

TECHNICAL DESCRIPTION

This document describes the Technical Description for the residence units in Duna Pearl Project situated at the plot defined by XIII. District, Pozsonyi u. - Garam u. - Kárpát u. and Bessenyei u.

The technical description describes general design and application principles as well as the general rules of the system and materials to be used. It does not constitute the basis for the brands, designs, colours, and models with regard to the types of architectural materials, kitchen and bathroom cabinets, joinery and doors, nor to any other fabrications done with any other materials. PD Real Estate Development Kft. reserves the right to make any changes to the technical description if required technically or administratively.

The building has 2 levels of underground parking, and 9 floors excluding the ground floor. The car parks are accessible from the Kárpát street front, from a protected, private area. Entering and leaving is done in a safe and quiet way, separate from the traffic. The building is surrounded by a 2-story arcade, forming a protected walkway at the base of the building. The outer public areas are connected to the building by a paved walkway. At the inner court a decorative garden can be found on several levels. Residence entrances are situated at the corner of Kárpát Street - Bessenyei Street and Kárpát Street - Garam Street, while the hotel entrance is on the Pozsonyi Road front. Here, a paved mixed traffic area is made, providing a protected access to the park that is also being renovated along with the building.

1. CONSTRUCTION

Load Bearing structure:

The vertical load-bearing structures consist of conventional reinforced concrete shear walls and reinforced concrete pillars. The slabs and stairs are made of reinforced concrete. The base slab, underground garage walls and ceilings are also reinforced concrete.

Facade:

The facades of the building - in addition to the required thermal insulation - were designed with natural stone, wood coverings on the lower levels and with, ceramic tile cladding or coloured plaster surface on the upper levels.

Interior walls:

Interior walls will consist of hollow bricks or aerated concrete blocks or plasterboard panels or substitute materials covered with gypsum plaster or plasterboard, or other similar materials to be determined compatible with the architectural project.

Roof:

The building will have an extensive green roof system according to the project and its terms and conditions. Thermal and water insulation system will be employed on the terrace roofs compatible with the project and its terms and conditions.

Window Frames:

The main residence block entrances and the façade windows of the ground floor retail premises are made of thermal insulated aluminium profiles. The external doors and windows of the residential floors are made of heat-insulated, PVC structures with 3-layer heat and sound insulation glazing. The living rooms and bedrooms are equipped with built-in shutter casings, and electric shutters controlled from the smart home system.

Thermal, and Sound Insulation and Waterproofing:

- The building foundations and the exterior walls of basement floors will be waterproofed in accordance with the project.
- Based on the heat loss and gain value standards in calculations and reports of technical specs, at any necessary locations, thermal insulation will be applied on the ground and interior wall executions.
- Thermal insulation and waterproofing will be employed at the roof of the whole building in accordance with the projects.
- Waterproofing will be applied in wet areas.
- A thermal insulation sheathing system and/or coating material will be used on all exterior walls in accordance with the project.
- Precautions in line with the directives and terms and conditions will be taken where necessary, as indicated in calculations of heat loss and gains in reports for each apartment unit and between each apartment buildings.
- Sound insulation will be done between each apartment unit based on calculations and sound measurements in reports.

2. APARTMENT INTERIORS

Doors:

- Unit entrance: MABISZ (Hungarian Insurance standards) classified steel doors that match the project and design of units will be installed.
- Doors within the unit: Wooden vaulted, lathed, and coated doors that match the design will be installed. Type of coating will be determined according to the principles of the project's architectural design.
- | | |
|------------|-------------------------------|
| Door Style | :Solid Wood or MDF |
| Leaf | :Wood Veneer or lacquer paint |
| Frame | :Wood Veneer or lacquer paint |

Entrance Hall and Hall:

- Floor covering: First-class laminated wood (consists of layers of wood, glued together to create a plank which has a real-wood veneer on top) or first-class ceramic tile flooring will be installed.
- Wall covering: Water-based paint will be applied on cement or gypsum based plaster on the walls.
- Skirting: Skirtings compatible with floor covering will be used.
- Ceiling covering: Water-based paint will be applied on gypsum skim coat on plasterboard suspended ceiling.
- Cabinets: All apartments will have coat closets and laundry room with doors in the entrance hall or hall.

Living Room:

- Floor Covering: First-class laminated wood (consists of layers of wood, glued together to create a plank which has a real-wood veneer on top) flooring will be installed.

Wall covering:	Water-based paint will be applied on cement or gypsum based plaster on the walls.
Skirting:	Skirtings compatible with floor covering will be used.
Ceiling covering:	Water-based paint will be applied on gypsum skim coat on the ceilings.

Bedrooms:

Floor Covering:	First-class laminated wood (consists of layers of wood, glued together to create a plank which has a real-wood veneer on top) flooring will be installed.
Wall covering:	Water-based paint will be applied on cement or gypsum based plaster on the walls.
Skirting:	Skirtings compatible with floor covering will be used.
Ceiling covering:	Water-based paint will be applied on gypsum skim coat on the ceilings.

