



ELEVATING BOLDLY ... BLOCK BY BLOCK



Formator
One floor per day



Awards



Level Formator is the exclusive partner MEA of the Russian company "VYBOR" which is one of the leaders in the Russian construction sector and possesses the unique technology of box-unit building. The intellectual property rights are licensed, and items are certified for conformity.

The box-units building structures were developed in Russia back in 1950s and implemented into the large-scale production in late 1960s-early 1970s. Already in 1972, 150,000 m2 of residential space was built with box-units used. In the following years, a large number of buildings to 24 storeys were built with this technology: residential buildings, hotels and recreation centers. Most of these buildings are still used. However, those years low level of technological capabilities equipment limited the usage of this construct type in practice.

The company "VYBOR" has developed an innovative technology based on modernization of obsolete box-unit house building methods. As a result, the improved and unique box-unit house building technology has been created on the basis of high-tech forming machine. The development made an emphasis on the improvement of both technological processes and the box-unit design.

The company launched a new plant for box-unit manufacturing in Voronezh for mass housing construction.

Since its inception, the Company has consistently utilized this technology in complex housing construction, the Company has confirmed high quality indicators and demonstrated excellent competitiveness in the housing market.

Formator Technology Description

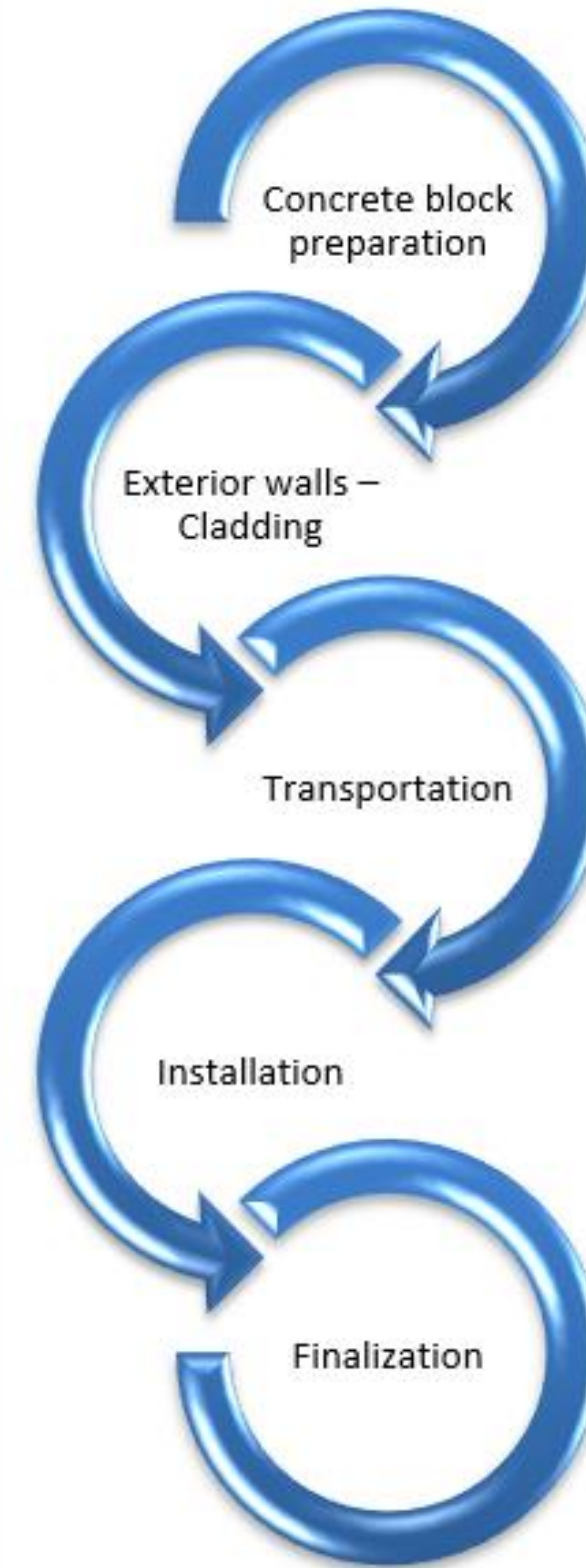
The majority of the work (about 80% of the total labor input) takes place in workshops and lightweight hangars, either permanently or temporarily. These workshops and hangars are equipped with advanced high-tech machinery. They are collectively referred to as "the Plant."

