finish. After casting the concrete panels, provide adequate space for proper curing. Follow the recommended curing procedures, including temperature and humidity control, to achieve the desired strength and durability. Once cured, store the finished panels in a secure area to prevent damage during transportation or further processing.

We will implement an inventory management system to track material usage, reordering, and storage. This will help the company to prevent stockouts, minimize waste, and ensure timely availability of materials for production. Prioritize safety throughout the material handling and storage processes. Train employees on proper lifting techniques, equipment operation, and the use of personal protective equipment (PPE) such as gloves, safety goggles, and hard hats. Maintain clear pathways, eliminate tripping hazards, and provide adequate lighting in storage areas.

By implementing these effective material handling and storage practices, we as manufacturers can optimize the concrete panel production, reduce material waste, and enhance workplace safety, ultimately leading to improved product quality and operational efficiency.

The company does not foresee closure.

Water Supply and Treatment:

Municipal water supplies the facility will obtain their water supply from the local municipal water system. This involves connecting to the public water network GWI and paying for water usage based on consumption. Our manufacturing facility will purchase purified water for drinking. Rainwater will be recycled within five (5) 450-gallon tanks to be used in the production process. This will help reduce water consumption and ensure compliance with environmental regulations.

Energy/Electricity:

Grid electricity:

We will rely on electricity from the local power grid provided by GPL. We will have a diesel generator with a capacity of 120 kVA equipped with a silencer and housed in a soundproof room, to supplement or provide backup electricity supply. This will help ensure a stable power source and reduce dependence on the grid in the event of a power failure. Further fuel for the generator will be stored in a 500-litre tank with a containment wall for prevention of spillage.

Communication Facilities:

The facility will be connected to telecommunication services provided by local telecom companies. This includes landline telephone connections, internet connectivity, and potentially dedicated communication lines for specific needs to enable wireless communication between devices, equipment, and personnel.

Waste Management:

In the manufacturing of concrete panels, waste management is an important aspect to ensure environmental sustainability and compliance with regulations. Here are some details regarding the types of waste generated and methods of waste disposal/treatment in the manufacturing process:

This includes excess cement, aggregates (sand, gravel, crushed stone), and admixtures that are unused or left over during the manufacturing process. It refers to waste generated during the concrete panel production process, such as excess water, slurry, or waste generated from cutting, shaping, and finishing the panels.

Waste materials like plastic wrap, pallets, domestic waste and other packaging materials used for transporting and storing the panels. Waste generated, such as unused or expired cement, solvents, or cleaning agents.

Solid waste:

This includes leftover cement mix, trimming waste from panel cutting, or rejected panels. Recycling and reusing these materials will be done minimize waste generation. Dust and particulate matter, Air pollution control systems, such as bag filters or electrostatic precipitators, are used to capture and remove dust and particulate matter generated during manufacturing processes to add to the enclose facility.

Methods of Waste Disposal/Treatment:

Recycling:

Concrete waste, including excess concrete, can be recycled by crushing it into smaller pieces (known as recycled aggregate) and reused as a base material for new concrete production or for other construction purposes. This helps conserve natural resources and reduce landfill waste. Reusing and Repurposing, Unused or leftover concrete panels can be salvaged and used for various applications like landscaping, road base construction, or as fill material.

Proper Storage and Handling:

Waste materials like packaging waste and cement will be stored in designated containers or areas to prevent contamination and facilitate proper disposal or recycling.

Waste Separation:

Different types of waste should be separated at the source to facilitate effective recycling or disposal. For example, separating plastic packaging waste from concrete waste allows for easier recycling of the plastic.

Reuse:

Certain waste materials, such as leftover cement mix or rejected panels, can be repurposed within the manufacturing facility or utilized in other construction projects. Implementing recycling and reuse programs will significantly reduce waste. In some cases, waste materials with high calorific value, such as wood will be given to farmers within the area to be use as firewood, the company do not foresee excess use of wood or won't be generating wood waste.

Maintenance Waste:

Used oils and lubricants:

Lubricants and oils used in machinery or vehicles require proper disposal or recycling to prevent environmental contamination. These will be given to the mechanics for the proper disposal we will not store waste oil onsite.

Scrap metal and other materials:

Maintenance activities may generate scrap metal, damaged equipment, or other materials that can be recycled or properly disposed of following local regulations given to scrap metal dealer located opposite the facility.

It's important to note that the company will hire an authorised waste disposal service provider/waste management expert and adhere to applicable laws and regulations to ensure responsible waste disposal and minimize environmental impact.

