

**D. DOKUMENTÁCIA STAVEBNÝCH OBJEKTOV
A INŽINIERSKÝCH SIETÍ****D.4 Ústredné vykurovanie****02. Výpočet tepelných strát hosp.pavilón**

Stavba	KOMPLEXNÁ OBNOVA OBJEKTU MATERSKEJ ŠKOLY UL. NÁLEPKOVÁ 50, BREZNO	
Stavebník	Mesto Brezno Námestie gen. M. R. Štefánika 1 977 01 Brezno	Číslo kópie
Stupeň	PD PRE STAVEBNÉ POVOLENIE	
Hlavný projektant	Ing. Július Žiška	
Zodp. projektant	Božena Skybová	
Zák. číslo	2016 24 20	
Dátum	04/2016	

Akcia :MS NALEPKOVA

Zak. cislo :brezno vypoctova vonk. teplota -16 'C

Arch.cislo :hosp pavilon char. cislo budovy B 8

Datum :06/ 2016 koeficient p2 .1

Cislo miestnosti 157 Teplota miestnosti 15 'C

stena	k	delta T	dlzka	vyska	plocha	Qo	l[m]	i
	[Wm-2K-1]	[°C]	[m]	[m]	[m2]	[W]	[m3s-1/mPa-0.67]	
1 sz	0.22	31.00	12.60	3.40	29.88	203.78	0.00	0
1 oz	1.00	31.00	2.40	1.80	4.32	133.92	8.40	.00014
1 oz	1.00	31.00	2.40	1.80	4.32	133.92	8.40	.00014
1 oz	1.00	31.00	2.40	1.80	4.32	133.92	8.40	.00014
2 sz	0.22	31.00	1.90	3.40	3.51	23.94	0.00	0
2 dz	1.00	31.00	1.00	2.95	2.95	91.45	8.90	.00019
3 pd	1.00	10.00	12.60	1.90	23.94	239.40	0.00	0
4 st	0.10	31.00	12.60	1.90	23.94	74.21	0.00	0
Plocha stien delta T koef.p1 M suma(ixl)								
146.48 31.00 0.03 1.00 0.0052								
kc [Wm-2K-1] Qo[W] Qp[W] Qv[W]								
0.23 1034.54 1169.03 182.61 Qc = 2251.64 [W]								

Cislo miestnosti 158 Teplota miestnosti 20 'C

stena	k	delta T	dlzka	vyska	plocha	Qo	l[m]	i
	[Wm-2K-1]	[°C]	[m]	[m]	[m2]	[W]	[m3s-1/mPa-0.67]	
1 sz	0.22	36.00	2.50	3.40	6.34	50.21	0.00	0
1 oz	1.00	36.00	1.20	1.80	2.16	77.76	6.00	.00014
2 sv	2.00	5.00	6.40	3.40	20.16	201.60	0.00	0
2 dv	2.30	5.00	0.80	2.00	1.60	18.40	0.00	0
3 pd	1.00	15.00	3.90	2.50	9.75	146.25	0.00	0
4 st	0.10	36.00	3.90	2.50	9.75	35.10	0.00	0
Plocha stien delta T koef.p1 M suma(ixl)								
63.02 36.00 0.03 1.00 0.0008								
kc [Wm-2K-1] Qo[W] Qp[W] Qv[W]								
0.23 529.32 598.13 214.50 Qc = 812.6308 [W]								

Cislo miestnosti 184 Teplota miestnosti 20 'C

stena	k	delta T	dlzka	vyska	plocha	Qo	l[m]	i
	[Wm-2K-1]	[°C]	[m]	[m]	[m2]	[W]	[m3s-1/mPa-0.67]	
1 sz	0.20	36.00	2.50	3.50	6.59	47.45	0.00	0
1 oz	1.00	36.00	1.20	1.80	2.16	77.76	6.00	.00014
2 sv	2.00	5.00	5.70	3.40	17.78	177.80	0.00	0
2 dv	2.30	5.00	0.80	2.00	1.60	18.40	0.00	0
3 pd	1.00	15.00	3.10	2.50	7.75	116.25	0.00	0
4 st	0.10	36.00	3.10	2.50	7.75	27.90	0.00	0
Plocha stien delta T koef.p1 M suma(ixl)								
52.78 36.00 0.03 1.00 0.0008								
kc [Wm-2K-1] Qo[W] Qp[W] Qv[W]								
0.25 465.56 526.08 214.50 Qc = 740.5766 [W]								

