

**Comprehensive test 09.00 AM 02.05.2016-12.00 PM 03.05.2016**

**“Temporary” roofing over a ruin area with auxiliary functions**

The task of the first comprehensive test is to design a protective roof/building of an excavation of the 70-ties resulting valuable materials, buildings' rests. Using the opportunities of the site one has to prepare a sober, rational concept, deliberate as well in terms of construction and architectural character.

**The site**

The “Villa Rustica” is a villa of 3000 m<sup>2</sup> of the Roman times on the area of the Skanzen (Outdoor Ethnographical Museum) in Szentendre. It is one of the most important archaeological finds in the area of ancient Pannonia. With its area of 67 x 78 metres and 52 rooms it was the biggest building of that kind in Hungary. The villa was discovered while the preparation works of the Skanzen. There were excavations between 1973 and 1975 lead by Dr. Topál Judit. In 1981 an international constructing camp was organized by Dr. Topál Judit and Szalai András for the protection of the ruins. Some 1500 material finds were saved thanks to the excavations.

**The task**

It can be seen on the plan the area of the building worth protection is about 60 x 60m. Due to the design program the aim is to create a lasting, still temporary roof. It can't be a plain, seasonal looking solution, the task is an architectural composition for some 20-30 years.

It is of outstanding importance to design a rational, proportional protective roof helping the sight of the ruins. The structural order of the roof should be deliberate, functioning and aesthetic. The essence of the proposal is to protect the excavated ruins against the weather, and to serve the visitors with basic infrastructure. There is no need for lateral space separation that is no need to design a closed building. The geotechnical notion proposes pile foundations of reinforced concrete, however the protection of the ruins must be considered. A rational structural order seems unlikely to fit the order of the relics. Furthermore the previous unexplored layers will be damaged when making the piles, head of piles or the foundations. A method can be seen in different places when a load of concrete blocks or gabions is made on the wide foundation slab of the columns/pillars. This solution is also to be considered. Due to the practice the inner traffic should be solved by steel ramps, walking grids kept away from the ground.

The areas of infrastructure and visitors functions should be solved with prefabricated containers. This as well indicates flexibility, a kind of systematizing, as the solutions is useful somewhere else too. The technical parameters of the containers' are given in the supplement.

The minimum infrastructure for visitors is a heated/air-conditioned entrance hall, with reception-information-counter block and with a block of toilets.

**Design program**

entrance hall for min. 25 people	35-45 m <sup>2</sup>
reception-information-counter with back storage	20-25 m <sup>2</sup>
block of toilets for 2 x 25 people	due to dimensioning
exhibition room	100 m <sup>2</sup>
storage	50 m <sup>2</sup>
workshop	50 m <sup>2</sup>

**Submission**

site plan showing the layout and the use of the site  
floor plan(s)  
sections, min. 2 representative sections  
plan detail with the containers  
detail section of the elevation  
elevations

## Department for Industrial and Agricultural Building Design

axonometric, perspective views  
structural explanative figure, “blown up” axonometric figure representing two main stands,  
structural main units

Submission: 03.05.2016 till 12.00 to [komplex.ipar@gmail.com](mailto:komplex.ipar@gmail.com).

### Evaluation aspects

When designing the site plan one must take especially care of the correct dimensioning of roads, paved areas, furthermore the aesthetic forming of the building(s) that fits both the site and the task. The chosen structural system must be correct principally, the sections must be well proportioned. At the evaluation functioning, forming of the building's façade and volume, it's architectural, aesthetic appearance and ambitious elaboration is all important, with an emphasis on the quality of the perspective views.

### Formal requirements

Drawings must be traditional hand-drawings of any technique on the stamped pages given by the department.

Budapest, 02. May 2016.

