

MELANŽAS

EXPLANATORY NOTE

MAIN CHARACTERISTICS OF THE PLOT AND BUILDINGS

- 1.2. Building density: 19%;
- 1.3. Building intensity: 40%;
- 1.4. Dependent planting area, percentage: 51,8%;
- 1.5. The building has a total floor area of 8,451.33 m²; Built-up area: 4,020 m²
- 1.6. Useful floor area of the building: 8 451.33 m²;
- 1.7. Building volume: 42,000 m³;
- 1.8. Number of floors: 3;
- 1.9. Maximum absolute altitude: 167.10 (m);
- 1.10. Number of parking spaces for vehicles (including bicycles): 34 auto, 24 bikes;
- 1.11. The total area of the sports pitches on the site is 2 686.5 m²;
- 1.12. The total area of the hard surfacing plot is 2 248.2 m²;
- 1.13. Projected number of classes, pupils: 480 pupils, 42 classes;

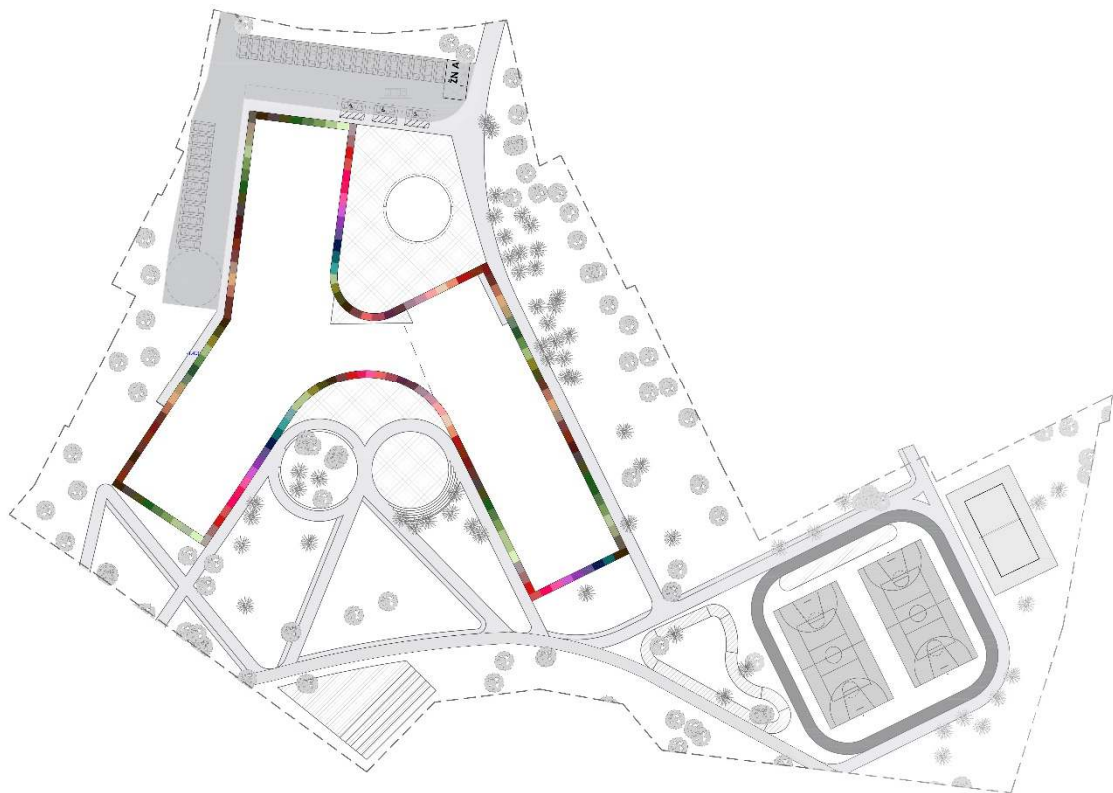
DESCRIPTION OF THE IDEA

“Melange” – is the term defining the project. The word melange is derived from the French verb “mêler”, which means “mixing”, “to mix”. It means a composition made up of different elements that sometimes do not fit together - a mélange is a mixture of anything, perhaps a “messy” mixture. Melange is a patchwork, an abundance and variety of desires, experiences, needs, expectations, attitudes and dreams. The melange may also stand for a mix of multi-coloured textile yarns - reminiscent of Mom’s warm jumper - one last cosy wrap before stepping out into the Big Wide World