The Project Size:

The capital investment is \$[REDACTED] United States Dollars the company will have twelve (12) employees at the beginning inclusive of office staff. The rates of production can't be determined at the moment as this will base on market demand.

A Non-technical explanation of the project and plans to mitigate environmental impacts:

Caribbean Construction and Trading Inc. located at 8 & 9, Coverden, East Bank Demerara is embarking on a manufacturing project to produce concrete panels for the construction of buildings. The aim of this project is to provide high-quality and durable building materials for the construction industry in the region. The project will involve the establishment of a manufacturing facility specifically designed for producing concrete panels. The facility will be equipped with state-of-the-art machinery and equipment to ensure efficient production processes and superior product quality.

Key objectives of the project include potential effects on the environment which may result from the existence of the project i.e., land, soil, water, air, the use of natural resources, etc. A brief description of each potential effect. However, this is capture throughout the document.

Caribbean Construction and Trading Inc does not anticipate any negative effects on the environment as we will obey and operate with strict guidance from all relevant governing authorities.

Manufacturing Capacity:

The facility will have a production capacity capable of meeting the demand for concrete panels for the construction of buildings, etc. The production capacity will be determined based on the projected construction needs and market demand.

Quality Assurance:

Caribbean Construction and Trading Inc. will implement stringent quality control measures throughout the manufacturing process to ensure that the concrete panels meet the highest industry standards. This will involve conducting regular quality checks, inspections, and tests to guarantee the strength, durability, and reliability of the panels. The project will prioritize sustainable manufacturing practices, including the use of eco-friendly materials, energy-efficient processes, and waste reduction measures. Caribbean Construction and Trading Inc. is committed to minimizing the environmental impact of its operations and promoting sustainable construction practices.

The project will adhere to a strict timeline to ensure the timely delivery of concrete panels for the construction sector. Effective project management and coordination will be implemented to

meet construction schedules and avoid delays. Caribbean Construction and Trading Inc. aims to exceed customer expectations by providing superior-quality concrete panels that meet their specific requirements. The project team will collaborate closely with clients, architects, and contractors to ensure that the panels are manufactured to precise specifications and delivered on time.

Through the manufacturing of concrete panels, Caribbean Construction and Trading Inc. aims to contribute to the growth and development of the construction industry in the region. By providing reliable and durable building materials, the company aims to facilitate the construction of high-quality structures, while maintaining a commitment to sustainability and customer satisfaction.

Developing a waste management plan for concrete panel manufacturing is crucial to ensure responsible and sustainable practices. Below is a comprehensive outline of a waste management plan for concrete panel manufacturing:

Waste Assessment:

- Conduct a thorough assessment of the types and quantities of waste generated during the manufacturing process.
- Identify the sources of waste, such as raw material handling, cutting, shaping, and finishing processes.
- Categorize waste based on its composition and potential for recycling or reuse.

Waste Minimization:

- Implement measures to minimize waste generation at the source.
- Optimize production processes to reduce material losses and improve efficiency.
- Educate employees about waste reduction strategies and encourage their participation.

Recycling and Reuse:

- Identify materials that can be recycled or reused within the manufacturing process.
- Establish a system for collecting, segregating, and storing recyclable waste materials.
- Partner with local recycling facilities or contractors to ensure proper recycling of waste materials.

Scrap Management:

- Develop a plan for managing scrap concrete panels or rejected products.
- Explore options for salvaging usable components from rejected panels.
- Identify alternative uses for scrap, such as crushed concrete for road construction or as aggregate for new panels.

Hazardous Waste Management:

- No Hazardous waste will be used or stored onsite.
- If any, comply with the Environmental Protection Agency and obtain necessary permits for hazardous waste management.

Monitoring and Reporting:

- Establish a system for monitoring waste generation, recycling rates, and other relevant metrics.
- Regularly report on waste management performance to stakeholders, employees, and regulatory authorities.
- Use the collected data to identify areas for further improvement and set targets for waste reduction.

Employee Training and Awareness:

- Provide training to employees on waste management practices, including waste segregation and proper disposal procedures.
- Foster a culture of waste consciousness and encourage employee participation in waste reduction efforts.

Continuous Improvement:

- Regularly review and evaluate the effectiveness of the waste management plan.
- Seek feedback from employees and stakeholders to identify areas for improvement.
- Stay updated on new technologies and best practices in waste management for the concrete manufacturing industry.

