

PPVC · PRECAST MANUFACTURING · SOUTH AFRICA

MANUFACTURE & INSTALLATION

BUILT FASTER. BUILT BETTER. BUILT TO LAST.



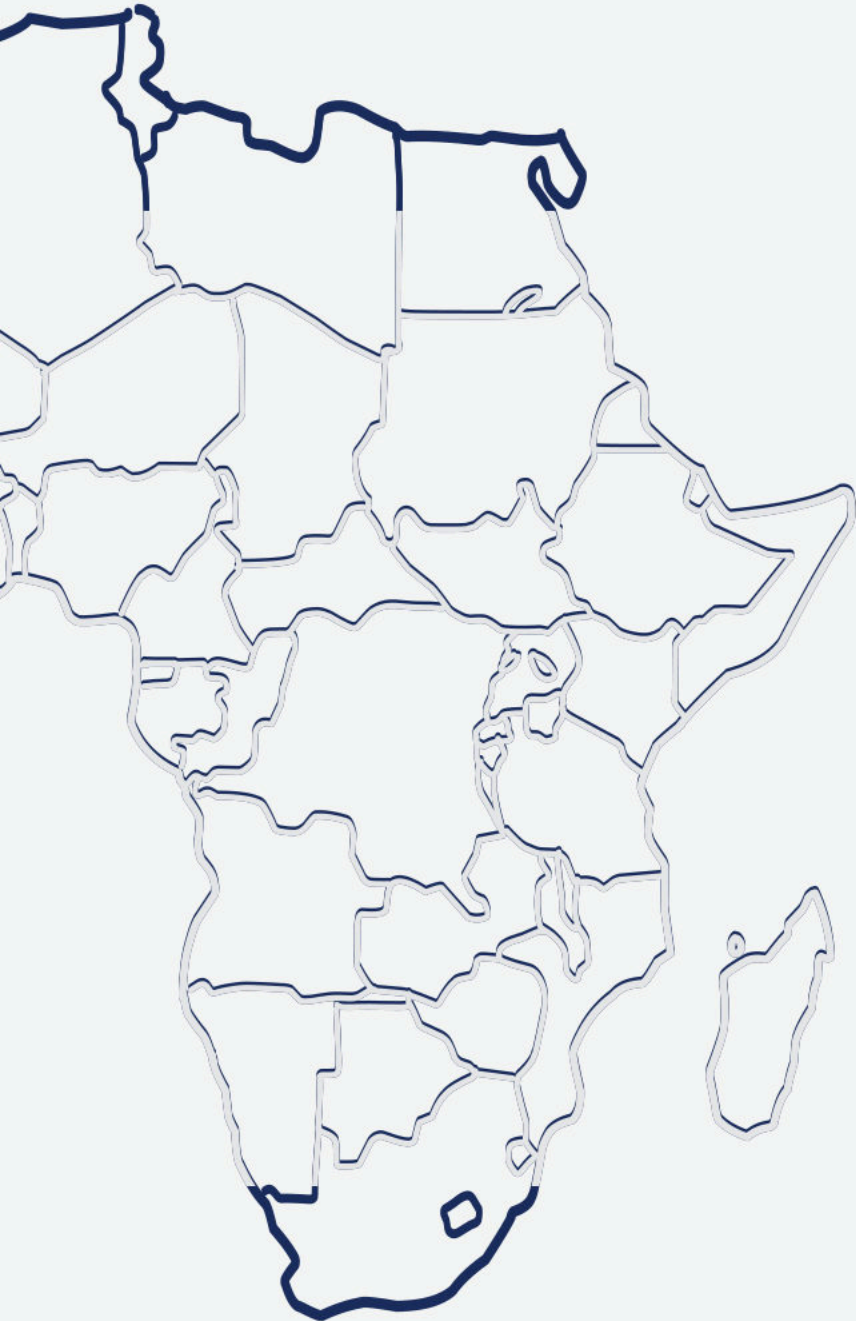
PRECAST AFRICA
VOLUMETRIC BUILDING SYSTEMS

PRECAST AFRICA

TRANSFORMING CONSTRUCTION ACROSS AFRICA

Precast Africa is a South African precast manufacturing and industrialised-construction company. We cast complete reinforced-concrete room modules — prefabricated prefinished volumetric construction (PPVC) — under factory control, install and test their first-fix services indoors, then deliver and crane them into place through one accountable team.