URBAN CONCEPT, LANDSCAPE ARCHITECTURE

The plot is trapezoidal in shape - widening significantly to the south, and at the northern end it is in contact with Marcinkevičius Street, which is curved in shape. The context (eastern and western neighbourhoods) is built up with low-rise residential cottages of a radial urban plan - the radial structure converges into Marcinkevičius Street. The 'Melange' school reflects the form and context of the site by radiating the composition of the blocks, responding to the existing landscape, preserving the most valuable trees (in the south), and relocating some of the trees to the adjacent boundaries to the east and west - along the private neighborhood - by relocating and additionally by planting new trees in loose clusters. The school volume and courtyard are screened from residents by vegetation. We slightly relocate electrical transformer station hiding it within building's volume. Next to it we design canteen kitchen's facilities. In that way we get convenient connection with main street for food supply through western facade. The central square and main entrance to the school are designed at the centre of the site. In the central square we propose to plant an oak tree as a symbol of Lithuanian identity. The crown of the oak tree would be from 3m at the bottom its underfoot - a 14m ring-shaped inset of square with herbaceous plants and circular bench.



ARCHITECTURAL DESIGN.

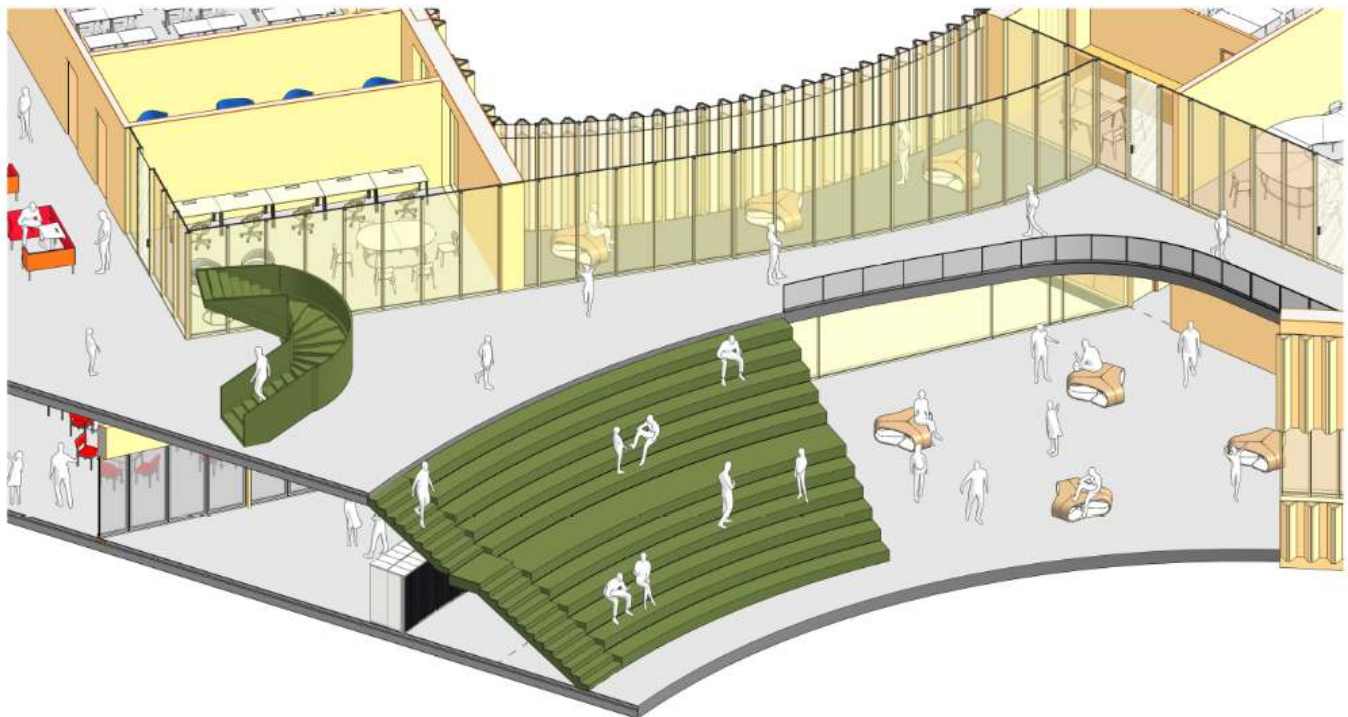
The tri-axial composition of building plan was born from site plan and conservation regime of existing valuable plantations. Building reflects context. School ascends from two to three floors, 'overlapping' them with visually transparent lobby in middle with auditorium hall embedded in plinth. Transparent spacious lobby opens up perspective on forest in inner southern courtyard. In that way we achieve that overall building's volume will not dominate urban context due to its height and because it's volumetrically dispersed blocks.

