

# PRESCHOOL INSTITUTION UB

## BILL OF QUANTITIES

I DISMANTLING - PREPARATORY WORKS					
No.	DESCRIPTION	UoM	NoU	Unit Price	TOTAL
1.	Dismantle the following items, load on the lorry and transport to landfill up to 10 km away.				
	a) Dismantle existing horizontal gutters. Quantity in m1.	m1	239.80		
	b) Dismantle mansard part of the roof. Quantity in m2.	m2	220.00		
	c) Dismantle sheet metal roof cover. Quantity in m2.	m2	1,265.00		
	d) Dismantle roof sheathing of the middle part of the roof. Quantity in m2.	m2	387.20		
	e) Dismantle the lexan sheets canopy above the atrium. Quantity in m2.	m2	24.20		
2.	Protection of the roof from leaking with PVC foil after dismantling of the existing roof cover and before mounting of the new one. Calculated in lump for the whole roof.	lump sum	1		
<b>TOTAL DISMANTLING - PREPARATORY WORKS</b>					

II MASONRY WORKS					
No.	DESCRIPTION	UoM	NoU	Unit Price	TOTAL
1.	Purchase and transport the material and overtop the chimney by additional height of 1.5 m using solid brick d=12 cm in lime cement mortar proportion 1:2:6. The brick shall be wetted with water before installation. Clean the joints on the outside after completion up to 2 cm deep. Finely finish the inside of chimney ducts during the construction. Calculation per m2.	m2	8.69		
<b>TOTAL MASONRY WORKS</b>					

III CONCRETE AND REINFORCED CONCRETE WORKS					
No.	DESCRIPTION	UoM	NoU	Unit Price	TOTAL
	Purchase and transport the material and make reinforced concrete bond beams 12x20 cm cross-section, MB 20. Make the formwork and reinforce the bond beams in accordance with the design, details and static calculations. The concrete shall be installed and treated in accordance with the regulations. The price shall include the formwork, reinforcement and auxiliary scaffolding. Calculation per m3.	m3	1.09		
<b>TOTAL CONCRETE AND ARMED CONCRETE WORKS</b>					

IV CARPENTRY WORKS					
No.	DESCRIPTION	UoM	NoU	Unit Price	TOTAL
1.	Replace worn out and damaged elements of the roof structure. Carefully dismantle the worn out roof elements. Make and finish new elements using dry coniferous wood modelled on dismantled elements and install them with all the necessary joints. The price shall include prop installation and securing.				
	a) Rafters 8/10 and 8/12 cm, replace 15% of existing rafters Calculation per m2 of oblique roof projection.	m2	58.08		
	b) Roof wall plate 12/12 cm and 12/14 cm, replace 15% of existing plates Calculation per m1 of existing wall plates.	m1	55.20		
2.	Board substructure of the middle part of the roof - boards 2.5 cm or OSB sheathing Purchase and transport material and install OSB sheathing d=2.5 cm. Place close together and nail to wooden rafters. Calculation per m2.	m2	390.50		

3. <b>Wooden beam with boards for rafter extension</b> Purchase and transport the material, make and install the roof structure using cut white wood as extension of the rafters. The extension shall be wooden beam, 8x15x38(40) cm, joined to existing rafter using boards 2.5/15/40cm, with all the necessary accessories and hardware. Do not use black pine or similar type of wood for the roof structure.  Calculation per piece.	pcs	157.00		
4. <b>OSB side soffit boards</b> Purchase and transport the material and install soffit boards on the edge of the roof eaves, using OSB panels, d=2.5 cm. Install close together and nail to wooden rafters. Calculation per m2.	m2	96.14		
5. <b>OSB bottom soffit boards</b> Purchase and transport the material and install soffit boards along the N edge of the roof eaves using OSB panels, d=2.5 cm and nail to wooden rafters. Calculation per m2.	m2	60.72		
6. Purchase and transport the material and reinforce the rafters 8/10 on the mid part of the roof by installation of additional 5/10 elements of conifer wood of II class fixed to the existing rafters with designated steel bolts. Calculation per m2 of slanted roof surface.	m2	387.20		
<b>TOTAL CARPENTRY WORKS</b>				