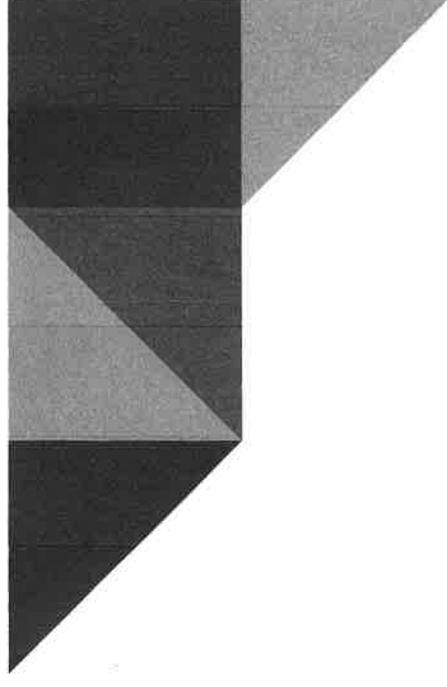
In conclusion, Caribbean Construction and Trading Inc has successfully established itself as a reputable manufacturer of concrete panels. Through its commitment to quality, innovation, and customer satisfaction, the company has made significant contributions to the construction industry in the Caribbean region.

Caribbean Construction and Trading Inc's concrete panels have demonstrated superior durability, versatility, and aesthetic appeal, making them a preferred choice for various construction projects. The company's manufacturing process ensures consistent quality and adherence to industry standards, resulting in reliable and long-lasting products.

Furthermore, Caribbean Construction and Trading Inc has been proactive in embracing advancements in technology and sustainable practices. By incorporating eco-friendly materials and efficient production methods, the company has minimized its environmental impact while meeting the growing demand for sustainable construction solutions.

The company's dedication to customer service has been instrumental in building strong relationships with clients and stakeholders. Caribbean Construction and Trading Inc consistently strives to understand and meet the unique needs of its customers, providing tailored solutions and prompt support throughout the project lifecycle.

Overall, Caribbean Construction and Trading Inc's manufacturing of concrete panels has proven to be a valuable asset to the construction industry in the Caribbean. Its commitment to quality, innovation, sustainability, and customer satisfaction positions the company as a leader in the market, and it is poised for continued success and growth in the future.



Creteform Production Process

Caribbean Construction and Trading Inc

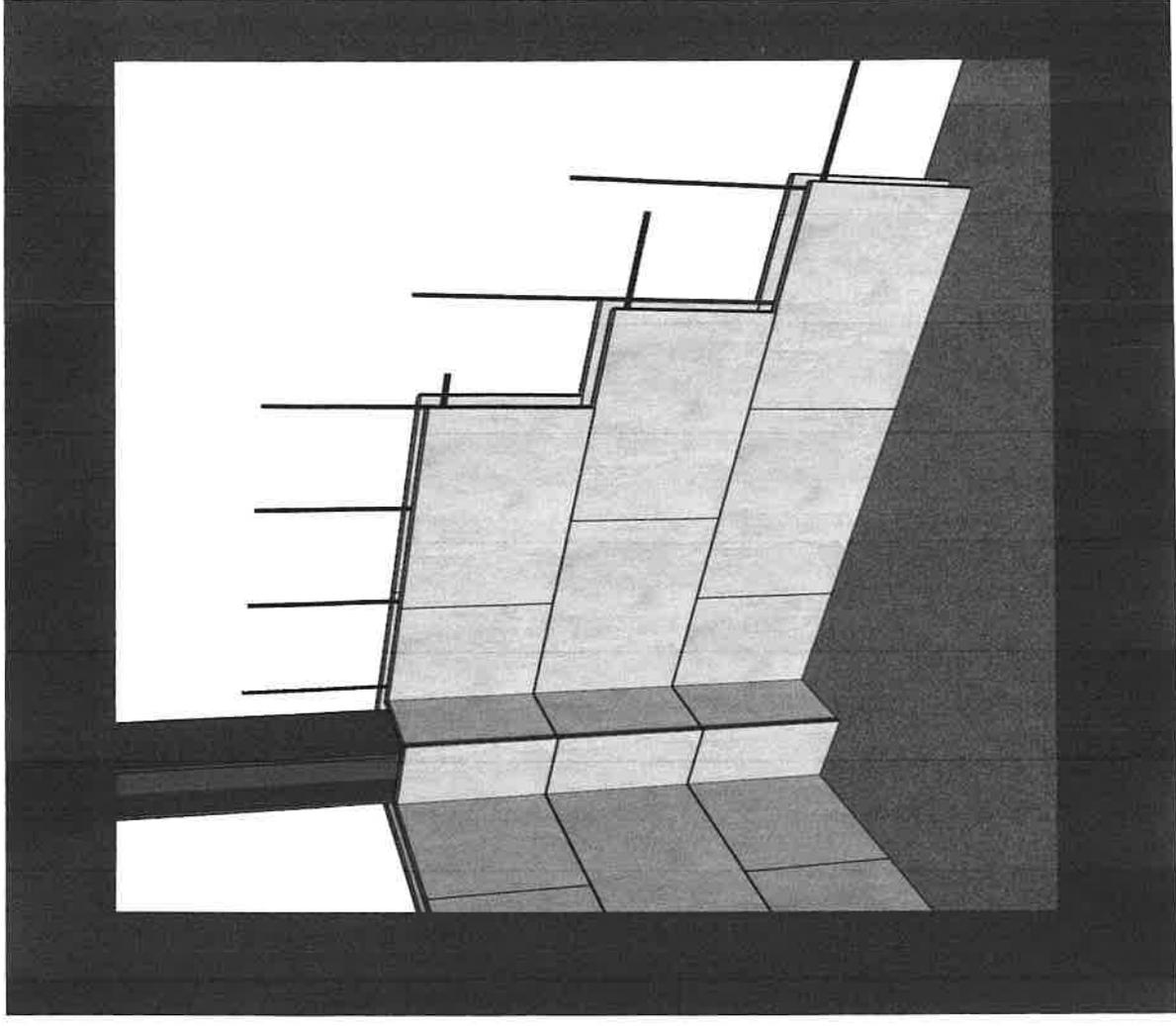
Lot 72, Church Rd, Subryanville, Georgetown.