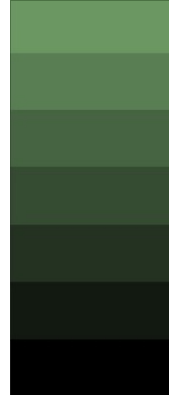
The skin of building is like mélange sweater, with patterns of ceramic baguettes shifting and weaving in and out supplementing with rhythm of windows. Vertical slats intertwine large glass façades - they also act as solar control. Colouring programme of ceramic slats pulsates around building's perimeter: calms down while facing private neighborhood and sharply intensifies in public zones (north and south).

INTERIOR SOLUTIONS



As from outside going inside, entering the lobby, we propose to continue, replicate the textural rhythm of the vertical slats of the exterior ceramic facade, continuing it into wood cladding inside. Interiors' colour scheme should be a low-intensity, warm, cosy wood appearance. The lobby itself is transparent and visually connects the main entrance and inner courtyard. The main event in the lobby is an amphitheatre - a welcoming "public plaza" that invites and greets you - with a staircase on the side, which leads up to the teachers' "corner", or to the library, reading room. It is an axis, a crossroad connecting all school blocks. It connects indoor and outdoor because the amphitheatre is oriented towards the forest - the 'Forest Amphitheatre' - as a relaxation space, a meeting place for pupils to chat, relax, have a snack, read. Underneath the amphitheatre is used for an integrated open cloakroom and lockable student lockers.





School's spaces: classrooms, creative spaces etc.- floors, walls, ceilings are not coloristically dominant – it is a relatively neutral space, with attention given to children and their activities.

The floors of the event hall, library, reading room could be laid with acoustically enhanced carpet tiles resembling moss or forest flooring. Interior accents - a vertical sculptural staircase that 'stitches' space together, which we also suggest in green.

MATERIALS

For flooring of dance and fitness rooms and balcony surrounding main sport hall, a smooth, non-slip, non-reflective multi-layered rolled vulcanised rubber and polyurethane coating would be proposed. For main sport hall, we offer shock-absorbing gym parquet made of multi-layered hardwood floorboards. Corridors and canteen: Polished terrazzo tiles, granite, quartz stone or cement mix tiles.

BUILDING REQUIREMENTS FOR EDUCATION AND IDENTITY

„My school is colourful“ is both a literal and figurative reflection. Avoiding university seriousness, brushstrokes of melange among pine trunks will highlight attitudes in important years - when everything seems to be ahead and everything may be different - as a varied mixture of 'anyone and anything' (translation from English "Melange").

PLOT PLAN

„Kiss and ride“ - children's car drop-off is provided from Marcinkevičius Street, in pocket formed along boundary of plot. Access to plot from north-west corner - existing/reconstructed in accordance with issued access conditions. Parking provision in front of school and on western edge of site amounts to 34 spaces - bus space, space for disabled people transport, and turning space to west. Main pedestrian access is footpath on opposite side of site to entrance - north-east corner - which connects to square in front of building.