The central technological component is a versatile forming machine that encompasses multiple process operations. This machine enables rapid production, precise geometrical accuracy, and excellent surface quality for finishing. Additionally, it offers the convenience of performing numerous subsequent operations within a comfortable plant environment.

Every forming machine has the flexibility to be adjusted according to specific parameters, such as loads, window and door openings, process openings, and more. This technology enables the construction of various types of structures, including multistorey residential buildings (ranging from 10 to 17 floors), dormitories, hotels, offices, villas, as well as multi-level and standalone garages.



Formator Technology Process





Formator Technology Process



Concrete block preparation:

- Manufacturing of the Reinforcing cage with embedded MEP items
- Loading the manufactured cage into the forming machine, fixing it into the final project position, raising the sides, concrete pouring, and placing to the final position.
- Heating and humidifying, strengthen the concrete.



Exterior walls – Cladding:

- Window-units installation
- Facades installation

The completed blocks are arranged in a modular construction set, allowing for quick and straightforward assembly. These blocks are interconnected by welding the embedded items, meaning that only the building structure assembly and finishing work need to be carried out on-site. With high geometric accuracy and well-designed docking points, all elements of the house, including facade structures, perfectly align with each other, ensuring a seamless integration.

Formator Technology Advantages

01

Flexibility

Each forming machine can be transformed for the specified parameters taking into account the loads, window and door openings, process openings, etc.

The technology allows to setup of multistorey residential buildings (10, 17 floors), dormitories, hotels, offices, villas, multi-level and stand-alone garages.

02

Mobility

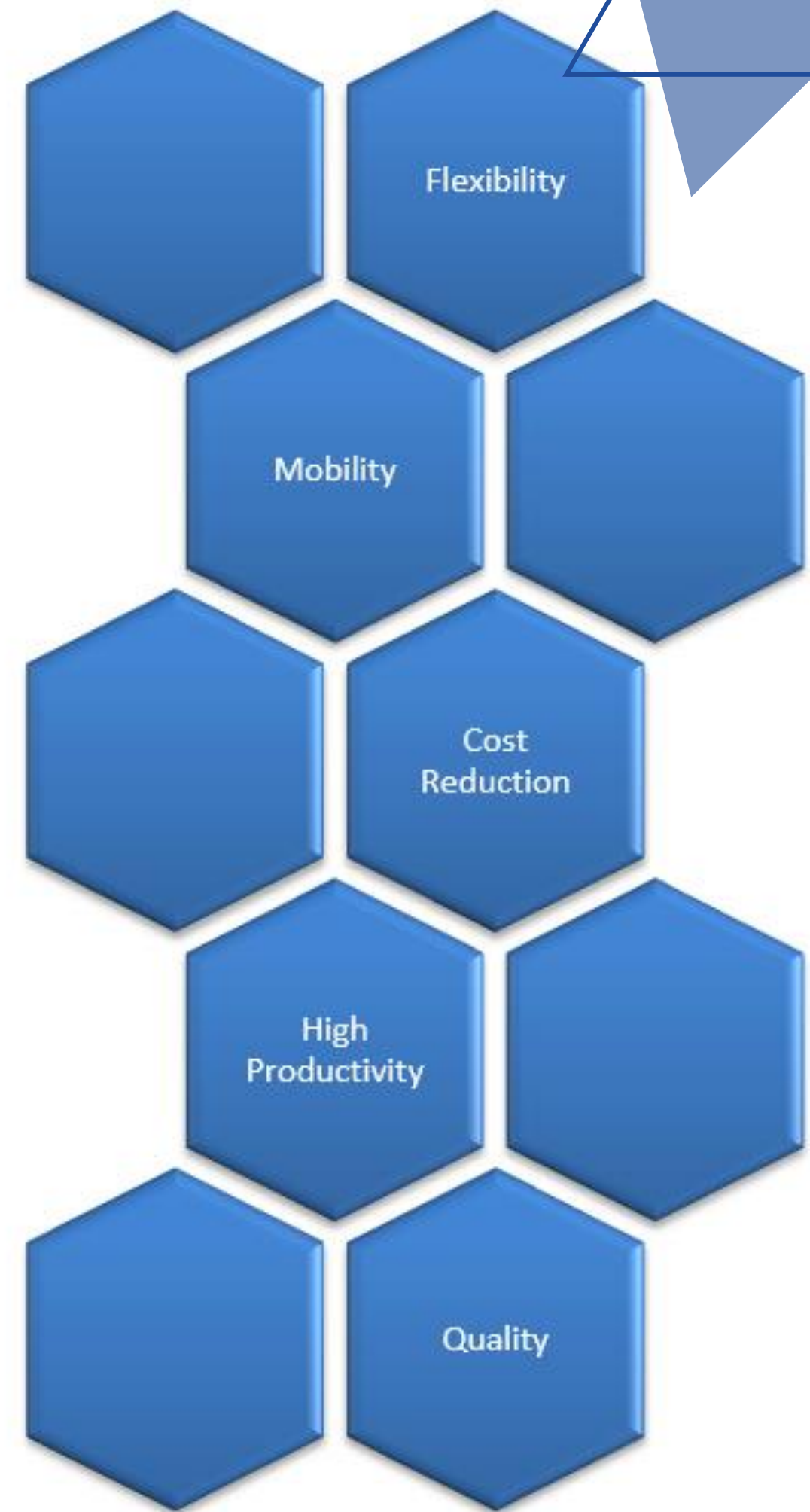
The forming machine is used to manufacture the block units close to the site which enable the installation on site once completed. The equipment can be easily moved to a new construction site to reduce the transport costs and time of transportation and logistic.