Vasáros Zsolt DLA  
associate professor  
course leader

Dobai János DLA  
associate professor  
head of the department

### Suggested links:

[http://sirasok.blog.hu/2009/08/31/egy\\_romai\\_pince\\_brigetioban](http://sirasok.blog.hu/2009/08/31/egy_romai_pince_brigetioban)  
<http://www.museen-aalen.de/sixcms/detail.php?id=13372&bereich=1599>  
(Limesmuseum Aalen)  
[www.apx.de](http://www.apx.de) (Archäologischer Park/Regionalmuseum Xanten)  
[http://www.schulebw.de/unterricht/faecheruebergreifende\\_themen/landeskunde/material/altertum/roemerbaeder/exkursionen/xanten\\_therme.htm](http://www.schulebw.de/unterricht/faecheruebergreifende_themen/landeskunde/material/altertum/roemerbaeder/exkursionen/xanten_therme.htm) (Thermenruine Xanten)  
[www.archeo57.com](http://www.archeo57.com) (Parc Archéologique Européen Bliesbruck-Reinheim)  
[www.augusta-raurica.ch](http://www.augusta-raurica.ch) (Römerstadt Augusta Raurica/Augst)  
[www.europaeischer-kulturpark.de](http://www.europaeischer-kulturpark.de) (Europäischer Kulturpark Bliesbruck-Reinheim)  
[www.kalkriese-varusschlacht.de](http://www.kalkriese-varusschlacht.de) (Museum und Park Kalkriese/Bramsche-Kalkriese)  
[www.roemisches-Mainz.de](http://www.roemisches-Mainz.de) (Isis-Heiligtum/Mainz)  
[www.saalburgmuseum.de](http://www.saalburgmuseum.de) (Römerkastell Saalburg/Bad Homburg)  
[www.villa-rustica.de](http://www.villa-rustica.de) (Römisches Freilichtmuseum Hechingen-Stein)  
<http://www.zum.de/Faecher/G/BW/Landeskunde/rhein/geschichte/roemer/orte/badenweiler/badenw04.htm> (Römerbad Badenweiler)  
[http://www.wegezumholz.de/index.php?id=49&user\\_timbertreasures\\_pil\[showUId\]=2447&cHash=5b710caa9c2c999f3b6f16ec6e3f9d6c](http://www.wegezumholz.de/index.php?id=49&user_timbertreasures_pil[showUId]=2447&cHash=5b710caa9c2c999f3b6f16ec6e3f9d6c) (Teurnia védőépület)  
<http://www.arcspace.com/architects/nouvel/Gallo-Roman/> (Gallo-Roman Museum, Périgueux)  
<http://www.ephesos.at/dach/konstruktion.html> (Ephesos, Hanghaus2)

## **Appendix - General description of containers**

### **System**

Modular steel framed building, complexed together with well-insulated wall, floor and roof panels as shown on the drawing. The ready-to-use units incorporate holes for use in tying down during transport.

### **Building dimensions**

Width: 2438 mm

Length: 6058 mm

Ceiling height: 2591 mm

Outside height: 2370 mm

Total weight: cca. 2000 kg

### **Types:**

2991 x 2438 mm, ceiling height=2500 mm

6058 x 2438 mm, ceiling height=2500 mm

6058 x 3000 mm, ceiling height=2500 mm

8000 x 2438 mm, ceiling height=2500 mm

8000 x 3000 mm, ceiling height=2500 mm

6058 x 4886 mm, ceiling height=2500 mm

6058 x 6000 mm, ceiling height=2500 mm

8000 x 4886 mm, ceiling height=2500 mm

8000 x 6000mm, ceiling height=2500 mm

### **Foundation**

In-situ cast concrete slabs or footprint on Ground, depending on the local architectural regulations, concrete blocks min 6 point support (50x50x10cm concrete or 40x40x40 cm concrete) at 2,438x6,058 m unit.

### **Floor (layers from below)**

Hot dip galvanised steel covering, rock wool insulation with vapour barrier, timber frame construction, chipboard (formaldehyde free). Optional flooring: cement reinforced board (Betonyp)

### **Floor covering**

Polyvinyl chloride seam flooring.

