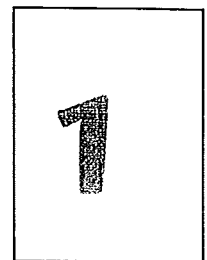
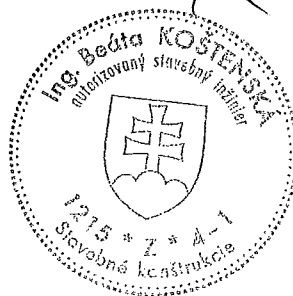
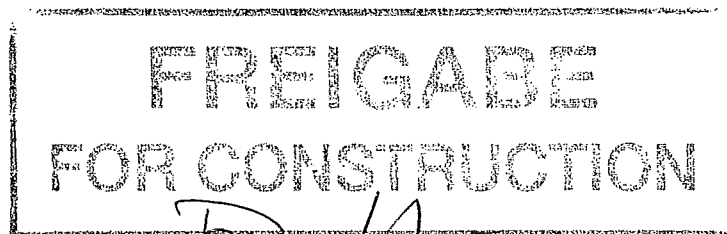


Názov stavby: **ASU N° 9 Košice**  
Project name: **ASU N° 9 Košice**  
  
Objekt: **Rozvodňa T 81**  
Object: **Electrical Room T 81**  
  
Objednávateľ: **AIR LIQUIDE AGS GmbH**  
Investor: **AIR LIQUIDE AGS GmbH**  
  
Stupeň: **Realizačný projekt Unit 2**  
Level: **Realisation project Unit 2**  
  
Časť: **Architektonicko-stavebné riešenie**  
Area: **Architectural**  
  
Archívne číslo: **792.87395.A**  
Design number: **792.87395.A**

## Technická správa/ Technical report



**REFLEX-PRO**  
**REFLEX-PRO** spol. s r.o.

Žižkova ulica č.19,  
Košice 040 01  
Slovak Republic

Tel: 055 / 623 34 53, 72 979 53  
Fax: 055 / 625 93 58  
e-mail: [reflex-pro@reflex-pro.sk](mailto:reflex-pro@reflex-pro.sk)  
[reflex-pro@stonline.sk](mailto:reflex-pro@stonline.sk)  
Web: [www.reflex-pro.sk](http://www.reflex-pro.sk)

Košice, jún 2005

## TECHNICAL REPOL

### **A. General Description**

Structure: ASU N° 9 Košice  
Structure location: USSteel, Košice  
District: Košice  
Investor: AIR LIQUIDE AGS GmbH  
Designer: REFLEX-PRO spol. s r.o., Branisková 2, 040 01 Košice  
Level: Realisation project

### **B. Purpose of the Project, Units, Capacity, Built-up Area**

The designed structure is to function as a switch room of LT and HT, condensers, accumulator room, and transformers. The design is based on documentation provided by AIR LIQUIDE GmbH d.n. 792.868 dated 21.12.2004.

The dispositional and volume solutions are discernible from the provided drawings.

Built-up area:	398,80m <sup>2</sup>
Utility area:	617,20m <sup>2</sup>
Built space:	2535.00m <sup>3</sup>

### **C. Functional Design:**

The building in question is two-storey, built of classic bricks on calcareous-cement mortar, headroom of 3,4m, in the cable space reaching 2.10m, floor plan being 24.60x16.210m with a ramp entrance, the roof is flat.

Having a rectangular floor plan, the architectonic solution of the building is simple, having rectangular floor plan.

The color of the building has been chosen to match the rest of the complex.

### **D. Cardinal Points, Daylight**

Planimetric and countour plans are discernible from the drawings.

### **E. Results of hydrogeological inspection**

In order to prepare the construction site, a geodetic measurement of the place has been conducted. Based on the results of the performed geological surveying made by Geokonzult a.s. Košice on december 2001, it is possible to draw a conclusion that the geological structure as such is simple. There is an antropogenic backfill layer between 0.7-1.7m from the terrain level. The subsoil consists of settled and mid-settled gravel with fine-grained soil of G3 category. Groundwater has been reached 3.9-5.4m below the terrain level.

### **F. Technical Equipment Data**

Rainfall from the roof, waste water and duct connection are dealt with in part Sanitation

installation.

Wiring, illumination, and grounding are dealt with in part Wiring.

