



XTRAMIX INTERNATIONAL PRECAST

**COMPANY PROFILE**

# INTRODUCTION

Founded in 2006, Xtramix initially started with one (1) ready mix concrete batching plant in Mafraq, Abu Dhabi as a local supplier and evolved into one of the industry's most recognized complete construction solutions provider in the UAE. Xtramix has been led by passion in playing a vital role to help develop essential infrastructure needs in the UAE and other regions in the GCC. As of today, Xtramix has grown remarkably from being solely a ready mix supplier, into a group of 3 companies with a total of over 21 fully operational plants in the UAE.

**Xtramix Group of Companies**, now a market leader, has established its name with a proven history of accomplished projects, satisfied clients and stakeholders. In addition to producing Ready mix Concrete, its product range includes manufacturing Precast Concrete and Cement Block Products. The entire group and the team behind it are dedicated to produce and deliver superior products and services. Xtramix is building beneficial and long-term partnerships in the industry with various clientele and suppliers. As a result, our Xtramix Technical Team can help provide you with the most efficient and ideal products that would meet your needs and requirements. As an ISO certified company, we are fully committed to ensure that we are complying with the highest standards of quality products and services.

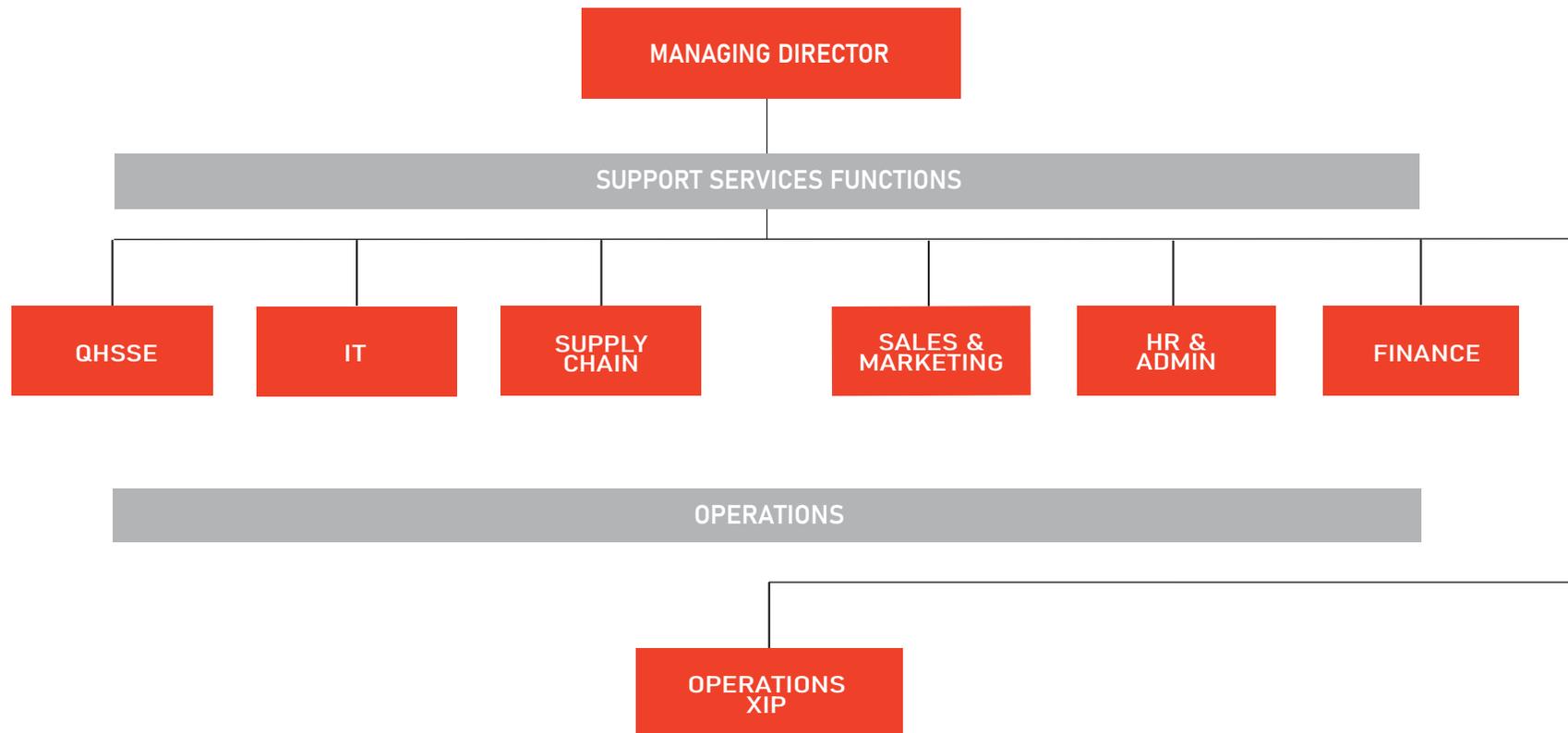
**Xtramix Concrete Solutions LLC (XCS)**, the pioneer of the group's companies began operation in 2006. Due to the dedication of our team, we are proud to say that we have become one of the leading suppliers of ready mix concrete in the region. XCS has the capability of mobilizing and demobilizing temporary batching plants in project sites whenever required. In the UAE, XCS Batching Plants are strategically located in the Abu Dhabi Region, Al Dhafra Region and Al Ain Industrial Area, ensuring timely logistics and services. The main tower plant is located within Industrial Area 2 in Musaffah. Currently, a total of 12 plants are in operation, scattered around