PRECAST MANUFACTURING FOR THE CONTINENT **THAT NEEDS IT MOST.**



NOT A DESIGN PROBLEM. A CAPACITY PROBLEM.

South Africa does not have a housing design problem. It has a delivery capacity problem. Backlogs are not caused by a shortage of drawings — they are caused by fragmented site labour, weather-exposed programmes, uneven quality, and cost that escalates the longer a project stays open.

THE SHIFT

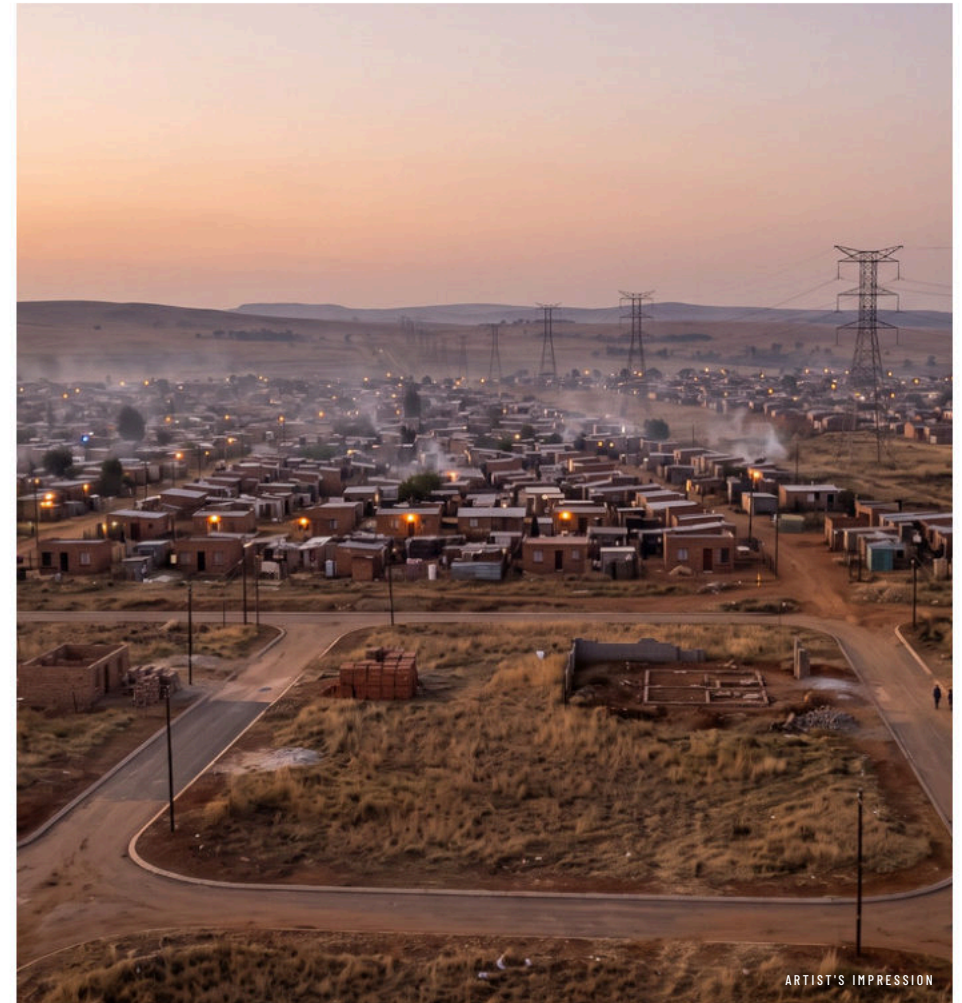
Most of the build moves indoors

ONE OPERATION

Structure, finish, services and openings cast together

THE SITE

A foundation and an assembly sequence



ARTIST'S IMPRESSION

4+1

MONOLITHIC · FOUR WALLS + ROOF

2

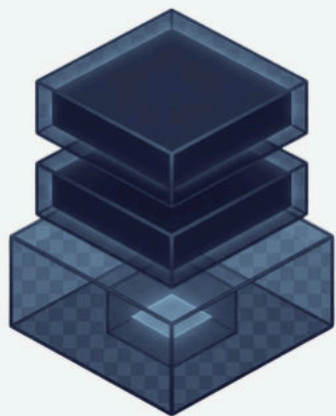
HYDRAULIC 3D MOULD LINES

30 T

LIFTING-FRAME CAPACITY

1/DAY

CAST CYCLE PER MOULD



01

Volumetric precast manufacturing

MONOLITHIC ROOM MODULES, CAST IN ONE POUR

Four walls and a roof cast as a single reinforced-concrete volume on hydraulic 3D mould lines – PPVC precast manufacturing to a fixed and repeatable cycle.