03

Cost Reduction

Reduction of total labor input from 30% to 50% in comparison to the conventional cast-in-place concrete frame technology through implementing the most labor-consuming operations and the significant time reduction for reinforcing cage installation.

Thus, the number of workers is nearly halved, and the construction rate rises 3-4 times higher: so, one floor per one day



Formator Technology Advantages

High Productivity

In the case of box-unit production for individual housing, such as villas, cottages and townhouses - internal air conditioning system elements, air ducts, electrical cabinets, wiring, etc., will be installed in the plant.

It increases the labor efficiency, improves the quality and reduces the construction time on plant site.

	Monolithic framework	Modular framework	Formator
Building speed	3 floors / month	5- 7 floors / month	1 floor / one day
The number of workers	42 people	22 people	15people

Comparative performance indicators table
(in the case of one section of the 17-storey building) in the Central Federal District.



Quality

80% of all operations are performed at the plant with highly mechanized methods with the minimum number required workers.

It provides the high geometrical items precision and the high surface quality:

the walls, floor and ceiling are ideally straight, and the first coat of painting is done at the plant

Formator Technology Advantages

Seismic Resistance

Due to the structure peculiarities, the buildings are setup with FORMATOR technology used have high seismic resistance: 6 points out of 12 as per msk-64 scale (resist strong earthquake)

Environmental Friendliness

The minimum amount of debris at the construction site, since all "dirty" work is performed at the plant, and the only work to be done on site is simply to assemble the building from prefabricated parts as a construction set.

Moreover, the technology does not require any plastering or brickwork, which generate vast amounts of debris and waste at the construction site. It should also be noted that concrete is poured to the forming machine with a high-tech method used, so resources are not over-consumed - all concrete is used.

Points	Scale of earthquake	Description
1	Not perceptible	Registered only by seismic instruments
2	Hardly perceptible	Felt only by individuals at a rest
3	Weak	Felt by a few individuals
4	Moderate	slight trembling or items and dishware swaying
5	Fairy strong	Buildings and furniture shaking, cracks in walls and windows
6	Strong	Felt by all individuals, objects fall, plaster comes off
7	Very - strong	Cracks in masonry walls
8	Damaging	Ground fissures, monuments may be overturned
9	Destructive	Substantial damages and masonry buildings destruction

Planning Decisions variants: Meridional Section



Planning Decisions variants: Meridional Section



Typical floor plan (Type 1)