various corners of Abu Dhabi. The batching plants utilize fully automated state of the art systems with a total production capacity of 2,800m<sup>3</sup>/hr. XCS is equipped with a fleet of 220 transit mixers, 45 mobile concrete pumps and 20 stationary pumps with associated equipments.

**Xtramix International Precast LLC (XIP)**, was conceptualized and operationalized immediately due to the great market demand of fast and mass produced precast concrete infrastructures. XIP started operation in 2010 located within the Industrial City of Abu Dhabi 3 (ICAD 3). The precast factory consists of 3 batching plants, wide and equipped stockyards, curing chambers and other state of the art machineries and equipments. The former are encompassed in a lot that is 140,000m<sup>2</sup> in size. XIP has become renowned for being one of the leading precast concrete solutions providers in the UAE. Through advanced design capabilities, the company produces a wide range of standard and specialized precast concrete products such as precast concrete elements, hollow-core and glass reinforced concrete (GRC).

**Xtramix Cement Products LLC (XCP)** specializes in producing cement products such as high quality hollow and solid masonry blocks, thermal blocks, cable cover tiles, interlocking tiles in many shapes and color. The production facilities comprise of automatic HESS plants, curing chambers and a wide storage area consisting a total lot area of 427,000m<sup>2</sup> in Al Ain Industrial Area. Plant operation began in 2013 and as with other products, we continue in striving to provide first class services through consultation, planning and delivery.

# ORGANIZATION CHART



# VISION, MISSION & VALUES

## VISION

To be the preferred solutions provider for a full range of concrete products to the construction sector in the region. To develop long-term partnerships through the aligning of our products and services to the needs of our valued customers.

## VALUES

Xtramix demonstrates full commitment to the following core values ensuring a customer service-oriented approach amongst all employees.

### » QUALITY

Quality, Services and Consistency are the lifelong commitment of Xtramix

### » CUSTOMER SERVICE

The commitment is to maintain solid and long-term business relationship with clients and stakeholders to ensure an exceptional customer service.

### » LEADERSHIP

Highly professional, experienced and outstandingly competent management and employees of Xtramix are continuously developing new ways to strive excellence.

### » INTEGRITY

Transparency, Trustworthiness and Commitment to ethics and principles are the defining characteristics of the working culture of Xtramix

## MISSION

To exceed the satisfaction of the requirements of clients in Quality, Quantity and Services by producing high quality concrete and precast building products in accordance with international and local standards.

### » PRECISION

Xtramix is driven by a culture of discipline and superb attention to detail that facilitates providing high-quality products and consistent services

### » HEALTH & SAFETY

Health, Safety, Security and Well-being of the employees and other stakeholders are our priority

### » ENVIRONMENTAL SUSTAINABILITY

Fully committed to environmentally sustainable products, services and practices ensuring that every single step Xtramix takes towards sustainable environment will contribute to the coming generations

## OUR WAY

Quality, Health, Safety and Environment consciousness are embedded in our culture and have become a way of life for everybody.