Heating of the building – dealt with in part Air-conditioning

## **G. Technical Solution**

### **Basic Civil Production**

#### **1. Earth works**

The required earth works shall be performed using appropriate machinery with manual finishing of the foundation joint. The dug soil shall be used for the following backfill. The excess soil shall be deposited on an disposal site. Category of mineability 3 soil has been taken into consideration. **It is necessary to approach all owners of the underground distribution channels in order to mark out the relevant networks!**

#### **2. Foundations**

The building is based on ground tables. The tables are made of concrete B 20 and they are 600mm wide and 650mm high. The ground tables are laid in the same non-freezing depth from the terrain. Foundations are designed from concrete B20 - dimensions 1000x1000mm and 1500x1500mm.

There is a compact gravel layer under the ground tables. It is 200mm thick, made of rubblestone 0-3.

The cables from the bridge are led into the cable space through a canal which is covered with corrugated iron. Holes in sheet plate for cables will be made during mounting. The shaft walls are made of concrete, reinforced with net KY 50.

#### **3. Vertical structures**

The recommended masonry consists of profiled bricks POROTHERM of thickness 440mm and 250mm on CCM. The underground part of the building is designed as ferroconcrete box. The walls are made of concrete, reinforced with net KY 50. The bearing ferroconcrete frame and the posts are made of B 30 concrete. The whole concrete box is insulated with warmth-insulating material POLYSTYRÉN, 70mm thick. HYDROBIT V60 S 35 functions as an agent against ground damp. Damp-proofing is protected with a geotextile.

##### **ST 01- Warmth-insulated ferroconcrete wall**

- gravel backfill
- Polystyrene warmth insulation 70mm
- ground damp insulation HYDROBIT V60 S35
- ferroconcrete wall 250 mm
- net reinforcement KY 8,0/150-8,0/150

##### **ST 02-Ferroconcrete wall**

- gravel backfill
- geotextile
- ground damp insulation -HYDROBIT V60 S35
- ferroconcrete wall 250 mm
- net reinforcement KY 8,0/150-8,0/150

#### **4. Horizontal structures**

The ceiling structure consists of ceiling panels STRONG BF200 which are 200mm thick and BF 265, 265mm thick. It is reinforced with a ferroconcrete ring beam in circumference. The window and door platbands are typical from system POROTHERM.

The ceiling above the cable space is designed as a ferroconcrete plank D1 and D2 with a ferroconcrete frame R1-3 with bearing posts of 300x300mm. There are holes for the cables in the plank. The location of the holes is discernible from the provided drawings. The holes which are supposed to be used in the future are covered with corrugated iron. The entrance into the cable space leads through a fire manhole. There are iron steps anchored in the wall.

**The ceiling:**

- waterproofing ELASTOBIT ST+STH	--
- warmth insulation in downfall NOBASIL SPE+SPN+SPE	120-270 mm
- steam barrier JUTAFOL N 140 Špecial	
-ceiling panel STRONG BF 200(BF 265)	200(265) mm
-calcareous plaster	

Additional Civil Production:

**5. Floors:**

The floors in the building are cast MASTERTOP TC 472. There is an acid-resistant finishing coat COROFLAK C in the accumulator room . The concrete in the cable space is smoothed.

**P 01**

- Cast floor MASTERTOP TC 472	
- ferroconcrete plank B 30	200 mm

**P 02**

- ferroconcrete plank B 20 + nte KY 8/150 x 8/150 mm	150 mm
- separating layer asph. cardboard A 500 SH, loosely laid, overlap 100 mm	1 mm
- foam polystyrene PSE 25	50 mm
- waterproofing HYDROBIT V60 S35 + Np	5 mm
- base concrete	100mm
- gravel backfill	200mm

**P 03**

- Cast floor MASTERTOP TC 472	
- ferroconcrete plank B 20 + net KY 8/150 x 8/150mm	150 mm
- separating layer asph. cardboadr A 500 SH, loosely laid, overlap 100mm	1mm
- foam polystyrene PSE 25	50 mm
- waterproofing HYDROBIT V 60 S 35 + Np	5 mm
-base concrete	100 mm
-gravel backfill	200 mm

**P 04**

- acid.resistant coat COROFLAKE C	
- ferroconcrete plank B 20 + net KY 8/150 x 8/150mm	150 mm
- separating layer asph. cardboadr A 500 SH, loosely laid, overlap 100mm	1mm
- foam polystyrene PSE 25	50 mm
- waterproofing HYDROBIT V 60 S 35 + Np	5 mm
-base concrete	100 mm
-gravel backfill	200 mm

It is necessary to ensure wholeness of the warmth insulation in order to make this layer functioning.