Cislo miestnosti 183 Teplota miestnosti 20 'C

stena	k	delta T	dlzka	vyska	plocha	Qo	l[m]	i
	[Wm-2K-1]	[°C]	[m]	[m]	[m2]	[W]	[m3s-1/mPa-0.67]	
1 sz	0.20	36.00	3.10	3.40	6.22	44.78	0.00	0
1 oz	1.00	36.00	1.20	1.80	2.16	77.76	6.00	.00014
1 oz	1.00	36.00	1.20	1.80	2.16	77.76	6.00	.00014
2 sv	2.00	5.00	4.50	3.40	15.30	153.00	0.00	0
3 pd	1.00	15.00	3.10	4.70	14.57	218.55	0.00	0
4 st	0.10	36.00	4.70	3.10	14.57	52.45	0.00	0
Plocha stien delta T koef.p1 M suma(ixl)								
82.18 36.00 0.03 1.00 0.0017								
kc [Wm-2K-1] Qo[W] Qp[W] Qv[W]								
0.21 624.31 705.47 428.99 Qc = 1134.458 [W]								

Cislo miestnosti 181 Teplota miestnosti 20 °C

stena	k	delta T	dlzka	vyska	plocha	Qo	l[m]	i
	[Wm-2K-1]	[°C]	[m]	[m]	[m2]	[W]	[m3s-1/mPa-0.67]	
1 sz	0.20	36.00	2.70	3.40	4.86	34.99	0.00	0
1 oz	1.00	36.00	1.20	1.80	2.16	77.76	6.00	.00014
1 oz	1.00	36.00	1.20	1.80	2.16	77.76	6.00	.00014
2 sv	2.00	5.00	2.70	3.40	9.18	91.80	0.00	0
3 pd	1.00	15.00	2.70	4.70	12.69	190.35	0.00	0
4 st	0.10	36.00	2.70	4.70	12.69	45.68	0.00	0
Plocha stien delta T koef.p1 M suma(ixl)								
75.70 36.00 0.03 1.00 0.0017								
kc [Wm-2K-1] Qo[W] Qp[W] Qv[W]								
0.19 518.35 585.73 428.99 Qc = 1014.723 [W]								

Cislo miestnosti 180 Teplota miestnosti 20 °C

stena	k	delta T	dlzka	vyska	plocha	Qo	l[m]	i
	[Wm-2K-1]	[°C]	[m]	[m]	[m2]	[W]	[m3s-1/mPa-0.67]	
1 sz	0.22	36.00	7.60	3.40	15.04	119.12	0.00	0
1 oz	1.00	36.00	2.40	1.80	4.32	155.52	8.40	.00014
1 oz	1.00	36.00	2.40	1.80	4.32	155.52	8.40	.00014
1 oz	1.00	36.00	1.20	1.80	2.16	77.76	6.00	.00014
2 sv	2.00	5.00	13.90	3.40	45.66	456.60	0.00	0
2 dv	2.30	5.00	0.80	2.00	1.60	18.40	0.00	0
3 pd	1.00	15.00	7.60	6.30	47.88	718.20	0.00	0
4 st	0.10	36.00	6.30	7.60	47.88	172.37	0.00	0
Plocha stien delta T koef.p1 M suma(ixl)								
190.28 36.00 0.03 1.00 0.0032								
kc [Wm-2K-1] Qo[W] Qp[W] Qv[W]								
0.27 1873.48 2117.04 795.08 Qc = 2912.123 [W]								

Cislo miestnosti 177 Teplota miestnosti 15 °C

stena	k	delta T	dlzka	vyska	plocha	Qo	l[m]	i
	[Wm-2K-1]	[°C]	[m]	[m]	[m2]	[W]	[m3s-1/mPa-0.67]	
1 sz	0.20	31.00	1.40	3.40	4.76	29.51	0.00	0
2 pd	1.00	10.00	1.40	6.30	8.82	88.20	0.00	0
3 st	0.10	31.00	1.40	6.30	8.82	27.34	0.00	0
4 sv	2.00	-5.00	11.00	3.40	37.40	-374.00	0.00	0
Plocha stien delta T koef.p1 M suma(ixl)								
70.00 31.00 0.00 0.00 0.0000								
kc [Wm-2K-1] Qo[W] Qp[W] Qv[W]								
-0.11 -228.95 -251.84 0.00 Qc = -251.8406 [W]								