Entrance square surface: smooth concrete slabs; oak tree standing in circular formation with surrounding bench. Square is spacious - can accommodate large number of people on important school events. Plaza merges to west school volume where canteen is located. In good weather dining area could expand outside. In southern part of the site – another, more „private“ public space surrounded by building - two paths intersect in plan and form rings creating outdoor space with benches depicting ∞. "Infinity" surrounds existing protected trees; fragrant plants scattered in meadow would also act as relaxation therapy. Sports corner located in south-east of site, close to school's main sport hall as well as school's changing rooms and sports teachers' room. Jogging track, skateboard ramp and volleyball court planned around basketball court.

Net of walking paths intersects southern part of plot and connects with path system of Jerusalem pond and Verkiai manor house - public path at bottom of plot.

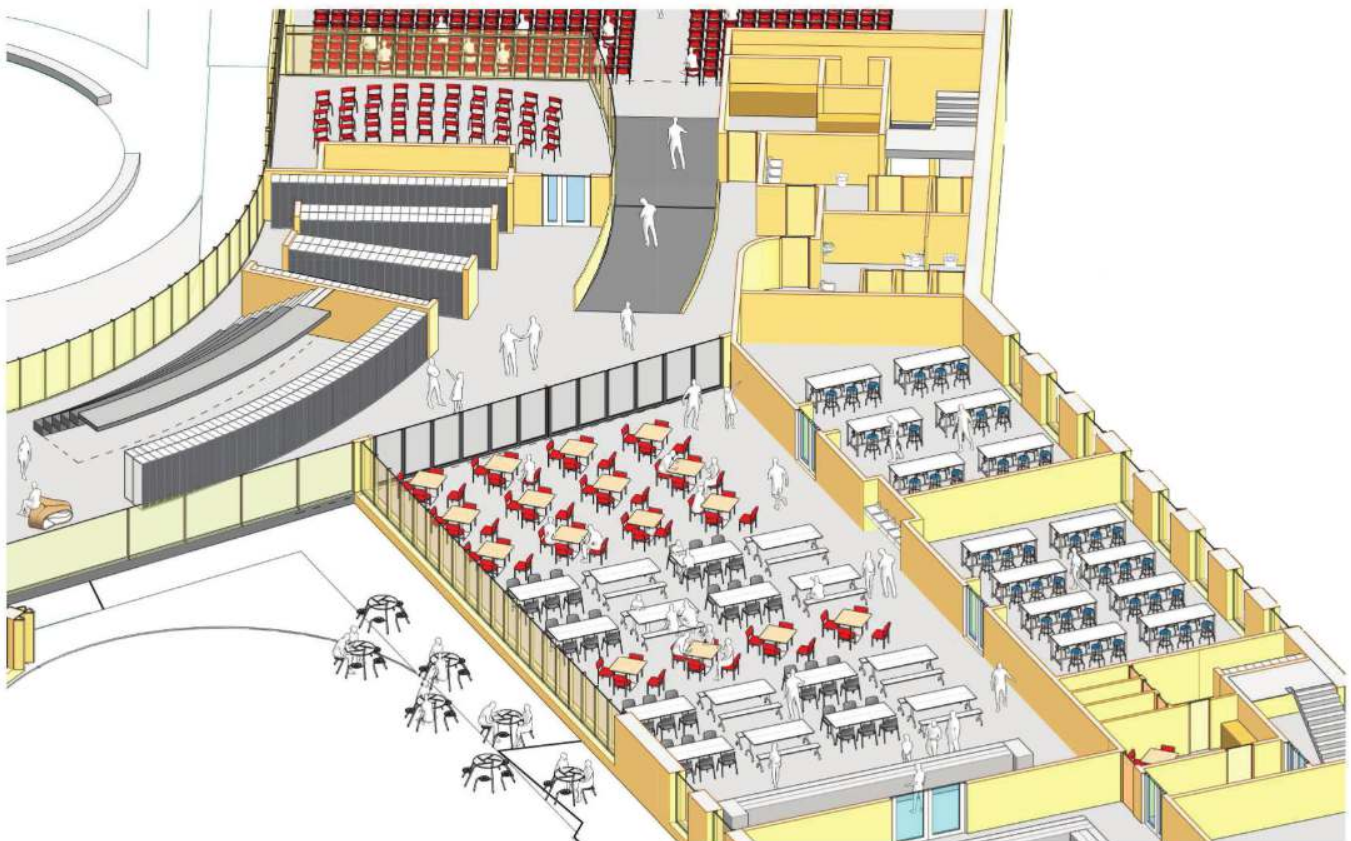
Existing topography not substantially altered.