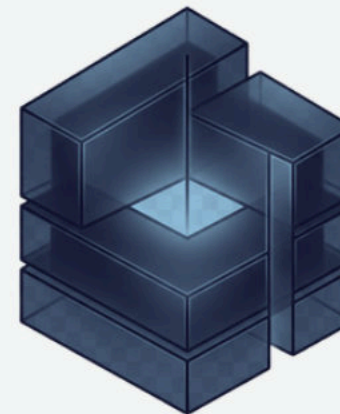


02

Factory completion

PRODUCT-SPECIFIC FIT-OUT UNDER FACTORY CONTROL

Services, wet areas, joinery and finishes installed indoors against a fixed scope matrix, with inspection hold points before release.



03

Construction and installation

FROM CERTIFIED SITE READINESS TO COMMISSIONED BUILDING

Foundations, bulk services and conventional works, then transport, lifting, placement, connection, testing and handover.

INDUSTRIAL CAPACITY. PROVEN EQUIPMENT.

Two hydraulic 3D modular moulds, a hydraulic power and control unit for each, pneumatic compaction, a 30-tonne lifting frame and a horizontal staircase mould — supplied by Moldtech S.L. of Seville, a thirty-year precast equipment specialist operating under ISO 9001 with clients in more than sixty countries. Not a prototype line: proven European production equipment, specified to Precast Africa's module geometry and built to run a continuous daily cycle.

EQUIPMENT ORIGIN

Moldtech S.L. · Seville, Spain

CASTING

Single monolithic pour

DEMOULDING

Fully hydraulic, collapsible core



ARTIST'S IMPRESSION

2

HYDRAULIC 3D MODULAR MOULDS

1

HORIZONTAL STAIRCASE MOULD

30 YR

SUPPLIER TRACK RECORD

60+

COUNTRIES SUPPLIED

01 - THE SYSTEM

**ONE ROOM,
CAST WHOLE.**

MADE COMPLETE. BUILT TO LAST.

Every Precast Africa building starts as a room cast in a single piece of reinforced concrete — four walls and a roof in one pour, the PPVC method — then fitted out indoors and assembled on site. You get a building that goes up faster, looks the same on every unit, and is engineered to last for decades.