TECHNICAL AND ECONOMIC INDICATORS (for the one floor)

Residential area of apartments, m2 _ 209,4

Apartment area, m2 _ 430,6

(Excluding the area of balconies and loggias)

Total area of apartment, m2 _ 445,4

The number of apartments, pcs - 10

There:

One-piece - 8

Two-pieces - 2

Typical floor plan (Type 2)

TECHNICAL AND ECONOMIC INDICATORS (for the one floor)

Residential area of apartments, m2 _ 298,2

Apartment area, m2 _ 535,6

(Excluding the area of balconies and loggias)

Total area of apartment, m2 _ 549,6

The number of apartments, pcs - 12

There:

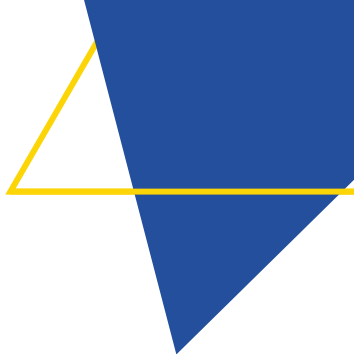
One-piece - 2

One-piece studio - 4

two-pieces - 4

three-pieces euro - 2





Planning Decisions variants: Corner Section



TYPICAL FLOOR PLAN (type 1)

TECHNICAL AND ECONOMIC INDICATORS (for the one floor)

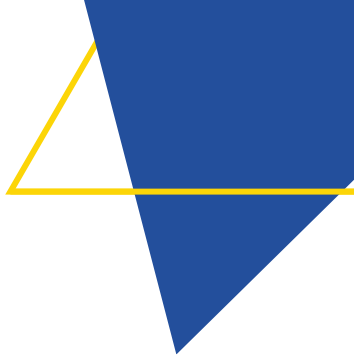
Residential area of apartments, m2	135,2
Apartment area, m2	249,1
(excluding the area of balconies and loggias)	
Total area of apartments, m2	254,7
The number of apartments, pcs	5
there: one-piece	2
two-pieces	3



TYPICAL FLOOR PLAN (type 2)

TECHNICAL AND ECONOMIC INDICATORS (for the one floor)

Residential area of apartments, m2	207,9
Apartment area, m2	446,3
(excluding the area of balconies and loggias)	
Total area of apartments, m2	456,4
The number of apartments, pcs	9
there: one-piece	4
two-pieces	4
three-pieces euro	1



Planning Decisions variants: Corner Section



TYPICAL FLOOR PLAN (type 1)

TECHNICAL AND ECONOMIC INDICATORS (for the one floor)

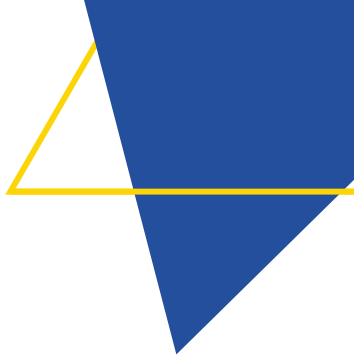
Residential area of apartments, m2	150,4
Apartment area, m2 (excluding the area of balconies and loggias)	274,2
Total area of apartments, m2	278,9
The number of apartments, pcs	5
there: one-piece	3
two-pieces	2



TYPICAL FLOOR PLAN (type 2)

TECHNICAL AND ECONOMIC INDICATORS (for the one floor)

Residential area of apartments, m2 -	134,6
Apartment area, m2 - (excluding the area of balconies and loggias)	251,2
Total area of apartments, m2	257,5
The number of apartments, pcs	5
there: one-piece	3
two-pieces	1
three-pieces	1



Planning Decisions variants: Corner Section



TYPICAL FLOOR PLAN (type 3)

TECHNICAL AND ECONOMIC INDICATORS (for the one floor)

Residential area of apartments, m2	121,6
Apartment area, m2	240,2
(excluding the area of balconies and loggias)	
Total area of apartments, m2	248,1
The number of apartments, pcs	5
there: one-piece	3
two-pieces	2



TYPICAL FLOOR PLAN (type 2)