Optional flooring: antistatic cladding for special purposes, wall-to-wall carpets in different colours and quality, synthetic resin flooring for wet unit, aluminium or stainless steel tread plate etc.

### **Walls (layers from the outside)**

PU or rock wool insulated sandwich panels, factory painted, hot dip galvanised steel covering on both sides, outside corrugated, inside flat. White laminated chipboard internal covering upon request.

Optional inside cladding: wallpaper- or vinyl-covered gypsum board.

Optional outside cladding: painted and galvanised metal outer facade

Optional wall system: pre-finished, micro corrugated hot dip galvanised steel siding, fibreglass insulation with vapour barrier, timber frame construction, washable, white laminated chipboard interior (formaldehyde free).

### **Roof (layers from outside)**

Hot dip galvanised steel sheets, PU sandwich ceiling panel with white painted and galvanised steel covering.

Optional ceiling: painted wallpaper-covered gypsum board.

Optional roofing: secondary cold roof structure: lacquered, galvanised steel sheet on wooden or steel studs.

Optional ceiling system: PU or rock wool insulated sandwich panels, factory painted, hot dip galvanised steel covering on both sides, outside corrugated, inside flat.

**Windows**

Plastic frame, double glazed windows, white in colour. Basic sizes: cca. 900 x 1200 mm one leaf with tilt and turn opening for office & living units, cca. 600 x 500 mm one leaf with tilt opening for ablution units.

**Doors**

Steel framed and hot dip galvanised steel covered core for entrance door. Interior doors: white laminated core with timber or steel frame. Hardware: Lockset on all doors except sanitary which shall have a privacy lockset.

Optional: Arctic insulated entrance door, double leaf, door screen, panic hardware etc.

**Heating & Cooling (optional):** Wall mounted baseboard electrical heaters with integral thermostat, Through-the-wall mounted, electrical room air conditioner or split cooling system. Ventilation: through-the-wall extractor fan (for wet units) etc.

**Lighting and Plugs:** 1.2-m single incandescent ceiling fixtures 1x36W with wall switches, in the wet units same as above with ground fault protected circuit.

Optional: custom designed lighting system.

**Power Supply:** 230 Volt AC, single phases 50 Hertz. Optional: 380-Volt AC 50 Hertz, three phases (according to European codes). Main consumer box labelled and located for easy access. Sizing and numbering of conductors, breakers, panels etc. will be compatible with client electrical characteristic.

**Sanitary installations:** Fixtures: plastic shower stall with curtain, lavatory basin, toilet cabinet, wall-hung urinals, water heater, exhaust fan etc. Sufficient hot-water heaters are included.

**Plumbing:** exposed copper or plastic pipes and fittings (minimum 18-mm diameter) with lead free solder joints (at copper pipes), drain lines exposed polyvinyl chloride pipes, drain stub-out at short side of unit. All plumbing is exposed for easy of maintenance.

Optional: Vented black/grey water drain pipes with 50-mm vent.

**Insulation:** The basic unit has an average U-value of 0,35 - 0,5 Watt/m<sup>2</sup> Kelvin depending of insulation thickness and material.. The windows has a U-value of 1,1 - the door has a U-value of 2,0 Watt/m<sup>2</sup> Kelvin.

Optional:

- For **severe climate** conditions 80 mm insulation
- For **arctic climate** conditions 100 mm insulation and lower U-value at doors.

**Colour:** All units are RAL 9002 off white in colour. Optional: other RAL coded colours.

**Fire resistance:** Standard 0,12 hours

**Seismic durability:** As per structural design

**Design Loads:**

<b>Wind Load:</b>	<b>35 m/s</b>
<b>Roof:</b>	<b>1,7 kN/Sq.m.</b>
<b>Floor:</b>	<b>2,0 kN/Sq.m.</b>

**Stairs:** Pre-fabricated, lacquered steel stairs.

**Furnishing & extras:** On request is ready to provide creative, custom finishing options which incorporate the latest advancements in modular construction.

