

page 1/1 - worst hydraulic area - section 2																					HYDRAULIC CALCULATION ACC. VDS-CEA 4001:2003-01 (01)																				
								Employer:				Uniwersytet Śląski				hazard: OH3																									
								Object:				BIBLIOTEKA				under roof system maximum hight of storage: max. 2,1 m					multilevel system: none				density: 5,0 l/min/m2																
designer:			A.DUDLEJ					building:				BIBLIOTEKA				wet system: yes					dry system: none					design area:269,61 m2															
date:			06.11.2005					compartment				V pietro				quantity of sprinkler in area design : 28 piece							quantity levels of sprinkler: 1 piece																		
project No:			BUS-exe													medium area of 1 sprinkler: 9,63 m2							maximum area of 1 sprinkler: 10,19 m2																		
No of point	initial pressure p	factor k	branch line density	Σ Q	Dia of pipe Dn	Lenth of pipe L	equivalent schedule [m]								Δp	Δp/m	height	Sprinkler Pressure	Σ p	notice																					
							alarm valve	tee	elbow	gate valve	check valve	valve	pump diffuse narrow	Σ L																											
	bar		l/min	l/min	mm	m	psc.	psc.	psc.	psc.	psc.	psc.	psc.	m	bar	bar	bar	bar	bar																						
p2/1	0,641	80		60,12	25	4,00			2					5,54	0,077	0,0138	2,370	0,565	0,000	0,000																					
p3/1	0,803			122,17	25	3,14								3,14	0,161	0,0514	2,370	0,000	0,641	0,641																					
1'	0,809			191,63	32	0,20								0,20	0,006	0,0323	2,370	0,000	0,803	0,803																					
1	0,854		191,63	191,63	40	0,40		1						2,84	0,045	0,0158	2,370	0,000	0,809	0,809																					
2	0,861		124,06	191,63	80	5,31		1						10,06	0,007	0,0007	2,370	0,000	0,854	0,854																					
3	0,875		125,05	315,69	80	3,60		1						8,35	0,014	0,0017	2,370	0,000	0,861	0,861																					
4	0,901		126,97	440,74	80	3,60		1						8,35	0,026	0,0031	2,370	0,000	0,875	0,875																					
5	0,942		129,91	567,71	80	3,60		1						8,35	0,042	0,0050	2,370	0,000	0,901	0,901																					
6	1,003		134,15	697,62	80	3,60		1						8,35	0,061	0,0073	2,370	0,000	0,942	0,942																					
7	1,088		77,23	831,77	80	3,60		1						8,35	0,084	0,0101	2,370	0,000	1,003	1,003																					
pion	1,206			908,99	80	11,67		1		1				17,1	0,203	0,0119	2,370	0,000	1,003	1,003																					
ZKA	5,176			1817,99	100	60,90	1		9	1				119,6	1,439	0,0120	-0,160	0,000	1,206																						
tłoczny 1	5,609			1817,99	100	7,80		1	4	2	1			27,68	0,333	0,0120	-0,260		5,176																						
tłoczny 2																																									
	5,632			2217,99	100	1,00		1			1			7,10	0,123	0,0174	-0,160		5,609	2 hydranty 400 l/min																					
ssawny	5,797			2217,99	150	8,80			1	1			1	25,23	0,063	0,0025	-0,385	0,000	5,609	5,609																					
Q = 2217,99 * 60/1000 = 133 m3/h																																									
H = 5,797 +5% = 6,1 bar																					fire pump: Q=133 m3/h/ H=6,1 (KSB- Etanorm 80-200(Φ=215); P=45 kW)																				