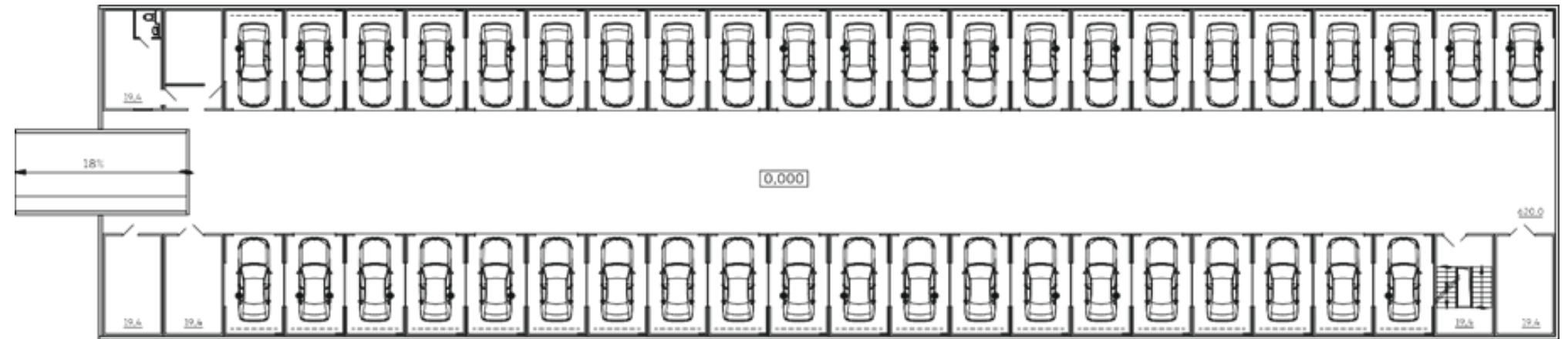
TECHNICAL AND ECONOMIC INDICATORS (for the one floor)

Residential area of apartments, m2	134,6
Apartment area, m2	251,2
(excluding the area of balconies and loggias)	
Total area of apartments, m2	257,5
The number of apartments, pcs	5
there: one-piece	3
two-pieces	1
three-pieces	1