Cislo miestnosti 175 Teplota miestnosti 20 °C

stena	k	delta T	dlzka	vyska	plocha	Qo	l[m]	i
	[Wm-2K-1]	[°C]	[m]	[m]	[m2]	[W]	[m3s-1/mPa-0.67]	
1 sz	0.20	36.00	4.50	3.40	8.82	63.50	0.00	0
1 oz	1.00	36.00	1.20	1.80	2.16	77.76	6.00	.00014
1 oz	1.00	36.00	1.20	1.80	2.16	77.76	6.00	.00014
1 oz	1.00	36.00	1.20	1.80	2.16	77.76	6.00	.00014
2 sz	0.20	36.00	5.00	3.40	17.00	122.40	0.00	0
3 sv	2.00	5.00	9.60	3.40	31.04	310.40	0.00	0
3 dv	2.30	5.00	0.80	2.00	1.60	18.40	0.00	0
4 pd	1.00	15.00	5.00	4.50	22.50	337.50	0.00	0
5 st	0.10	36.00	5.00	4.50	22.50	81.00	0.00	0
Plocha stien delta T koef.p1 M suma(ixl)								
109.60 36.00 0.03 1.00 0.0025								
kc [Wm-2K-1] Qo[W] Qp[W] Qv[W]								
0.30 1166.48 1318.13 543.49 Qc = 1861.615 [W]								

Cislo miestnosti 172 Teplota miestnosti 15 °C

stena	k	delta T	dlzka	vyska	plocha	Qo	l[m]	i
	[Wm-2K-1]	[°C]	[m]	[m]	[m2]	[W]	[m3s-1/mPa-0.67]	

1 st	0.10	31.00	2.70	1.60	4.32	13.39	0.00	0
2 pd	1.00	10.00	2.70	1.60	4.32	43.20	0.00	0
Plocha stien delta T koef.p1 M suma(ixl)								
	37.88	31.00	0.00	0.00	0.0000			
kc [Wm-2K-1] Qo[W] Qp[W] Qv[W]								
	0.05	56.59	62.25	0.00	Qc = 62.25121	[W]		

miestnost 168 ako 172

Cislo miestnosti 167		Teplota miestnosti 24 °C						
stena	k	delta T	dlzka	vyska	plocha	Qo	l[m]	i
	[Wm-2K-1]	[°C]	[m]	[m]	[m2]	[W]	[m3s-1/mPa-0.67]	
1 sz	0.20	40.00	2.70	3.40	9.18	73.44	0.00	0
2 sz	0.22	40.00	1.80	3.40	4.68	41.18	0.00	0
2 oz	1.00	40.00	1.20	1.20	1.44	57.60	4.80	.00014
3 sv	2.00	9.00	1.80	3.40	6.12	110.16	0.00	0
4 sv	2.00	4.00	2.70	3.40	7.58	60.64	0.00	0
4 dv	2.30	4.00	0.80	2.00	1.60	14.72	0.00	0
5 pd	1.00	19.00	2.70	1.80	4.86	92.34	0.00	0
6 st	0.10	40.00	1.80	2.70	4.86	19.44	0.00	0
Plocha stien delta T koef.p1 M suma(ixl)								
	40.32	40.00	0.03	1.00	0.0007			
kc [Wm-2K-1] Qo[W] Qp[W] Qv[W]								
	0.29	469.52	530.56	179.55	Qc = 710.1141	[W]		