ACCESS. SOLUTIONS

On section of M.Marcinkevičius Street between Mokslininkų Street and entrance between land plots at 38 and 70 M.Marcinkevičius Street on Gymnasium side of territory of Gymnasium, parallel parking spaces are planned. Parking spaces shall be covered with paving stones. Short-term parking spaces are planned in front of gymnasium. Rest of it are for shared use. Parking spaces will be arranged in groups of 2 to 3 spaces, separated by planting islands. Pedestrian walkway, lighting and planting also planned. Pedestrian crossing planned in Mykolas Marcinkevičius Street at pedestrian walkway connecting street with gymnasium territory. Entrance to territory of gymnasium planned through existing traffic connection with Mykolas Marcinkevičius Street. Entrance shall be raised to height of pedestrian walkway, entrance shall be covered with paving stones. Entrance planned to be bi-directional, 5.5 m wide. Two long-term car parks of 34 parking spaces, 2 of which will be disabled parking spaces (1 type A and 1 type B), are planned for Gymnasium. From entrance in straight line, 1-2 parking spaces for service and special vehicles and turning area at end of driveway. Newly developed gymnasium area will be integrated into existing network of pedestrian paths and connected to surrounding residential and recreational areas.

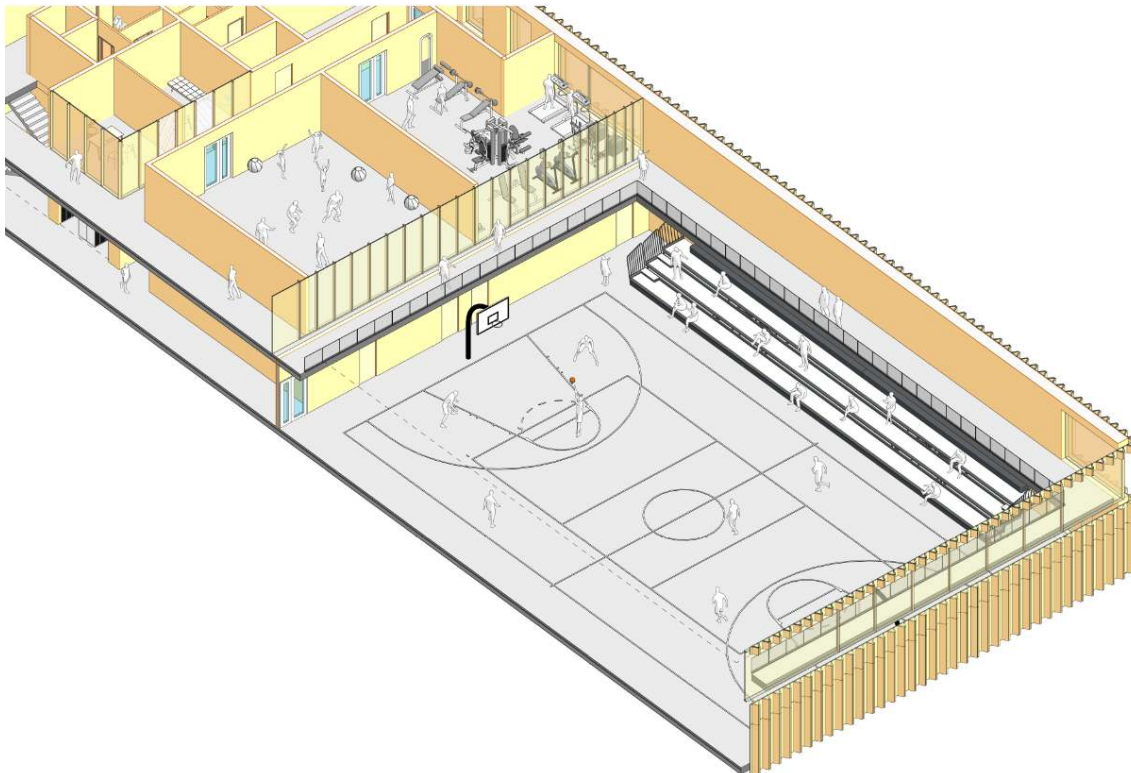
SCHOOL LAYOUT SCHEME

Main scheme of school is composition of three blocks, connected in centre - where lobby as representative space covers several floors with amphitheatre in centre. Block functions are: Canteen block + Sports and Teacher block + Auditorium Hall block.



Canteen block oriented in north of site. Part of this block's 1st floor occupied by electrical transformer unit, food service and access to kitchen from north-west. Canteen volume planned to have display windows to East, accessing Main Entrance Square and possibility of outdoor dining. Food technology workshop and training kitchen shall be provided on north side of canteen. Block of Auditorium hall recessed down allowing classrooms to be planned above. Recessed hall accessed by ramp from lobby. Music classroom stands adjacent to Auditorium hall. Hall includes cloakrooms, toilet blocks and escape staircase with access to northern part of site. Storage and backstage facilities provided at rear of hall. Two floors of classrooms located above canteen and Auditorium hall. Classrooms planned according to themes - humanities and natural sciences. On second floor, languages, history and moral education planned. Library with reading room foreseen on second floor. Library located near amphitheatre space - possible to take books to amphitheatre. On third floor, chemistry, biology and physics classrooms planned with laboratories in between. On third floor also computer science classroom with service classroom. Shared use work "cocoon" designed in wider corridor sections.

Sports and Teachers' block accompanied by art and experimentation spaces. Ground floor includes art classroom, FabLab workshop and construction materials workshop. These classrooms partly planned in central square - can extend activities outside - or become visual attraction - to see children creativity in process. Possibility to display their work on windows.