#### **6. Opening filling:**

Filling of the openings– the front door is typal, iron, double-hung, the door leading to the cable space is fire-resistant, with resistance of 90 min. Gate for transformer room are including in mash wall. Mash wall is designed from fence parts, which are connected to I and U profiles by welding. The gate in the transformer room is filled with netting. The gate in the accumulator and condenser room has ventilation grids 200x400mm, they are on one side only. The hedge in the room is fire-resistant with resistance of 90 min.

**It is necessary to measure the existing openings before producing the windows and doors!**

**All wall and floor openings are fire-resistant sealed with HILTI CP 636 plaster.**

Holes will be covered by steel net before plastering. Dimension of the net will be suited according to local situation.

#### **7. Surface finishing:**

The inner walls are roughcast with calcareous plaster while there is a acid-resistant coating CORFLAKE 68 and 2x CORFLAKE 60 up to 2m designed in the accumulator room. After fitting the it is necessary to finish the walls with calcareous plaster. Fire protection of steel structure in cable space will be made by plaster PYROTHERM for 90min. Thicknes of plaster is cca 40mm-will be modified by supplier of plaster.

The exterior facade is designed as being made of BAUMIT plaster.

#### **8. Insulation**

HYDROBIT V 60 S35 damp insulation is used on the base concrete. Warmth insulation of the floor shall be made of POLYSTYREN EPSE, 50mm thick. The ceiling insulation shall be made of mineral wooll NOBASIL SPE-downfall+SPN+SPE. flat thic. 120-270mm. Insulation of the ferroconcrete walls shall be made of POLYSTYRENE thic.70mm. Insulation of the collecting shaft and the walls is protected against foil cracking during backfilling with a geotextile. Waterproofing of the roof is ensured by ELASTOBIT ST+STH.

#### **9. K9. Tinsmith works**

Tinsmith works include tin sheet covering of the attick, roof drains. The required tinsmith works shall be performed using zinck-coated sheet 0.6mm thick, according to STN 73 3610.

#### **10. Corrosion prevention, coating**

Protection of locksmith and tinsmith works is ensured by using the following coating:

- 1x undercoat
- 2x synthetic overcoat

#### **11. Color**

The color design of the structures:

Outer plaster Baumit –SMILE 3045

Sokel- Baunit moaic-MOSAIKPUTZ 070

Tinsmith and locksmith works- RAL 5005-blue

Windows, doors - white

The colors shall be closely specified by the investor during realisation of the construction

## **H. Safety and health protection**

The structure is a part of the investor's existing complex. The provider shall submit relevant technological procedure documentation which must meet safety and internal regulations, directives and provisions.

Staff of the provider shall undergo regular work-safety training provided by their employer.

The construction itself does not require any special measures and should not affect the surrounding operations in any significant manner.

All members of staff participating in the process of construction shall follow, besides other, the following safety provisions:

**nb. 59/1982 - Vyhláška Slovenského úradu bezpečnosti práce /Regulation of Slovak Work Safety Office/**

**nb. 374/1990 - Vyhláška Slovenského úradu bezpečnosti práce a Slovenského banského úradu /Regulation of Slovak Work Safety Office and Slovak Mining Office/**

**nb. 484/1990 - Vyhláška Slovenského úradu bezpečnosti práce /Regulation of Slovak Work Safety Office/**

**nb. 330/1996 - Zákon o bezpečnosti a ochrane zdravia pri práci /Work Safety and Health Protection Law/**

**STN 33 1310, STN 34 3100 a STN 34 3108**

- a/ Regulation nb. 374/1990 of Slovak Work Safety and Slovak Mining Code about work safety and machinery operation during civil work performance.
- b/ Regulation of SÚBP /SWSO/ nb. 59/1982 of the Code, which specifies the basic requirements of work safety and machinery operation in accordance with Regulation of SÚBP /SWSO/ nb. 484/1990 of the Code.
- c/ Slovak Government regulation nb. 510/2001 of the Law Code about minimal safety and health requirements on construction sites.
- d/ Slovak Government regulation nb.159/2001 of the Law Code about minimal safety and health requirements while using work tools.
- e/ Slovak Government regulation nb.204/2001 of the Law Code about minimal safety and health requirements while working with burdens.
- f/ NR SR Law nb. 514/2001 of the Law Code which amends NR SR law nb. 272/1994 of the Law Code about human health protection as amended

g/ NR SR Law nb.158/2001 of the Law Code which amend NR SR Law nb. 330/1996 of the Law Code

All notes on the drawings are a part of the technical report.

## **J. Civil professions**

1. Architectonic and civil design
2. Wiring
3. Air-conditioning

Košice june 2005

Designed by: Ing. Beáta Košťenská /  
*Beata Kosťenská*