### QUALITY, HEALTH, SAFETY & ENVIRONMENTAL (QHSE) MANAGEMENT SYSTEM

It is not enough for us to just simply supply high quality products and services to our customers. Although our primary goal is to ensure total customer satisfaction, we also have to protect the environment and the welfare of our employees and the public. Thus our Management System is fully compliant to ISO 9001, ISO 14001 and ISO 45001 International Standards. And in order to streamline the documentation system and the implementation process, we have fully integrated these three ISO standards.

### QHSE COMMITMENT

We are committed to provide concrete solutions to our customers done in the following manner:

**Quality** that exceeds customer's expectations

**Healthy** and highly motivated workforce

**Safe** working conditions and,

**Environment** sustainability

Our perseverance in maintaining the above commitment resulted to recognition and certification from various external organizations including 3rd Party Management System Certification body, Industrial Development Bureau (IDB) --Abu Dhabi's OSHMS Regulatory Authority, PCI (Precast Concrete Institute) and National Ready Mixed Concrete Association (NRMCA).



**XTRAMIX INTERNATIONAL PRECAST LLC**

# GET TO KNOW US

Xtramix International Precast LLC (XIP) is engaged in design, manufacture and erection of Precast Concrete components for construction projects. The factory is located in ICAD III, Musaffah South, Abu Dhabi.

XIP started its journey in the precast industry in 2010 and is fully committed to become an industry leader in the arena of fast changing precast technology systems by embarking on modern and sophisticated technology.

The production facility in ICAD III was built in an area of 140,000 m<sup>2</sup> of land and is equipped with a modern precast concrete production facility that incorporates hollow-core slab production plants, as well as circulated line modules, equipments and machinery for production of wall frame building systems, framed structural systems (columns and beams) and boundary walls.

Our product portfolio covers a wide range of products based on the latest know-how of precast technology. Our efficient and experienced team of professionals and state of the art production facilities enables us to offer our customer's standards as well as custom-made products. We are committed to expand and enhance our product portfolio and meet the expectations and requirements of our clients.

In addition to the state of the art production facilities, XIP has an in-house Design Department with highly qualified Design Engineers with well-established experience and expertise in the precast concrete industry and are able to provide every level of service in-house.



# WHY PRECAST CONCRETE?

Precast concrete products can be modulated in the structures or systems of any size, shape and produced in a controlled environment. They exhibit high quality and uniformity. Precast concrete products are durable and according to recent research, they can provide a service life in excess of 100 years.

Custom-designed precast elements offer flexibility in shape and size with a variety of surface finishing and colors. They promise a world of creative possibilities in application and design, thus offering an abundance of choice for Architects and Engineers to create a building unique in character and of exceptionally high quality.

Precast architectural concrete is perfectly suited for complicated geometric shapes and form which would otherwise prove to be either impossible or prohibitively expensive in traditional method of construction. Precast concrete elements are quick and easy to erect, saving 15–20% of construction time compared with normal cast in-situ construction. This means saving on administration as well as building site organization costs.

XIP's fast building, modern and up to date technology systems can ensure and provide clients, customer and consultants all benefits related to precast concrete products. XIP's precast products involve minimal maintenance since they are produced in a safe, controlled and exceptionally high quality environment. A simple wash down is sufficient to keep it looking at its best.

## HOLLOW CORE SLABS

XIP's hollow-core slabs are prestressed concrete elements, primarily used as floor slab and roof deck system. Hollow Core Slabs are fast and economic method of suspended floor and roof construction system which have been used successfully in all types of buildings such as housing, villas, offices, schools, mosque, clinics, industrial building, car park and others.