Kitchen:

Floor Covering:	First-class laminated wood (consists of layers of wood, glued together to create a plank which has a real-wood veneer on top) or first-class ceramic tile flooring will be installed in all apartments with open-plan kitchens.
Wall Covering:	Water-based paint will be applied on the walls while the backsplash (between cabinets) will be covered with first-class ceramic tile or wood panels.
Ceiling covering:	Water-based paint will be applied on gypsum skim coat on the ceilings. Plasterboard suspended ceiling will be installed as necessary.
Cabinets:	Cabinets will be built from melamine-covered particle board in line with the project. Side doors will be covered with PVC membrane or laminate over MDF. Glass doors will be built on an aluminium frame. Countertops will be laminate or substitute material.
Sink:	Stainless steel sink with 1 or 1.5 holes and a draining board.
Kitchen appliances:	All apartments will be delivered with an energy-efficient built-in dishwasher, energy-efficient built-in refrigerator, , stovetop, oven, and range hood.

Bathroom:

Floor Covering:	First-class ceramic tile will be used.
Wall Covering:	First-class ceramic tile or wallpapers will be used.
Ceiling Covering:	Water-based paint will be applied on gypsum skim coat on the ceiling. Plasterboard suspended ceiling will be installed as necessary
Bathroom Cabinet:	Cabinets will be covered with PVC membrane or laminate over MDF and will have mirrors and lighting.

Bathroom Fixtures: First-class bathroom fixtures will be used.

Bathtub and Shower Cabin:

First-class bathtub will be used at the main bathrooms.
First-class bathtub and/or shower cabins will be used at the ensuite bathrooms.

Balconies:

Floor Covering: First-class ceramic tile will be installed.

Wall Covering: Silicon-based or other external surface paint will be used.

Skirting: Skirtings compatible with floor covering will be used as necessary.

Ceiling Covering: Silicon-based, other external surface paint or laminated wood or similar materials to be determined compatible with the facade design will be used

Railing: Tempered laminated glass aluminum or iron railing will be installed.

Gardens:

Floor Covering: First-class ceramic tile, marble, artificial marble, pre-cast members and/or granite will be installed.

Railing: Tempered laminated glass aluminum or iron railing will be installed.

3. ELECTRICAL SYSTEM

Low Voltage Electrical Distribution Installation:

- Grounding will be installed in all buildings.
- A convenient lightning protection system will be installed in the buildings in compliance with the projects and regulations.
- Panels will have a residual current circuit breaker to protect against accidents.
- A transformer substation will be built to provide energy to the buildings.
- The wires are being led in conduits in brickworks and screed. The apartments are equipped with 3x20A electric power supply.
- Telephone and television outlets will be installed in the living room and every bedroom in all apartments.
- A sufficient number of electrical outlets will be installed in bedrooms, living rooms, kitchens, bathrooms, and ensuite bathrooms.
- Foyers, hallways, kitchens, bathrooms, and balconies will all have first-class lighting fixtures.
- Battery-charged "Emergency Lighting" (at least one) will be provided as necessary in the staircases and hallways of fire escapes.
- Energy-efficient lighting fixtures will be used.

Smart Home System:

Smart home system will be installed at each apartment to maximize the comfort for controlling the below listed systems;

- Heating and Cooling,
- Apartments interior lightings,

- Electric shutters,

TV System:

The telecommunication and cable TV network in the common area of the building will be equipped with a switchboard, from where the available owner-selected service providers will be able to bring their own end cable into the flats via a pre-designed and installed conduit. The low-voltage CAT6 cable and pipeline network has multiple endpoints in the apartments.

Telephone and Internet System:

Telephone and Internet Connection infrastructure and outlet points will be provided for each room bedroom and living room.

Security:

The entrance doors lock at several points and comply with MABISZ (Hungarian Insurance standards) regulations. The garage door is made of metal structure and is controlled by remote control. The exterior of the building and the common areas will be equipped with CCTV surveillance system with links to the reception.

Intercom System:

- A digital intercom system with colour images will be installed in all apartments. The system will control the front entrance of the building and will allow for dialogue between the apartment and the door.
- A doorbell panel will be placed at the entrance of the buildings. This panel will allow calls to be made from the building entrances. In addition, apartment owners will be able to open the building entrance door with a password allowing them to enter without using a key.

Elevators:

The residential building will have 2x2 duplex, wheelchair accessible, and suitable for carrying stuff, all-purpose, frequency-controlled, AC-powered, energy-efficient passenger lifts, with a capacity compatible with traffic calculations and regulations with inbuilt engine room. They will have ventilation and security alarms and will allow for communication with security in case of an emergency.