Creteform is a totally new form of construction, which when used forms a solid concrete filled wall without the use of preformed shuttering.

This save costs of materials and time of labour and duration of building and finishings to interior and exterior walls

It can be used in conjunction with or without structural steel framing depending on heights and engineering requirements of structures being built

Now for the process of manufacture.





The start of the process we're sourcing local Aggregates(siftings), sand and cement (grade 42.5)

There stored in separate areas outside and loaded into hoppers inside by mechanical power shovel

There then measured into a smaller hopper and loaded into the mixer, where cement and water is added.

At this point additives like waterproofing agents and colouring are added and mixed thoroughly _____

The completed mixture is then dropped into a delivery stirring drum.

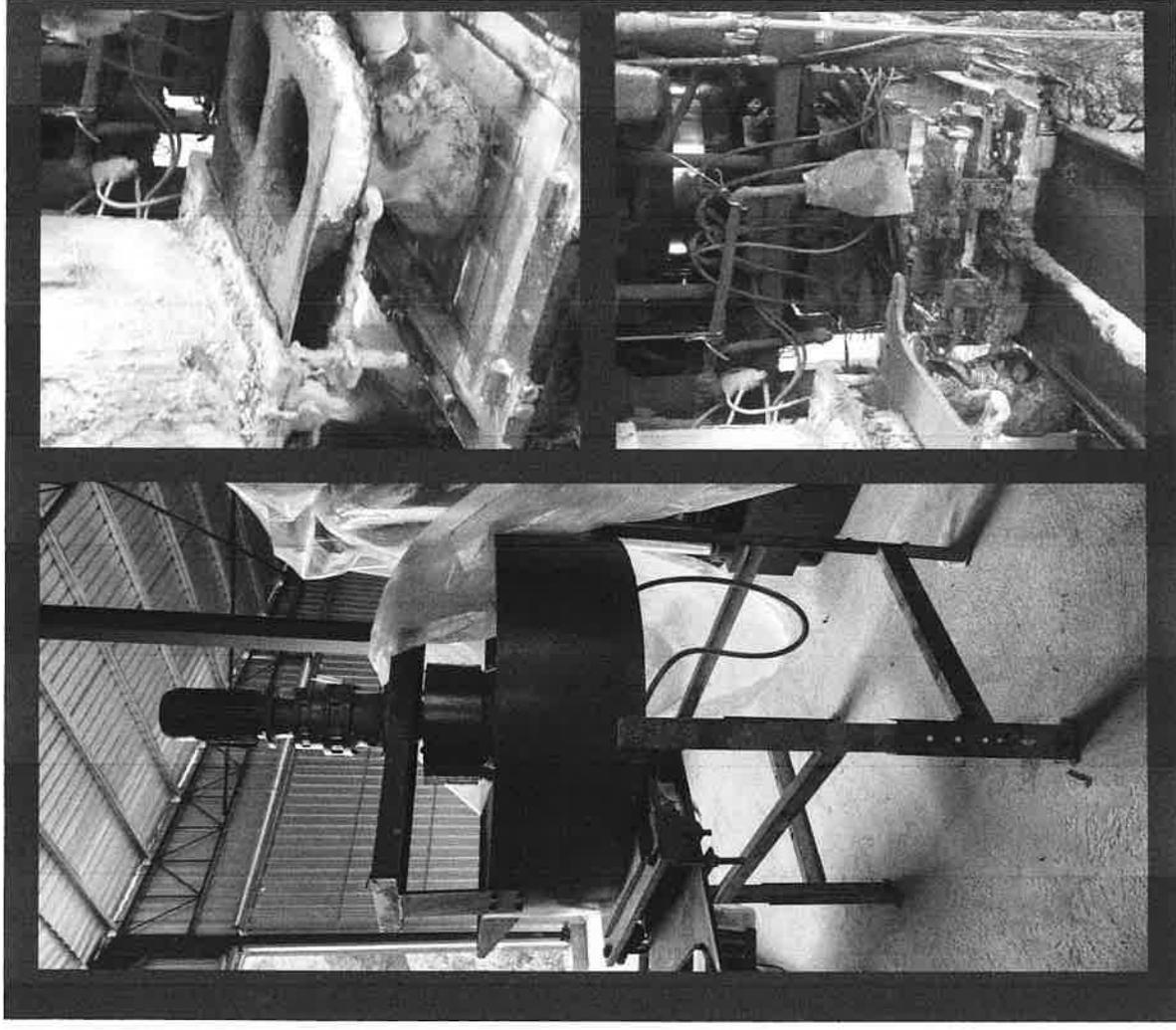
Operative places a wire frame onto the mold which hole the panel connection nuts, which is later fitted with an eye bolt that connects panels when building walls