<b>V INSULATION WORKS</b>					
No.	DESCRIPTION	UoM	NoU	Unit Price	TOTAL
1. <b>Moisture barrier</b> Purchase and transport the material and install one layer of moisture barrier. Install the moisture barrier and stick the joints together using double sided reinforced acrylic adhesive tape, in accordance with the manual. Calculation per m2.		m2	1,309.00		
2. <b>Thermal insulation 25cm</b> Purchase and transport the material and install on the slanted roof over wooden OSB sheathing and under membrane water proofing, thermal insulation boards, hard pressed stone wool, Fibran BP (50kPa) or similar, 25 cm thick, mass 100 kg/m <sup>3</sup> . Calculation per m2.		m2	1,309.00		
3. <b>WATER PROOFING MEMBRANE</b> Purchase and transport material and make waterproofing – PVC membrane 1.5 mm thick. It shall be installed as the last layer on the roof, reinforced with polyester net, UV resistant, laying free. The membrane shall be fastened to wooden beams at the ends using mechanic fasteners, and over the fastening line the next roll membrane shall be overlapped and welded to the fastened membrane. The protection of the waterproofing from wind, i.e. the amount of the fastener, order of fastening, the direction of positioning the membrane, the width of the membrane – shall be made according to the calculation, made by the supplier of the waterproofing, fully in accordance with input data (maximum wind speed, geometry and height of the building, dynamic force of the fasteners, etc.) provided by and/or agreed with the contracting authority. Waterproofing shall be welded using hot air at the overlappings (using tools supplied by the manufacturer of the membrane), being careful that the width of the overlap is a minimum of 5 cm (from the edges of the fastener washers/plates to the edge of the membrane overlap). The width of the weld should be a minimum of 3 cm. Details, protrusions and finishings (on the attic or similar) shall be made in accordance with the recommendations and standard details of waterproofing producers as well as according to the details typical for this building. It is necessary to check the welds on the complete waterproofing in accordance with the producer recommendations.  Contractor must be certified for execution of these works by the manufacturer of the roof cover. Prior to installation, contractor must submit the calculation of required fasteners according to the manufacturer's manual. Calculation per m2.		m2	1,309.00		
<b>TOTAL INSULATION WORKS</b>					

VI METAL WORKS					
No.	DESCRIPTION	UoM	NoU	Unit Price	TOTAL
1.	Purchase and transport the material and make and install the steel chimney smoke pipe Ø400/5mm. Make and install per design, details and designer instructions. Joints and welds shall be ideally made, cleaned and sanded. Before installation the structure shall be cleaned of corrosion and dust, coated with impregnation and base colour and repaired after assembly. Extend the existing smoke pipe by 1.5 m. Calculation per kg.	kg	80.00		
2.	<b>Canopy above the atrium</b> Purchase and transport the material and make new, extended canopy carriers using lexan sheets and reinstall it, replacing the lexan sheets. The joints and the welds shall be ideally made, cleaned and sanded. Before installation clean the canopy of corrosion and dust, sand and brush off. Put impregnation, base colour and install the canopy. After installation repair the base colour, pre-putty, sand and paint twice.  Calculation per kg.	m2	24.20		
3.	<b>Protective chimney cover</b> Purchase and transport the material and make and install the protective chimney cover made of steel profiles and flat bars. The cover shall be made and installed in accordance with the details and designer instructions. The joints and the welds shall be ideally made, cleaned and sanded. Before installation clean the cover of corrosion and dust, sand and brush off. Put impregnation, base colour and install the cover. After installation repair the base colour, pre-putty, sand and paint twice.  Calculation per kg.	kg	20.00		
4.	Purchase and transport the material and reinforce the existing rafter Pos R2 of steel by installation of additional support profile 120/100/4. Price includes dismantling of a part of panelling of gypsum-cardboard, chiselling of the concrete pillar, purchase and installation of steel elements protected from corrosion (25kg per element) and installation of gypsum-cardboard panelling (3,4m2 per element) with smoothening and painting of the new panelling. Calculation per kg.	kg	400.00		
<b>TOTAL METAL WORKS</b>					