The second floor includes a Teachers' block. Teachers' offices are arranged in a circle: the administrator, principal and teachers' offices overlook through glass partitions, creating an emotion of togetherness: being open and visible. Teachers' lounge located in quieter corner to north-east. Teachers' block also includes teachers' toilet, psychologist's room and medical room closer to sports area. On second floor there are two sports halls - dance hall with skylights only and gym with windows and skylights. Escape staircase on eastern side connects directly to outside (connecting to sports staircase) or to changing rooms on ground floor. Main sports hall accessed via widened door directly from lobby on ground floor and from balcony on first and second floor for guests, or from changing rooms for athletes. Sports equipment and sports teachers' offices beside hall.

SUSTAINABLE MOBILITY / UNIVERSAL DESIGN SOLUTIONS



A school is friendly to principles of sustainable mobility. Scooters, bicycles, wheelchairs and other equipment easy to access and use. Parking space on axis with main entrance. Access to building without steps - directly from square on same level. Ramp with regulated slope leads to auditorium hall. Two elevation lifts provided in both Sports/Teacher block and classroom block. Bathrooms designed for universal use and also regularly repeatedly positioned in plans.

FIRE SOLUTIONS

Evacuation by fire escapes direct to outside. Evacuation staircases provided at different ends of building, in accordance with mandatory norms. Public areas of building, connected by common spaces through floors, are single fire compartment. Fire unit access to south side of building is provided by paths which connect street belonging to cottages in the East. Surfaces of path grid compacted honeycomb pavement. Width meets requirement of fire unit necessary.

Fighting outdoor fires: Taking into account height of building and volume of fire compartment, water flow of at least 25 l/s foreseen for external fire fighting. Distance from point of water intake (existing or newly designed hydrant) to furthest point of perimeter of building to be protected not more than 200 metres. Fire hydrants installed in ring main system provide required quantity of water without individually assessing each. Access roads for fire-fighting and rescue vehicles always kept clear. Roads designed with width not less than 3.5 m and height not less than 4.5 m on at least one side of building. Access to building and fire-fighting source by means of motorised streets and roads, various types of traffic areas and squares complying with requirements laid down by legislation and adapted road surfaces. No trees or other obstructions planted between structure and roads for access of fire-fighting and rescue vehicles. Fire-fighting and rescue vehicle access roads must be kept clear at all times, special signs and fencing (up to 20 cm high) erected to ensure this.