Parking in Basement



Parking in Basement



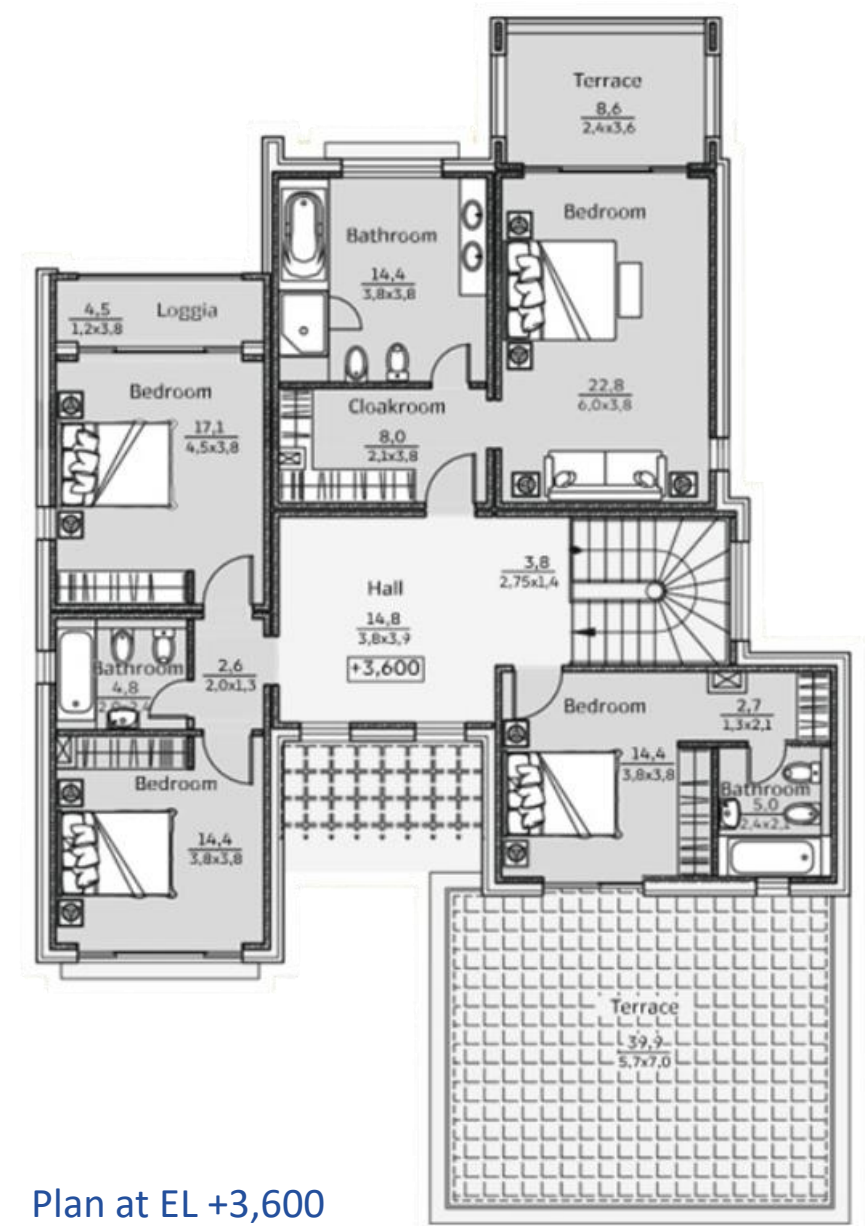
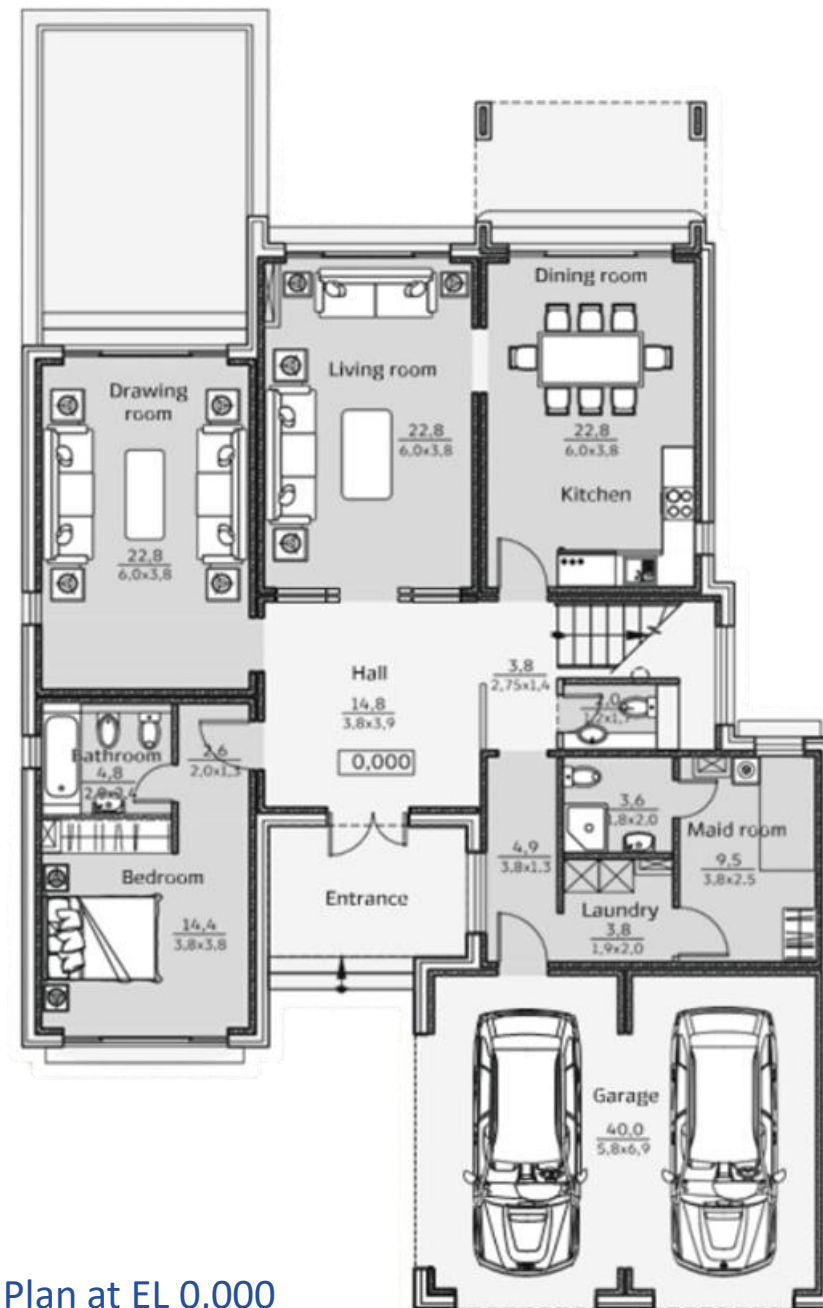
TECHNICAL AND ECONOMIC INDICATORS