VII SHEET METAL WORKS					
No.	DESCRIPTION	UoM	NoU	Unit Price	TOTAL
	COMMON AND GENERAL TERMS FOR SHEET METAL In addition to the individual items, the costs shall also include the following common terms: <b>01.</b> Sheet metal works shall be fully performed in accordance with the project and valid standards and rulebooks, the prices shall include all the work operations, materials used, tools and scaffoldings stipulated by the "Normatives and standards of work in building construction - GN 771", as well as other expenses.  <b>02.</b> The price shall include nailing and soldering of the linings up to 50 cm wide; linings wider than 50 cm shall be made using standing double seams.  All the drips shall be at least 3 cm high and removed 3 cm from the wall. CALCULATION OF PERFORMED WORKS Calculation of quantities of works actually performed shall be made in accordance with the "Normatives and standards of work in building construction - GN 771"				
1.	<b>Roof drips - PVC-coated sheet metal</b> Roof edges flashing. The flashing shall be made of PVC-coated sheet metal with all the necessary material. Calculation per m1, completely done extended width up to 30 cm.	m1	664.40		
2.	Purchase, transport and install vents (puff pipes), completely in accordance with the product manual.	pcs	15.00		

3. <b>New edge flashing</b> Flash alongside roof edges. Purchase the material, make and install flashing made of PVC-coated N sheet metal with all the necessary material. Calculation per m of extended width 70 cm.	m1	332.20		
4. <b>Wall drips</b> Flash wall brick parapet d=38 cm. Purchase the material, make and install the flashing made of PVC-coated sheet metal and make double drip. Calculation per m of extended width 65 cm.	m1	55.00		
5. <b>Horizontal gutters</b> Calculation per meter of length Make and install horizontal gutter made of galvanised sheet metal d=0.55 mm, extended width 55 cm, completely with suitable flat bar hooks. Calculation per m1.	m1	243.10		
6. Flash the chimneys using galvanised sheet metal d=0.55 mm, extended width 55 cm. Calculation per m1.	m1	6.05		
7. Covering of roof surfaces with flat galvanised steel sheet 0,55mm thick, in width of 1.50 m around the chimney. Obračun po m2.	m2	16.80		
<b>TOTAL SHEET METAL WORKS</b>				

VIII ELECTRICAL INSTALLATIONS - EARTHING INSTALLATION AND LIGHTNING PROTECTION INSTALLATION					
No.	DESCRIPTION	UoM	NoU	Unit Price	TOTAL
1.	Dismantle the existing lightning protection installation from the roof (keep the existing system leading down to the gutter), including loading onto a lorry and transport to a landfill up to 10 km distance.	lump sum	1		
2.	Purchase, deliver and install the receiving system on the roof after rehabilitation, <b>galvanized round conductor Fi 8mm or Al conductor Fi 8mm.</b>	m1	270		
3.	Purchase, deliver and install <b>holders</b> for galvanized round conductor Fi 8mm suitable for flat roofs covered with PVC covers type Sika, similar to type 165 R-8-10 OBO Beterman.	pcs	270		
4.	Purchase, deliver and install pieces of crossed strip 20x3 and conductor Fi 8mm DIN 267, Teil 10, steel, similar to type (252 8-10XFL30 FT OBO BETERMAN).	pcs	7		
5.	Purchase, deliver and mount holders or catchers for the lightning conductor for the gutter. Lightning conductor shall be Fi 8-10 mm, hot dip galvanized steel, DIN EN ISO 1461 ( <b>served to connect the lightning protection downlet and horizontal gutter... similar to type OBO BETERMAN code 5316014</b> ).	pcs	4		
<b>TOTAL ELECTRICAL INSTALLATIONS - EARTHING INSTALLATION AND LIGTHNING PROTECTION INSTALLATION</b>					

RECAPITULATION	
I	DISMANTLING - PREPARATORY WORKS
II	MASONRY WORKS
III	CONCRETE AND ARMED CONCRETE WORKS
IV	CARPENTRY WORKS
V	INSULATION WORKS
VI	METAL WORKS
VII	SHEET METAL WORKS
VIII	ELECTRICAL INSTALLATIONS - EARTHING INSTALLATION AND LIGTHNING PROTECTION INSTALATION
TOTAL WITHOUT VAT	