WHAT IT IS

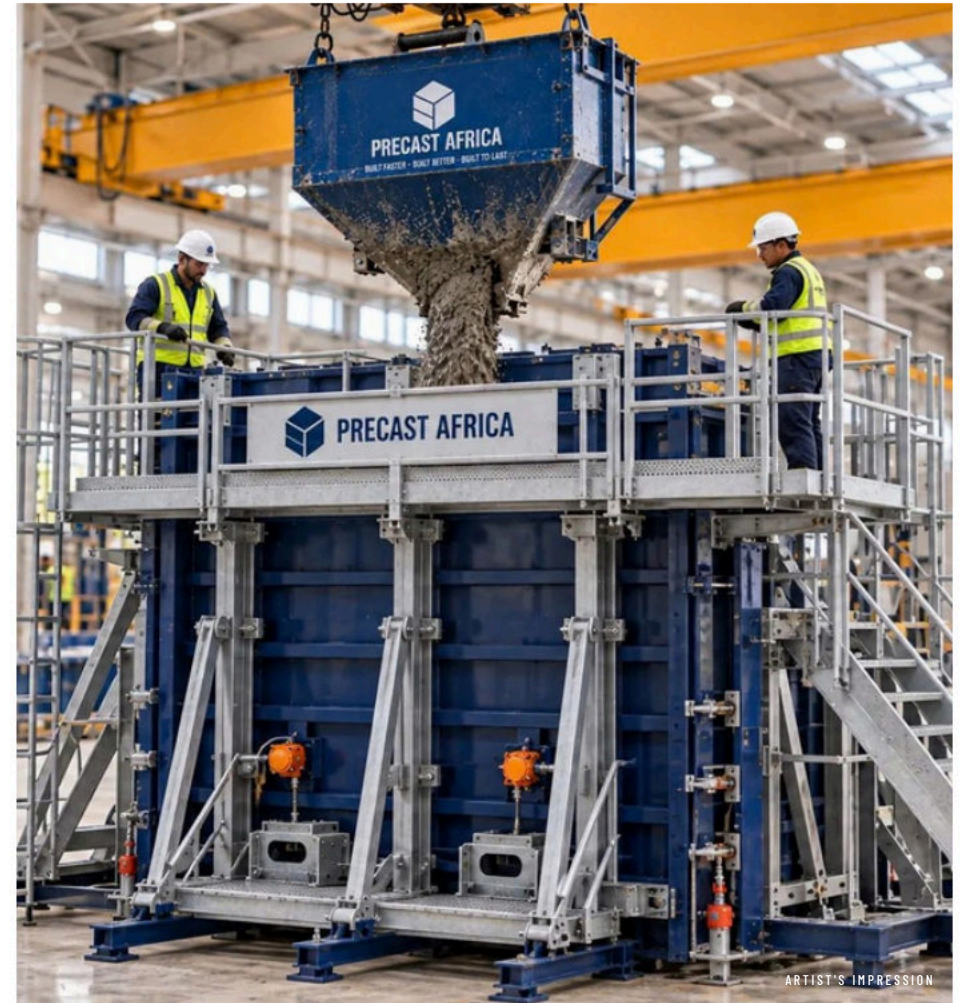
PPVC · Volumetric precast concrete

HOW WE DELIVER

Design-and-build or supply-and-install

WHERE

South Africa · SADC on programme enquiry



ARTIST'S IMPRESSION

40%

FASTER DELIVERY VS IN-SITU

90%

OF CONSTRUCTION OFF-SITE

90%

LESS CONSTRUCTION WASTE

100+YR

ENGINEERED DESIGN LIFE

ONE POUR. NO JOINTS TO FAIL.

The Core module is the room itself — a monolithic reinforced-concrete volume with straight, non-tapered walls and an integral roof.

Door and window openings are formed in the mould rather than cut afterwards. Every development model is assembled from the same two cast volumes — one for habitable space, one for vertical circulation — so the system that builds a guardhouse also builds a walk-up block.

GEOMETRY

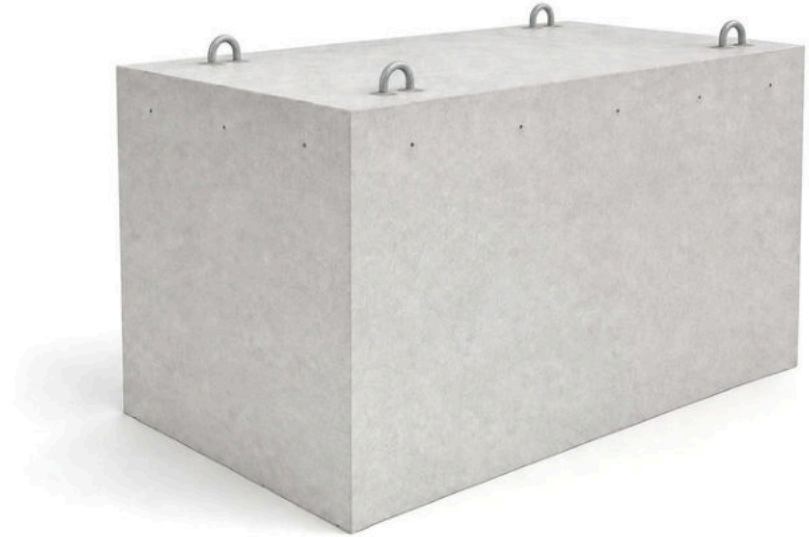
4 walls + roof

WALL PROFILE

Straight, no draft

OPENINGS

Cast in the mould



ARTIST'S IMPRESSION

6.05M

LENGTH

3.25M

WIDTH

3.035M

HEIGHT

≈19.7M²

FOOTPRINT

1 per day

CAST CYCLE PER MOULD



ARTIST'S IMPRESSION

MODULE

The closed shell — four walls and roof as one reinforced volume.



ARTIST'S IMPRESSION

DOOR + WINDOW

Openings set by shutters in the mould for each scheduled layout.