# XIP PRODUCTS

## PRECAST PRODUCT RANGE

- » Floor and Roof Elements
- » Beams and Columns
- » Internal and External Walls [load-bearing & non load-bearing]
- » Cladding and Façade panels
- » Stairs, Parapets, Vertical Shafts
- » Boundary Wall Elements
- » Concrete Poles [for transmission lines]
- » Road Barriers / Manholes / Water Tanks / Foundations
- » Balconies
- » Pre-stressed extruded Hollow-core Slabs / Walls
- » Glass Fibre Reinforced Concrete [GRC]
- » Architectural Concrete Arches or Decoration Designs
- » Customized Precast Elements

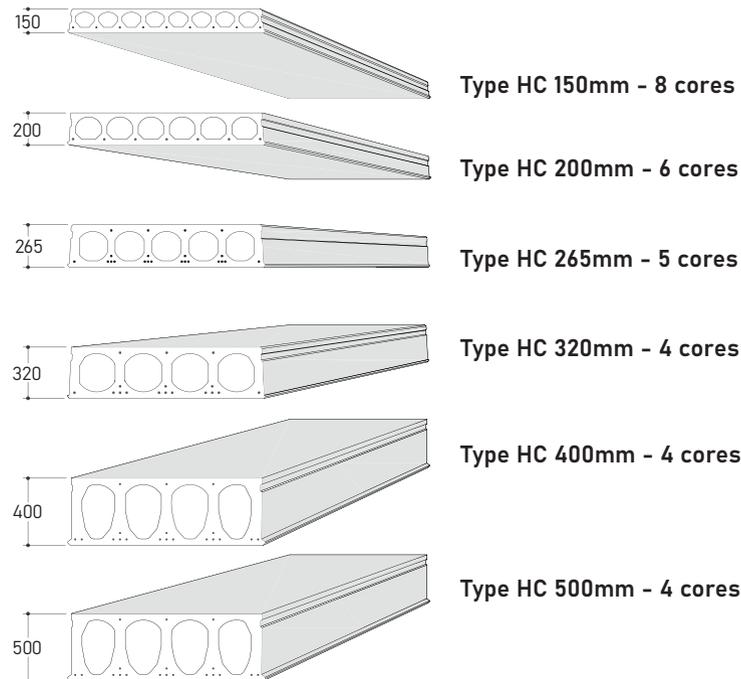


## THE CONCEPT

Produced by extrusion of high quality on continuous casting beds and prestressed to calculated design requirements, **Hollow Core Slabs** are capable of spanning up to 17.6 meters giving rapid construction of suspended floors and roofs without the need for any framework. The hollow cores running through the length of the slabs reduce the self-weight and economize the material content. Within their strains imposed by loading, slabs may be cut to any length and can support loads up to 55kN/m<sup>2</sup>.

## HOLLOW CORE SLAB TYPES

The casting of slabs is performed by the Nordimpianti Extruder Machines, commonly used worldwide. **Xtramix's standard Hollow Core Slabs are prestressed, extruded elements that spans up to 17.6 meters** has the following thickness and cores:



This is the best method of suspended flooring which can provide a faster and cheaper solution for your suspended requirements.

## DESIGN

In general, Hollow Core Slabs are designed as simply supported, prestressed concrete members to ACI-318 M. They are connected to each other through the in-situ grouting of the joints and anchored to the supporting structure by tie reinforcement. In this respect, the Hollow Core Slab can be integrally built into the structures and can thus act as a rigid diaphragm capable of transmitting lateral forces when determining slab types to be used. These include fire resistance, loading and span.

## FLEXIBLE DESIGN WIDTHS

The standard modular width of Hollow Core Slab is 1.2 meters which must be taken into account when determining the dimensions of the building and location of staircase and lift shafts. If the width is over or under an exact number of slabs, XIP is capable of producing slabs available in various widths to suit your requirements. However, 1.2 meters un-cut slabs are most economical.

## FIRE RESISTANCE

The fire protection value is determined by the amount of concrete cover given to the prestressing strands and cores. Using XIP's standard section, up to two-hour fire resistance can be achieved.