Build-Up area, m2	1734,1
Total building area, m2	1615,0
The number of parking places, pls	45
One parking place area, m2	19,4

Planning Decisions variants: Villas

Total Area - 354,7 m2

Villa (Type)



Villa (type 2)



Plan at EL 0,000

Total area - 354,7 m2



Plan at EL +3,600

Total area - 354,7 m2

VILLA (type 3)

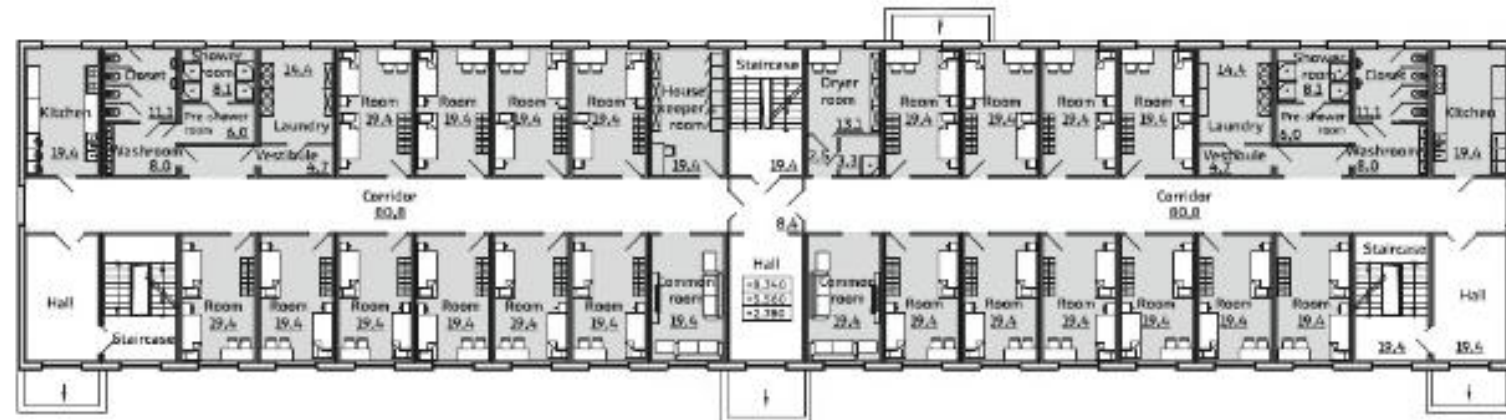
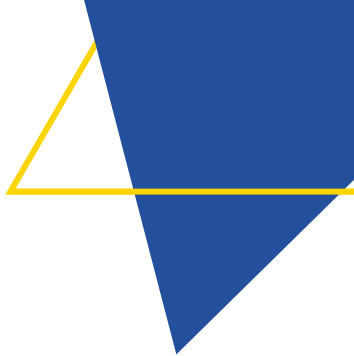