ARTIST'S IMPRESSION

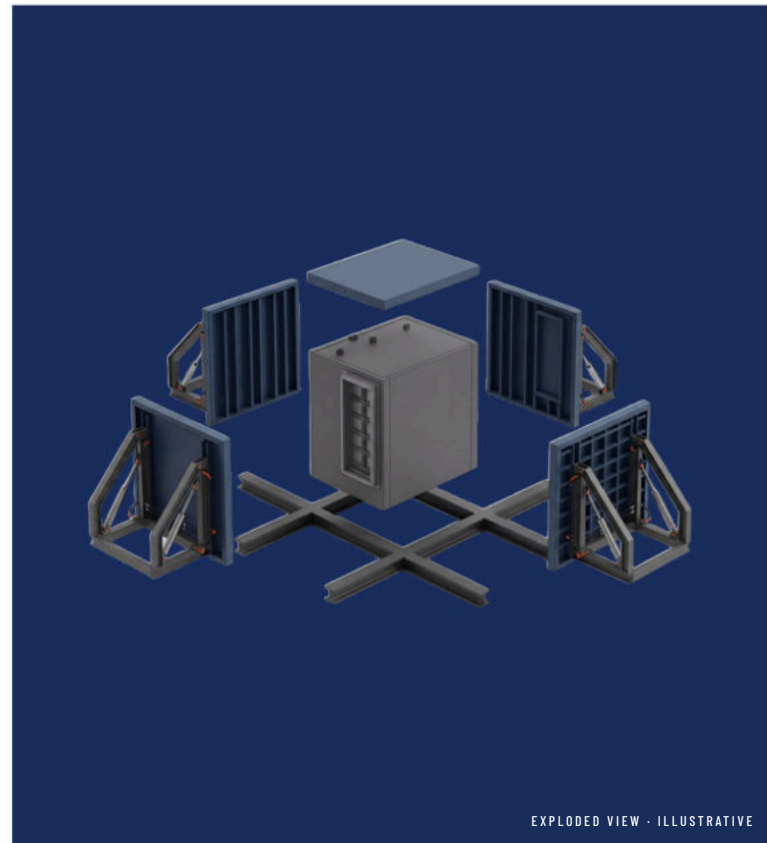
GLAZED FRONT

A full-width opening for living rooms, shopfronts and offices.

DIMENSIONS NOMINAL - CONFIRMED AT DESIGN FREEZE FOR EACH SCHEME

FIVE ELEMENTS. ONE ENGINEERED ENVELOPE.

A volumetric module cannot have tapered walls, so every part of this assembly exists to release the cast piece cleanly.



01

Top deck formwork

Closes the roof slab. Cast integrally with the walls — no cold joint at the wall-roof junction.

FUNCTION
Integral roof slab

02

Hydraulically collapsible inner core

The critical element. Retracts hydraulically at each corner to release the cast piece without damage.

FUNCTION
Straight walls, no draft angle

03

Exterior side panels

Rib-stiffened steel faces on guided rails. Opened and closed hydraulically; locked transversely before pouring.

FUNCTION
Dimensional control of every face

04

Hydraulic actuation

Double-acting cylinders on A-frame supports. Stroke sized for full access during cleaning and reinforcement.

FUNCTION
Repeatable open-close cycle

05

Base structure

Welded frame on levelling plates, carrying the panels and inner core in permanent alignment.

FUNCTION
Permanent alignment of the assembly

SAME MOULD. DIFFERENT ROOMS.



ARTIST'S IMPRESSION



ARTIST'S IMPRESSION



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ARTIST'S IMPRESSION

01

Living module

Open end, full-height glazing. One short end is left open in the mould for a glazed sliding door to a garden, patio or balcony.

02

Bedroom module

A closed volume with a punched window and an internal door opening. Concrete on every side gives acoustic and fire separation, subject to final design.

03

Wet-core module

Bathroom and kitchen zones with first-fix plumbing and electrical installed and tested under factory conditions.

04

Entrance module

A front-door opening with a side light and a window on the short end. Placed at the front of a terrace or the end of a block.

05

Corner module

A wrap-around opening across one corner opens the room to two views. Subject to structural design; confirmed at design freeze.

06

Staircase unit

One flight, two landings. Cast in a separate horizontal mould and installed between stacked modules. Dimensions confirmed during design.

ONE MODULE FAMILY. MANY HOMES.

ASSEMBLY LOGIC

Buildings change by count and arrangement.