## ADVANTAGES OF HOLLOW CORE SLABS

Some of the biggest advantages of the Hollow Core Slabs are the very high quality, reduced weight and speedy delivery and installation. Benefits and other advantages are:

- Fast and easy to install or erect with no propping required to obstruct other works
- No positive deflection for normal dead load
- Longer span and greater loads than conventional slab
- More open space for the clients

### PRECAST HOLLOW CORE SLABS

Element ID	Thickness (mm)	Max Span (m)	Max no. of Strands	Weight/LM Meter/Kg
HCS 150	150	6.00	9	270
HCS 200	200	8.00	7	291
HCS 265	265	10.00	13	354
HCS 320	320	12.00	17	452
HCS 400	400	14.00	17	515
HCS 500	500	17.00	17	628

\*values are indicative only

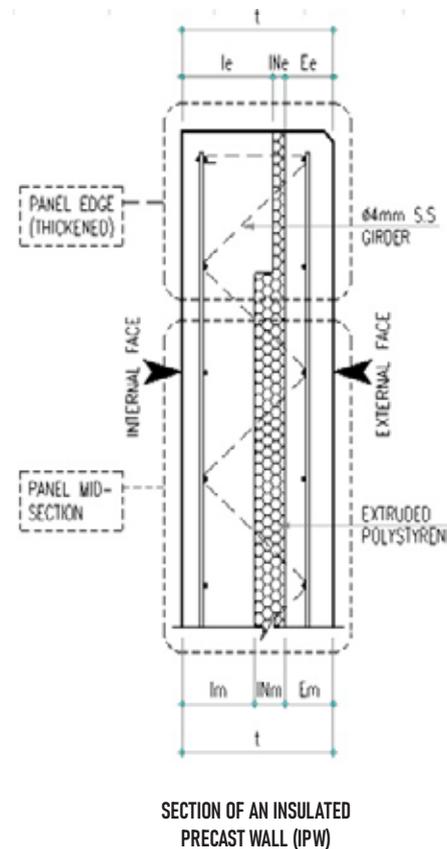
After casting and curing, the slabs are transported to site for installation. The Hollow Core Slab units weight is less than 40-50% compared to conventional reinforced concrete slabs of the same dimensions. The reduced weight results in considerable overall savings in construction costs. With the reduced weight, the structural frame can be of lighter construction, which again means reduced dimensions of the foundations. XIP's Hollow Core Plant has 12 beds and 8 Hollow Core modules and hence can offer a range of floor slab depths, depending on the project requirements. XIP's experienced structural engineering is always at your service, to assist and advise you on all matters related to the design and specification of the Hollow Core Slab and project cost effectiveness.

### XIP PRECAST PANELS

Precast Concrete Panels have been widely used all over the world and are mostly used in villas, hotels, offices, industrial and commercial buildings. XIP offers a wide variety of Precast Concrete Panels, which are divided into the following categories:

- Insulated Sandwich Panels
- Solid Panels
- Cladding Panel

Where effective thermal and acoustic control is needed, **Insulated Sandwich Panels** can be used both as cladding panels and load bearing panels with or without architectural shapes and finishes. The panels are designed for horizontal wind pressure as well as dead loads and live loads. XIP produces **Sandwich Panels** with standard thickness ranging from **200mm to 320mm**. The external skin has a minimum of 60mm thickness and the insulation thickness ranges from 20mm to 110mm. However, any thickness can be produced, if required, depending on the project requirements.



### INSULATED WALL PANEL THERMAL & ACOUSTIC PROPERTIES

Thermal and acoustic requirements for different classes of building vary considerably and often a governing design requirement in modern building today. The most effective means to stop acoustic vibration is to have physical gap on the concrete as they do not have a medium to transmit the frequency. As a guide, the following values are expected for a single or double-skin wall element:

- Grade II Residential Urban and Suburban
- Wall STC 52 (Sound Transmission Class)
- Assemblies IIC 55 (Impact Insulation Class)

Mass is the greatest influence on the response of wall sound. The heavier a wall or partition, the greater the sound insulating it can provide to increase of energy required to set in motion.