Cislo miestnosti 166		Teplota miestnosti 20 °C						
stena	k	delta T	dlzka	vyska	plocha	Qo	l[m]	i
	[Wm-2K-1]	[°C]	[m]	[m]	[m2]	[W]	[m3s-1/mPa-0.67]	
1 sz	0.22	36.00	2.70	3.40	6.30	49.90	0.00	0
1 oz	1.00	36.00	1.20	1.20	1.44	51.84	4.80	.00014
1 oz	1.00	36.00	1.20	1.20	1.44	51.84	4.80	.00014
2 sv	2.00	5.00	5.40	3.40	16.76	167.60	0.00	0
2 dv	2.30	5.00	0.80	2.00	1.60	18.40	0.00	0
3 pd	1.00	15.00	2.70	2.70	7.29	109.35	0.00	0
4 st	0.10	36.00	2.70	2.70	7.29	26.24	0.00	0
Plocha stien delta T koef.p1 M suma(ixl)								
	51.30	36.00	0.03	1.00	0.0013			
kc [Wm-2K-1] Qo[W] Qp[W] Qv[W]								
	0.26	475.17	536.94	303.19	Qc = 840.136	[W]		

Cislo miestnosti 165		Teplota miestnosti 15 °C						
stena	k	delta T	dlzka	vyska	plocha	Qo	l[m]	i
	[Wm-2K-1]	[°C]	[m]	[m]	[m2]	[W]	[m3s-1/mPa-0.67]	
1 sz	0.22	31.00	1.40	3.40	1.52	10.37	0.00	0
1 dz	1.00	31.00	1.20	2.70	3.24	100.44	7.80	.00019
2 sv	2.00	15.00	1.50	3.40	5.10	153.00	0.00	0
3 pd	1.00	10.00	1.50	4.00	6.00	60.00	0.00	0
4 st	0.10	31.00	1.40	4.00	5.60	17.36	0.00	0
Plocha stien delta T koef.p1 M suma(ixl)								
	47.92	31.00	0.03	1.00	0.0015			
kc [Wm-2K-1] Qo[W] Qp[W] Qv[W]								
	0.23	341.17	385.52	277.80	Qc = 663.3149	[W]		

Cislo miestnosti 161		Teplota miestnosti 20 °C						
stena	k	delta T	dlzka	vyska	plocha	Qo	l[m]	i
	[Wm-2K-1]	[°C]	[m]	[m]	[m2]	[W]	[m3s-1/mPa-0.67]	
1 sz	0.22	36.00	4.50	3.40	10.98	86.96	0.00	0
1 oz	1.00	36.00	1.20	1.20	1.44	51.84	4.80	.00014
1 oz	1.00	36.00	1.20	1.20	1.44	51.84	4.80	.00014
1 oz	1.00	36.00	1.20	1.20	1.44	51.84	4.80	.00014
2 sv	2.00	20.00	3.00	3.40	10.20	408.00	0.00	0
3 sv	2.00	5.00	8.10	3.40	27.54	275.40	0.00	0
4 pd	1.00	15.00	4.40	4.30	18.92	283.80	0.00	0

5 st 0.10 36.00 4.50 4.30 19.35 69.66 0.00 0
 Plocha stien delta T koef.p1 M suma(ixl)
 98.54 36.00 0.06 1.00 0.0020
 kc [Wm-2K-1] Qo[W] Qp[W] Qv[W]
 0.36 1279.34 1484.04 454.79 Qc = 1838.827 [W]

Cislo miestnosti 159 Teplota miestnosti 20 'C
 stena k delta T dlzka vyska plocha Qo l[m] i
 [Wm-2K-1] ['C] [m] [m] [m2] [W] [m3s-1/mPa-0.67]
 1 sz 0.22 36.00 7.50 3.40 14.70 116.42 0.00 0
 1 oz 1.00 36.00 2.40 1.80 4.32 155.52 8.40 .00014
 1 oz 1.00 36.00 2.40 1.80 4.32 155.52 12.40 .00014
 1 oz 1.00 36.00 1.20 1.80 2.16 77.76 6.00 .00014
 2 sv 2.00 5.00 11.00 3.40 37.40 374.00 0.00 0
 3 pd 1.00 15.00 7.50 5.90 44.25 663.75 0.00 0
 4 st 0.10 36.00 7.50 5.90 44.25 159.30 0.00 0
 Plocha stien delta T koef.p1 M suma(ixl)
 179.62 36.00 0.03 1.00 0.0038
 kc [Wm-2K-1] Qo[W] Qp[W] Qv[W]
 0.26 1702.27 1923.57 904.75 Qc = 2828.319 [W]