Every module shares one height and one structural logic. A building changes by how many modules it uses and how they are arranged — not by re-engineering the production line.



ARTIST'S IMPRESSION

01

Three modules, one home.

SINGLE STOREY · TWO BEDROOMS

Bedroom, living and bedroom modules side by side: a single-storey two-bedroom home of about 52–55 m², as set out in the 2026 residential models.

- Bedroom + living + bedroom modules
- Wet core fitted in the factory
- Crane-placed on prepared foundations
- Areas confirmed at design freeze



ARTIST'S IMPRESSION

02

Four modules, two storeys.

DOUBLE STOREY · LINKED BY A STAIRCASE UNIT

Two modules wide, two high, linked by a staircase unit: the structural shell of a double-storey townhouse.

- Two modules wide, two modules high
- Precast staircase unit between levels
- Same mould, same structural logic
- Structural shell shown; finishes per scheme

FIVE VOLUMES. SEVENTEEN BUILDING TYPES.

Every module shares one height and one structural logic. Buildings change by how many modules they use and how they are arranged — not by re-engineering the production line.

MODULE	L × W × H	TYPICAL USE
Standard module	6.05 × 3.25 × 3.035 m	Bedrooms, en-suite rooms, consulting rooms, classrooms (×3), offices — the room that repeats.
Wide module	6.05 × 4.25 × 3.035 m	Column-free bays — open-plan offices, line shops, control rooms, QC rooms and locker rooms.
Wet-core module	6.05 × 3.25 × 3.035 m	Kitchens, bathrooms, showers and ablutions — services installed and pressure-tested in the factory.
Half module	3.0 × 3.25 × 3.035 m	Kiosks, ablution and rest rooms, generator enclosures and plan adjustments.
Stair / circulation core	6.05 × 3.25 × 3.035 m	Vertical circulation for walk-ups, student residences and mixed-use blocks.

HOW THE MODELS DRAW ON THE FAMILY

BUILDING ELEMENT	MODULE BILL	INTERNAL AREA
One-bedroom walk-up home	2 modules	±35 m ²
Two-bedroom walk-up home	3 modules	±52 m ²
Three-bedroom walk-up home	4 modules	±70 m ²
Student en-suite room	1 module	19 m ²
Classroom	3 standard modules	59 m ²
Line shop	2 wide modules	51 m ²
Office floorplate	8 wide + 2 standard	245 m ²
Guardhouse with ablution	1 standard + 1 half	19–40 m ²

AREAS AND DIMENSIONS INDICATIVE · CONFIRMED AT DESIGN FREEZE FOR EACH SCHEME

VERTICAL CIRCULATION, CAST THE SAME WAY.



ARTIST'S IMPRESSION

PRECAST STAIRCASE

One mould, multiple stair geometries.

An adjustable horizontal mould casts a full flight with two landings. Tread and riser are set on guided step formers; width is adjusted with magnet-fixed side boards. One mould serves multiple stair geometries across a scheme.

PARAMETER	VALUE
Steps	Up to 16
Going	0.25 m
Riser	0.17 m
Landings	2 × 1.2 m

HANDLING AND LIFTING

30 t rectangular lifting frame.

A rectangular spreader frame rated to 30 tonnes handles the module from mould to yard to transport without racking the piece — the most common cause of hairline cracking in volumetric precast.



ARTIST'S IMPRESSION



PRECAST AFRICA

BUILT FASTER • BUILT BETTER • BUILT TO LAST

THE PLANT

ONE MODULE. ONE MOULD. ONE DAY.



01 Preparation

Mould cleaned, release agent applied, shutters set for the scheduled openings.



02 Reinforcement and inserts

Cage placed, cast-ins, service conduits and lifting anchors positioned and checked against the frozen drawing.



03 Closing

Outer panels closed hydraulically on guided rails and locked transversely; core expanded to position.



04 Pouring and compaction

Single monolithic pour, compacted pneumatically at 13 000 VPM across approximately 22 independent vibrators.



05 Demoulding

Core corners fold inward first, breaking contact with all four wall faces simultaneously, then the outer panels open.



06 Extraction

The module is lifted clear on the 30-tonne rectangular frame, inspected, released and moved to fit-out or yard.



ARTIST'S IMPRESSION

02 — THE PRODUCTION PLATFORM

HYDRAULIC 3D MOULDS. A FIXED, REPEATABLE CYCLE.