PRODUCT NAME	Wall Thickness (mm)							W/m <sup>2</sup> k	Btu/°F ft <sup>2</sup> h
	Total (t)	Internal Skin		Insulation		External Skin			
		Mid (I <sub>m</sub> )	Edge (I <sub>e</sub> )	Mid (IN <sub>m</sub> )	Edge (IN <sub>e</sub> )	Mid (E <sub>m</sub> )	Edge (E <sub>e</sub> )		
IPW 230/110	230	60	120	110	50	60	60	0.281	0.049
IPW 240/110	240	70	130	110	50	60	60	0.280	0.049
IPW 250/110	250	80	140	110	50	60	60	0.280	0.049
IPW 260/110	260	90	150	110	50	60	60	0.280	0.049
IPW 270/110	270	100	160	110	50	60	60	0.279	0.049
IPW 280/110	280	110	170	110	50	60	60	0.279	0.049
IPW 290/110	290	120	180	110	50	60	60	0.278	0.049
IPW 300/110	300	130	190	110	50	60	60	0.290	0.051
IPW 220/100	220	60	110	100	50	60	60	0.310	0.055
IPW 230/100	230	70	120	100	50	60	60	0.310	0.055
IPW 240/100	240	80	130	100	50	60	60	0.310	0.055
IPW 250/100	250	90	140	100	50	60	60	0.310	0.055
IPW 260/100	260	100	150	100	50	60	60	0.310	0.055
IPW 270/100	270	110	160	100	50	60	60	0.309	0.054
IPW 280/100	280	120	170	100	50	60	60	0.309	0.054
IPW 290/100	290	130	180	100	50	60	60	0.308	0.054
IPW 300/100	300	140	190	100	50	60	60	0.308	0.054
IPW 200/60	200	70	100	60	30	70	70	0.488	0.086
IPW 220/60	220	90	120	60	30	70	70	0.485	0.085
IPW 250/60	250	110	140	60	30	80	80	0.482	0.085
IPW 270/60	270	130	160	60	30	80	80	0.479	0.084
IPW 300/60	300	160	190	60	30	80	80	0.475	0.084

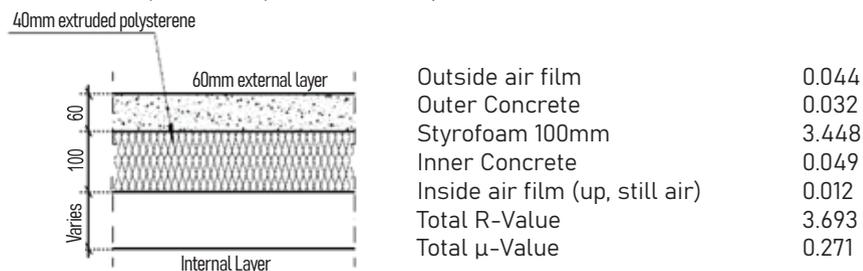
\*values are indicative only

**Thermal Insulation** became very important due to heating and cooling energy costs over the life of a building. One of the most important properties in determining insulating characteristics of a building is the thermal mass. The most effective principle is to insulate the thermal mass from the extremes of the environment.

For this reason, **Xtramix Precast Insulated Wall System** satisfies most building class requirements as its **Sandwich Panels** are produced with **60mm thick outer layer of concrete, a central core of foam insulations and varying thickness of inner layer depending on the requirements**. These layers are held together by a shear connector or metal ties with reasonable resistance to minimize the effect of thermal bridging.

**R-value** may be defined as a material conductivity divided by its thickness and given the following metric units: **m<sup>2</sup>K/W**.

A solid concrete of 2400kg/m<sup>3</sup> has a thermal conductivity of 1.85W/mK. The average thermal conductivity of a styrofoam is 0.0285W/mK ( $\mu$  value). The heat transmittance of a wall must be that such temperature will not fall below the dew point temperature air to prevent condensation on the interior surface. The thermal resistance of XIP's Precast Insulated Walls are made up of 90/100/60 (inner concrete/insulation/outer concrete):



### Types of Solid Panels

- Load Bearing Wall Panels (150mm, 180mm, 200mm, 250mm & custom thickness)
- Non-Load Bearing Wall Panels (100mm & 120mm)

These can be used for interior and exterior panels. The same advantages of cladding panels can be achieved in case of producing exterior panels. For Load bearing panels, the basic structural requirements are to be fulfilled for transferring horizontal and vertical forces. **Load bearing panels** can be designed to act as shear walls also thus, eliminating the need to resize the columns and beams for lateral forces as a standard. Xtramix produces 100mm and 120mm thick non-load bearing wall panels and 150, 180, 200, 250mm thick load bearing wall panels. However, any thickness can be produced, if required.