Plan at EL 0,000

Plan at EL + 3,600



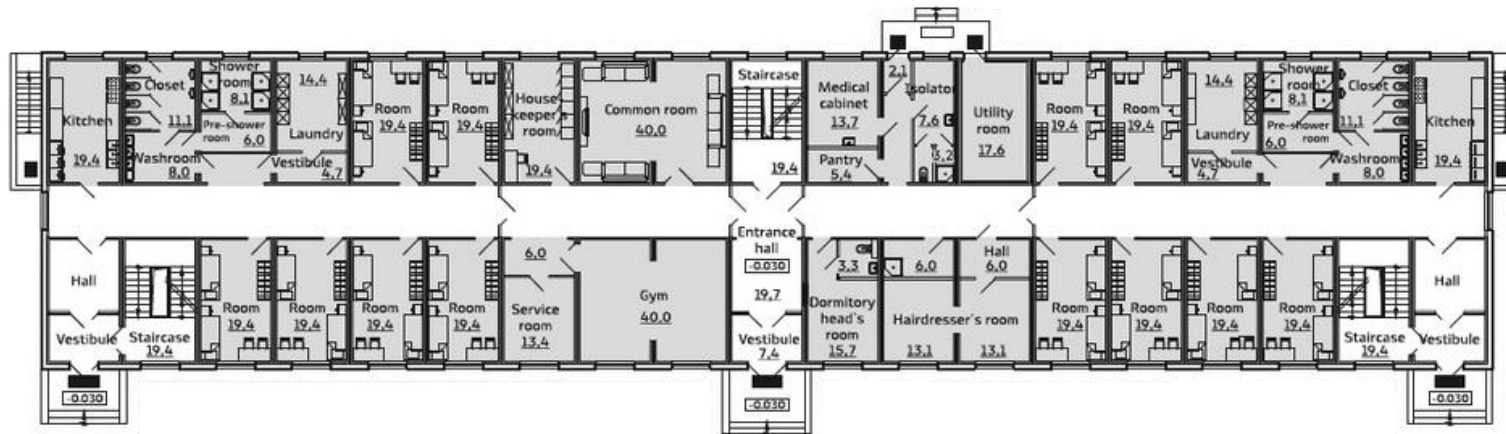
FOUR-STORY DORMITORY FOR 144 PLACES



TYPICAL PLAN OF 2-4 STOREYS

TECHNICAL AND ECONOMIC INDICATORS
(for the one floor)

The number of places, pcs	40
The number of rooms, pcs	20 (double rooms)
Total area of residential rooms, m2	388,0
Total storey area, m2	974,5
Useful storey area, m2	845,9



TYPICAL PLAN OF 1 STOREY

TECHNICAL AND ECONOMIC INDICATORS
(for the one floor)

The number of places, pcs	40
The number of rooms, pcs	20 (double rooms)
Total area of residential rooms, m2	388,0
Total storey area, m2	974,5
Useful storey area, m2	842,2

TECHNICAL AND ECONOMIC INDICATORS

The number of places, pcs –	144
The number of rooms, pcs -	72 (double rooms)
Total area of residential rooms, m2 -	1 396,8

The total building area (incl. the basement), m2 -	4 872,7
Above 0.000, m2 -	3 898,16
Below 0.000 m2 -	974,54
Below the level 0.000, m2 -	2866,2
Useful building area, m2 -	3 379,9

Total building volume, m2 -	14 928,9
Above the level 0.000, m2 -	12 062,7

COMPLETED PROJECTS



Housing complex "Ozerki"
Voronezh, ul. Ilyushin, 13



Housing complex "GREEN PARK"
Voronezh, ul. Moskovsky prospect, 95, 197, 211, 213, 215



Housing complex "TSVETNOY BULBAR"
Voronezh, ul. 45 Strelkovoydivisii, 259D

Housing complex "Ozerki":

- land area, m2 - 722 000
- total area of apartments, m2 - 957 059
- the floor numbers, pcs – 17

Housing complex "GREEN PARK":

- land area, m2 - 13 002
- total area of apartments, m2 - 205 700
- the floor numbers, pcs - 17

Housing complex "TSVETNOY BULBAR":

- land area, m2 79 553
- total area of apartments, m2 - 172 437
- the floor numbers, pcs - 17



CONTACT US

+971 50 303 2773

AL Hamra Industrial Zone-FZ
Ras Al Khaimah, United Arab Emirates

info@levelformator.com

www.levelformator.com