COLLAPSIBLE INNER CORE

The core retracts at each corner to release straight, non-tapered walls without dragging the concrete — the operation that makes a genuinely monolithic unit possible.

GUIDED OUTER PANELS

Exterior panels close hydraulically on guided rails with a working platform, and lock transversely before the pour.

PNEUMATIC COMPACTION

Approximately 22 independent vibrators compact a single monolithic pour at 13 000 VPM.

MOULD

4 walls + roof · 6.05 × 3.25 × 3.035 m

CYCLE

One module per mould per production day

HANDLING

30 t rectangular lifting frame

TWO MOULD LINES. RUNNING IN PARALLEL.

A controlled, gantry-served bay: rail-guided panels, level anchored bases, clear crane access and a fixed circulation route from reinforcement bay to casting position to dispatch. The figures below are illustrative capacity, not a contracted output.

OUTPUT BASIS

Two moulds · single shift · 250
production days

UPSIDE LEVERS

Accelerated curing · a second shift

SCALE PATH

Add mould lines — no re-
engineering of the plant



2

MODULES PER DAY

500

MODULES PER YEAR

≈9,800 M²

MODULE FOOTPRINT PER YEAR

250

DWELLINGS AT TWO MODULES EACH

EQUIPMENT SCHEDULE. SPECIFIED TO THE MODULE.

Specified to Precast Africa's module geometry and manufactured to order, with a supplier lead time of 12–14 weeks. Base scope per Moldtech S.L. offer RP26-0353, dated 29 July 2026.

BASE SCOPE

ITEM	QUANTITY AND SPECIFICATION
Modular 3D mould	2 units · hydraulic collapsible core; hydraulic outer laterals; modular for dimensional change
Hydraulic control	2 units · dedicated power unit per mould; automated front panel; EU machinery-safety compliant
Pneumatic vibration	2 systems · ≈22 VSP vibrators per mould with pipework and collector
Vibration output	13 000 VPM at 6 bar · centrifugal force 53.10 kN (5 413 kg) · 88 dB(A)
Lifting device	1 unit · rectangular frame, up to 30 t
Staircase mould	1 unit · horizontal casting, up to 16 steps, 2 landings
Lead time	12–14 weeks from order (supplier offer)

MATCHED EXTENSIONS

- Accelerated curing — heating system compresses the cycle
- Opening shutters — bolted and magnetic formwork sets
- Dimensional supplements — cast alternative module sizes
- PPVC configuration — re-adjustment for PPVC modules
- Second shift — lifts utilisation without additional moulds
- Not in base scope — priced separately

WHY THIS MATTERS COMMERCIALY

The plant is a platform, not a fixed-product machine. Module geometry, curing speed and product type can all be changed by adding parts — protecting capital against shifts in demand. Output scales by adding mould lines, without re-engineering the plant.

FINISHED INDOORS. INSTALLED IN A LIFT.



01 · VOLUMETRIC PRECAST

Monolithic room modules, cast in one pour.

Four walls and a roof cast as a single reinforced-concrete volume on hydraulic 3D mould lines — PPVC precast manufacturing to a fixed and repeatable cycle. One team carries every stage from design through to commissioning.

02

Factory completion

PRODUCT-SPECIFIC FIT-OUT UNDER FACTORY CONTROL

Services, wet areas, joinery and finishes installed indoors against a fixed scope matrix, with inspection hold points before release.

- Factory-tested wet cores and ablutions
- Service conduits and sleeves cast in
- Power, lighting and data-ready routing
- Durable, low-maintenance finishes

03

Construction and installation

SITE READINESS TO COMMISSIONED BUILDING

Foundations, bulk services and conventional works, then transport, lifting, placement, connection, testing and handover.

- Site readiness certified before dispatch
- Crane-in, level, align and connect
- Structural and service connections tested
- Commissioned, occupiable building and as-built record

THE FIFTIETH MODULE, HELD TO THE FIRST.

Every module is cast in a steel mould under one inspection regime — and each carries its own production, inspection and installation record.