**Cladding Panels** are non-load bearing architectural panels which fulfill aesthetic and decorative purpose in the façade. These panels are designed as individual panels taking into consideration the wind load and self-weight only. The panels are produced in controlled and high quality environment. Custom-made steel moulds are used to produce the panels in exact sizes and shapes specified by the designer. Moreover, specific color effects can be achieved by varying aggregates, cements, pigments and different surface treatment. Xtramix produces cladding panels in a variety of shapes, textures and colours in order to fulfill customer's architectural and aesthetic tastes and requirements.

### Benefits and Advantages of using Xtramix Precast Cladding Panels:

- Various and distinctive finishes can be provided
- No requirements for expensive form work and scaffolding
- Architectural and aesthetic tinge can be applied without affecting the structural integrity of precast element
- Short construction period and low maintenance cost
- High quality produced under stringent production control
- Less manpower to construct the work



## STRUCTURAL DESIGN

Xtramix is committed to provide flexible value for money and sound structural precast elements. Prior to the manufacturing of any precast elements, an engineering solution is conceptualized to meet project the requirements. Structural design analysis complies with the international standard codes of practice in precast concrete design such as PCI20, BS 8110 and ACI 318. Internal control and check is a procedure in design department composed of Draughtsman, Detailer and Design Engineers. We provide standard drawings of general arrangement, shop drawing structural calculations and other detailed drawings as may deem necessary. All documents are controlled and follows our company standard library system for easy referencing. To ensure the most optional and economical solution of each individual project, Xtramix's early involvement in the design phase will ensure considerable time and cost saving.

## COLUMNS AND BEAMS

Xtramix's latest innovative technology and highly experienced design team can offer our customers a wide range of standardized, as well as customized design solutions related to the structural components of the buildings such as beams and columns. Standard beam cross sections include the following:

- Rectangular Beam
- I-beam
- Inverted T-beam
- L-beam
- Column cross sections (rectangular and circular columns)

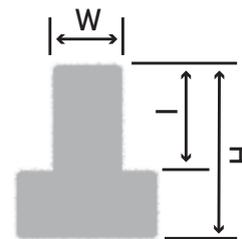
### Advantages and benefits of Precast Beams and Columns

- Fast erection of precast beams and columns
- Cost-saving and inexpensive shuttering or manpower
- Flexibility with design as various section is available
- Prestressed beams enable large span hence allowing space inside the building
- High quality products produced under stringent production control

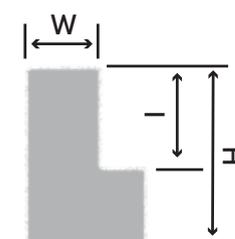
Whether the beams and columns are standardized or customized, Xtramix's skilled and experienced professional staff is able to produce the products up to the requirements and expectations of the customers.



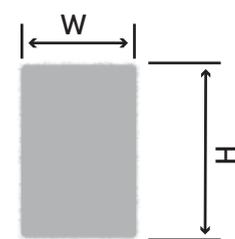
### TYPES OF COLUMNS & BEAMS



T-BEAM



L-BEAM



RECTANGULAR BEAM

## STAIRS

Precast staircase is widely used in villas, offices and commercial buildings including high rise structures. Using XIP's precast concrete stairs flight and landing is the most economical, proficient and professional way of building staircases in today's fast-changing modern method of construction. XIP's stairs flight and landing is the best solution in an easy access in construction, providing unobstructed and safe access throughout the building structures. XIP's precast stairs system provides possibilities for a wide range according to project requirements. Various landing configuration, with independent and landings or monolithing landings.