4. SANITARY SYSTEM

Potable Water System:

Tap water will be obtained from the city's main distribution network. Tap water will be delivered from the pressurizing tanks through the water booster system then moved through the cold-water meter via the entrance of the apartment building to be sent to the housing unit. Cold water will be delivered through galvanized pipes for the main pipelines and PPRC Type 3 pipes inside the apartments.

Wastewater System:

Certified PVC-based pipes and fittings will be used inside the main pipeline and for the basement floor collection areas to be connected to the main sewage system.

Hot Water System:

Apartments will be provided with hot water 24 hours a day through a centralized boiler system. Each apartment unit's hot water usage will be measured and billed separately through the hot water meter with the specific interface, which will be placed on the water installations for each unit.

5. HEATING SYSTEM

Each apartment will be heated through the central heating system with hot water boilers working on natural gas and partly by using VRV heat pumps. Electromechanical or Ultrasonic heat flow meters (calorimeters) equipped with the specific operation interface placed at the installation shafts built for each apartment unit will be used to measure energy consumption and to bill each unit based on individual usage. The entire system is well protected acoustically with both passive (soundproofing) and active (dynamic underlay) solutions. Within the apartments, the main heat source is the ceiling cooling-heating system, and electric bath tower warmers supplemented with underfloor heating as necessary.

6. AIR CONDITIONING

The entire building is centrally operated with a cooling and heating system which can be controlled from the “smart home” system in each apartment to ensure optimum thermal comfort in all rooms remotely, both in winter and summer. It can be controlled by mobile phones or by the apartment’s central control units. The efficiency of this system is significantly better than the conventional air conditioning systems, and its thermal comfort is far greater.

7. VENTILATION

A metal duct ventilation system for the bathrooms and toilets will be provided by a light switch activated ventilator extractor.

8. RAINWATER SYSTEM

Rainwater storage system with the capacities decided by the regulations will be installed and roof area rainwater downpipes will be installed at the exterior of the building through the facade section invisibly. Rainwater stored in the storages will be used for the irrigation system as per LEED Certificate requirements.

9. FIRE EQUIPMENT:

- Fire alarm and extinguishing systems will be installed in all common areas according to the valid Regulations on Fire Protection.
- Fire extinguisher cabinets, fire alarm buttons, and fire detectors will be installed on floor halls.
- At building entrances, social facilities within the complex, and centrally heated areas, the natural gas installation will have a solenoid valve that automatically cuts off the gas during earthquakes and upon gas detection.
- A fire alarm system in parking garages, carbon monoxide (CO) detectors at places shown in the plans, fire alarms, fire extinguisher cabinets, and sprinkler systems will be installed.
- Smoke exhaust systems for parking garage and floor corridors will be installed.
- An “exit” sign will be placed to show the emergency escape routes on all fire escape doors, elevator halls, and common and general areas.
- “Emergency Lighting” will be designed during a power outage.
- Each staircase will be centrally pressurized to flush out smoke

10. CAR PARKING

- Parking spaces will be provided with additional fee. Dimensions of the parking spaces;
- Small Parking Space (2.2m-2.4m) * (min 4.1m) (Approximate)
- Standard Parking Space (2.4m-2.5m) * (min 5.0m) (Approximate)
- Large Parking Space (min 2.5m) *(5.0m-5.5m) (Approximate)
- Extended Parking Space (min 2.7m) * (min 5.5m) (Approximate)
- Pedestrian and disabled access will be provided to all apartments through elevators and/or stairs directly from garages.

- A mechanical exhaust ventilation and smoke removal system is in place in the parking garage. A gas (carbon monoxide) detection and alarm system will be installed in certain parts of the parking garage.
- Electrical charger stations infrastructure will be installed for sufficient number of parking spaces.

11. STORAGE AREAS FOR APARTMENT UNITS

A storage area with 4m² will be allocated in the basement for each apartment according to the architectural plan and they will be provided with additional fees.

12. LANDSCAPING AND OUTDOOR SET-UP

- Non-residential areas of the building will be planned as recreational, garden, and social facility spaces.
- General landscaping will be done using an automatic drip irrigation system according to the architectural plan.
- Lighting of the green areas and pedestrian crossings, as well as the landscaping and design of shared gardens within the complex, will be done according to the project and management plan.
- Infrastructure for vehicles and pedestrians, sewage, water, and drainage systems will be constructed.

13. COMMON AREAS OF THE BUILDING

- Marble, artificial marble, pre-cast members and/or granite will be used on staircases, main entrances, and outer staircases.
- Entrance halls of the buildings will have personal mailboxes with locks for each apartment.
- Garage and staircase lighting will operate from a common meter. In common areas, the luminaires are equipped with a timer switch or motion detector.

14. ENVIRONMENTAL PROTECTION

As the first domestic dwelling, the building will be certified by the American LEED system based on the independent evaluation of the following areas: sustainable land use, water use, energy use and atmosphere, material use and resources, quality of the internal environment and level of innovation.