The building is intended to have a fire resistance rating of I, fire load category 3.

Table 2. According to GSPR Table 2, the fire performance of the structural elements of a building

The fire resistance of the structural elements of the fire compartment of the building (with fire separation and/or protection functions) shall not be less than (min.)		
Supporting structures	R 60	
Floor, attic and basement slabs	REI 45	
Roof	RE 20	
Outdoor wall	EI 15	
Staircases	Inner walls	REI 60
	Staircases, landings, stair support parts	R 45

The public spaces shall be separated from the explosion and fire risk category Cg spaces by partitions of fire resistance not less than EI 45 and by partitions of fire resistance not less than REI 45. Doors in such walls shall have a fire resistance rating of not less than EW 30-CO and windows shall have a fire resistance rating of EW 30.

As the elevation of the floor of the building is less than 42 m from the surface of the fire engine access the building does not include a fixed fire-fighting system.

The building is a comprehensive school and the design of the internal fire water supply is optional.

The control of lifts in the event of fire shall be installed in accordance with the requirements of LST EN 81-73 series of standards.

ENGINEERING SOLUTIONS

Engineering solutions for the building include measures to reduce energy demand and losses. These solutions include:

- Valves for thermostatic heating appliances
- Indoor or outdoor thermostats
- Underfloor heating, which requires a lower temperature of +35°C for heating, while the supply water temperature during normal heating is 65°C
- Low-temperature radiators, which can be heated with a heating water supply of 45°C (larger radiator area, used with heat pumps)

For hot water, instant electric heaters or electric boilers using electricity from solar photovoltaic panels can be used. This reduces the need for piping around the room from the heat sources and reduces heat loss from them.

In addition to energy-saving measures, there are also measures to protect against solar radiation:

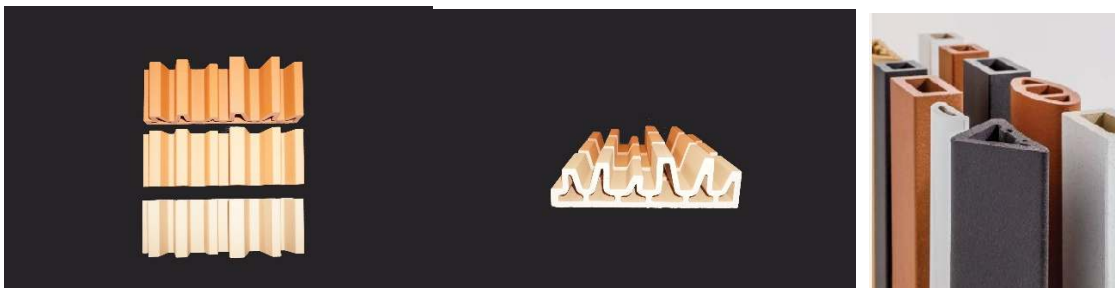
- Canopies
- Edges in window recesses against side radiation
- Simple and mobile blinds, which help reduce electricity consumption for cooling during warm periods

In order to achieve an A++ energy performance class, a heat pump will be provided for space heating and hot water, and a solar PV plant, either local or remote, will be provided for hot water, domestic electricity, and space heating (electricity generation for the heat pumps). If feasible, a local solar power plant will be installed on the school roof. If not, it will be installed remotely.

FACADE MATERIALS

Vertical ceramic moldings are proposed for the facade. Its a ventilated facade. The moldings are proposed to be mainly triangular in shape – if necessary, introducing several different volumetric shapes to create a more undulating facade plane. The ground floor is proposed in concrete finishes, either in a suspended panel system or a three-layer system.

Windows with extruded aluminum frames are casement systems in classrooms and storefront systems in public spaces. Windows have adequate solar control, colorless and acoustic performance.





CONSTRUCTION COST AND DURATION

The total construction cost is estimated at €18,875,800 including VAT. The planned construction duration is 3 years.