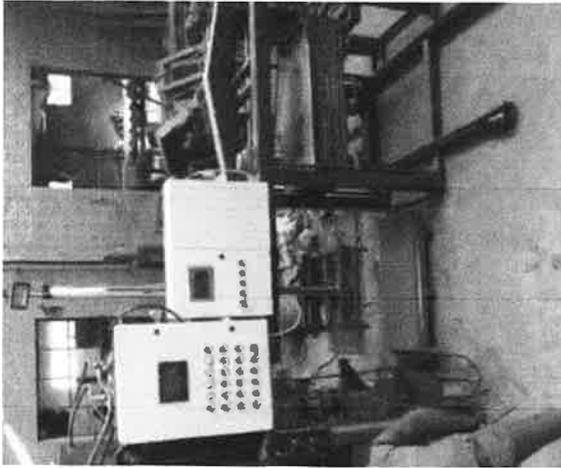
This drum stirs the mortar unit the required is measured and dropped onto the mold of the panel press.

The drum continues to drop the mortar in the required amounts then it refilled.

The mix dropped onto the panel mold, is now moved under the press which has the other part of the mold.

It is then press together under great pressure, which removes the majority of water



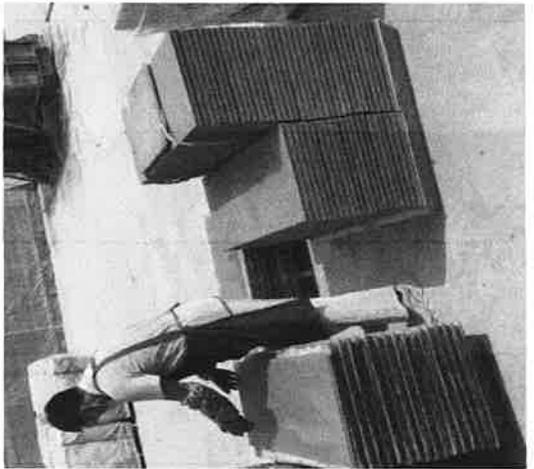


The pressed panel is now placed onto a piece of glass, this helps to keep the now completed panel flat and smooth.

The hole process repeats around 3 times a minute and each are stacked on top of each other keeping flat and smooth.

Once an amount of about 20 are stacked, there then moved out to an area where they are left undercover to dry out and cure for a minimum of one day.

After the panel is sufficiently dry and cured, it is then removed from the glass and stacked on a pallet after maybe a further day to ensure totally dry delivery to project sites can be done.



Panels now delivered to project sites, they are joined together as a pair with connectors and placed where required.

Once wall area is completed and rebar reinforcing fitted, concrete can be pumped into the void between the panel.

Once the panels are filled with concrete, the next or following day, work can continue to complete floors or further walls until construction is completed.

Also the creteform manufacturing process is always being updated and improved, one of our goals is to use recyclable products in its construction and in the fill concrete on site, to reduce its carbon footprint on the environment