### Advantages of Precast Stairs

- **COST EFFECTIVE**, speeds up construction, shipped on demand for immediate installation
- **DURABLE**, long lasting construction with low life cycle costs
- **MAINTENANCE FREE**, doesn't rot, rust or burn
- Precast stairs are more accurate and comfortable in using since all risers on flights are of the same height design configuration
- Projects are designed and coordinated by our professional engineering staff
- Manufactured to meet your needs on state-of-the-art steel moulds system
- Various landing configuration with various non-slip nosing option



PRECAST STAIRCASE



PRECAST STAIRCASE

## GLASS FIBER REINFORCED CONCRETE

Glass Fibre Reinforced Concrete (GRC) is another proud addition to the Xtramix's extensive list of product portfolio. Our talented and dedicated GRC Team are capable to produce "master pieces" of product marvel to exceed our client's sophisticated imagination of artistic and aesthetic decor.

### Our range of GRC Products

Cladding panels	Decorative screens
Cornices	Domes
Architectural moulding	Coping
Arches	Capitals
Ornamental works	Columns



GLASS REINFORCED CONCRETE (GRC)

## BOUNDARY WALLS

**Precast Boundary Wall System** offer a variety of purpose which includes but not limited to:

- Distinguish and define the plot limit
- Privacy and Security of the villas
- Offices and Industrial Factories and Farms

**Precast Boundary Wall System** offers a high quality system, low maintenance product with great flexibility in design and features and can be custom-made design to meet the individual project requirements in terms of dimensions, design features, shapes and colours, etc.

At Xtramix, walls are constructed of precast concrete for unmatched durability and consistent quality. Our proprietary vertical system design out performs traditional cast methods by dramatically improving product quality and functionality while actually reducing production and installation costs. You'll receive a moulded stone pattern on both sides of the wall with the look and feel of real masonry at a fraction of the cost.

Beauty aside, Xtramix's products are also more durable than wood, vinyl or even brick or block walls. Our seamless solid panel design provides structural strength and security that will last for decades. Moreover, Xtramix's walls can be engineered to meet the building code requirements of any area. From seismic concerns to hurricane wind loads, Xtramix's walls are designed to endure the harshest conditions and broadest range of climates, quality and functionality while actually reducing production and installation costs. You'll receive a moulded stone pattern on both sides of the wall with the look and feel of real masonry at a fraction of the cost.

### Benefits of using Xtramix's Boundary Wall

- Architectural and aesthetic uniqueness, flexibility in height, shapes, surface finishes, design features and color combination
- Fast construction and installation period
- Low maintenance cost

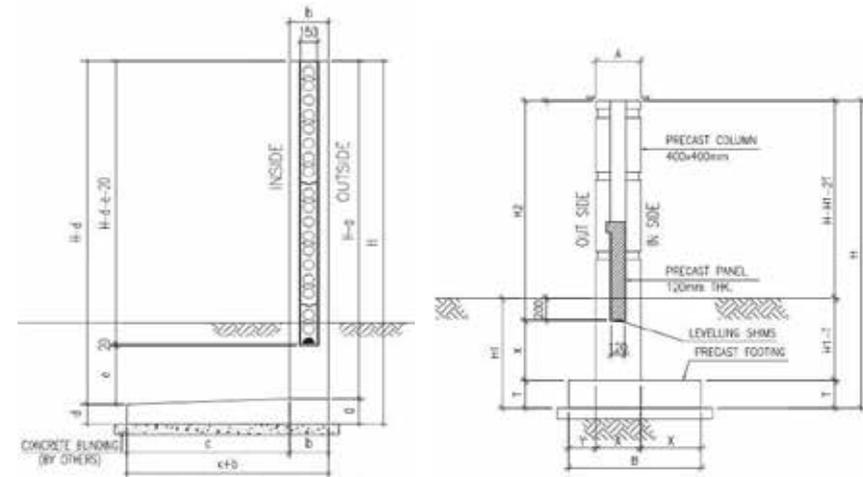
## CLADDING

Our highest standard of workmanship offer cladding panels with the finest textures and profiles to create an impression of natural materials such as marble, granite or brickwork.

Architectural cladding panels can be supplied with a diverse variety of shape and surface finishes such as exposed aggregate, acid treated and sand blasted surfaces.



BOUNDARY WALL



TYPICAL SECTION OF A  
BOUNDARY WALL - TYPE 1

TYPICAL SECTION OF A  
BOUNDARY WALL - TYPE 2

# XTRAMIX LOCATIONS





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