QUALITY HOLD POINTS

STAGE	EVIDENCE BEFORE RELEASE
Design release	Approved drawings, tolerance and interface schedule, change status
Pre-pour	Mould dimensions, reinforcement and cover, embeds, openings, conduits, lifting points
Cast and cure	Batch ticket, workability, cube specimens, curing record, demould strength
Shell inspection	Dimensions, surface, cracks and repairs, bearing zones; non-conformances closed
First fix	Pressure and continuity tests
Factory acceptance	Comparison with the reference module; punch list closed; mass recorded; module record complete
Site acceptance	Foundation survey, alignment, connection records, seals, service tests

THE MODULE RECORD

- Identity — serial, type, mould, cast date
- Materials — batch tickets, cement source, mill certificates, embeds
- Tests — early-age and 28-day cubes, cover, dimensions, first-fix sheets
- Non-conformances and their close-out
- Installation — position, date, connection record
- Embodied carbon per module

STANDARDS AND FRAMEWORKS

The system is engineered, manufactured and delivered against the South African building, quality and professional frameworks that govern permanent construction.

ISO 9001

SANS

AGRÉMENT SA

NHBRC

CIDB

ECSA · SACAP · SACPCMP

B-BBEE



THE OUTCOME

FOUR THINGS A FACTORY GIVES YOU THAT A SITE CANNOT.



01

Programme certainty

Output is governed by a fixed daily cycle indoors. Delivery dates become schedulable rather than forecast.



02

Repeatable quality

Steel moulds, mechanical locking and controlled compaction produce the same piece every time.



03

Cost predictability

Material, labour and cycle time per module are known before the first unit is cast.



04

Compressed site time

Foundations proceed while modules are cast in parallel. The site reduces to placement and connection.

For developers and contractors

Faster time to revenue and a shorter interest-bearing construction window. Fewer trades, a smaller site footprint and less rework. Precast Africa can supply modules on call-off, or take an integrated design-and-supply role.

For public housing programmes

Volume delivery without a proportional increase in supervision. Consistent, auditable quality across every unit; permanent concrete construction with a long service life; skilled, year-round factory employment.

FIVE STAGES. ONE ACCOUNTABLE PARTY.

Each stage closes at an approval gate. Nothing advances on assumption.



ARTIST'S IMPRESSION

01 Consultation and technical brief

Room schedule, site constraints, programme and budget are tested against what the production system can actually repeat. If volumetric precast is the wrong answer for a scheme, we say so at this stage.

GATE OUTPUT

Qualified brief and product fit assessment

02 Design coordination

Architectural intent is resolved into a module strategy — grid, stacking, service routes, openings and interfaces with conventional works — alongside the design team rather than after it.

GATE OUTPUT

Module strategy and interface schedule

03 Engineering and detailing

Structural design, connections, reinforcement, cast-ins and tolerances are detailed for manufacture and signed by registered professionals. The design is then frozen.

GATE OUTPUT

Frozen production drawings and change baseline

04 Manufacture and quality assurance

Reinforcement, casting, compaction, curing, demoulding and product-specific factory fit-out run to a fixed cycle with recorded hold points.

GATE OUTPUT

Released modules with traceable production records

05 Delivery and installation support

Site readiness is certified before dispatch. Transport, lifting, placement, connections, conventional works, testing and commissioning follow to an agreed sequence.

GATE OUTPUT

Commissioned, occupiable building and as-built record

BUILD THE PIPELINE AROUND THE PLANT.

The most valuable position in modular construction is not owning a mould. It is holding the manufacturing capacity a programme depends on — and structuring long-term offtake around it.



01 Module supply

Manufacture and delivery against a programme call-off schedule. The client's team designs and builds; we supply the rooms.

WHAT WE CARRY

Modules delivered to site

02 Design and supply

Module engineering and optimisation for manufacture, followed by production and delivery.

WHAT WE CARRY

Module design, manufacture and delivery

03 Integrated delivery

Manufacture, transport, placement and connection through to a completed structure, coordinated with conventional works.

WHAT WE CARRY

A completed, connected structure

04 Programme partnership

Long-term capacity commitments and joint-venture structures for multi-phase programmes.

WHAT WE CARRY

Reserved capacity and shared risk

START A PROJECT — CONTACT

BRING US A ROOM SCHEDULE AND A PROGRAMME.

We will tell you honestly whether industrialised delivery improves it, and what it would take to prove that on your scheme.

Start Project

EMAIL

info@precastafrica.com

WEB

precastafrica.com

REGION

South Africa

SADC on programme enquiry

MANUFACTURED WITH PRECISION. DELIVERED BY ONE ACCOUNTABLE TEAM.

IMAGERY: ARTIST'S IMPRESSIONS



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