

ZPR1

PF1 až PF2

Výpočet kapacity mělkého průlehu

$Q_N = 1.10 \text{ m}^3/\text{s}$

$$Q = S \cdot v$$

$$R = S/O$$

$$c = 1/n \cdot R^{1/6}$$

$$v = c \cdot (R \cdot I)^{1/2}$$

$$n = (O_1 \cdot n_1^{1.5} + \dots + O_i \cdot n_i^{1.5})^{2/3} / O^{2/3}$$

š.dno= 0.60 m

n= 0.033

I= 0.05000

sklony 1.50

d_e= 0.20000

I= 5.00 %

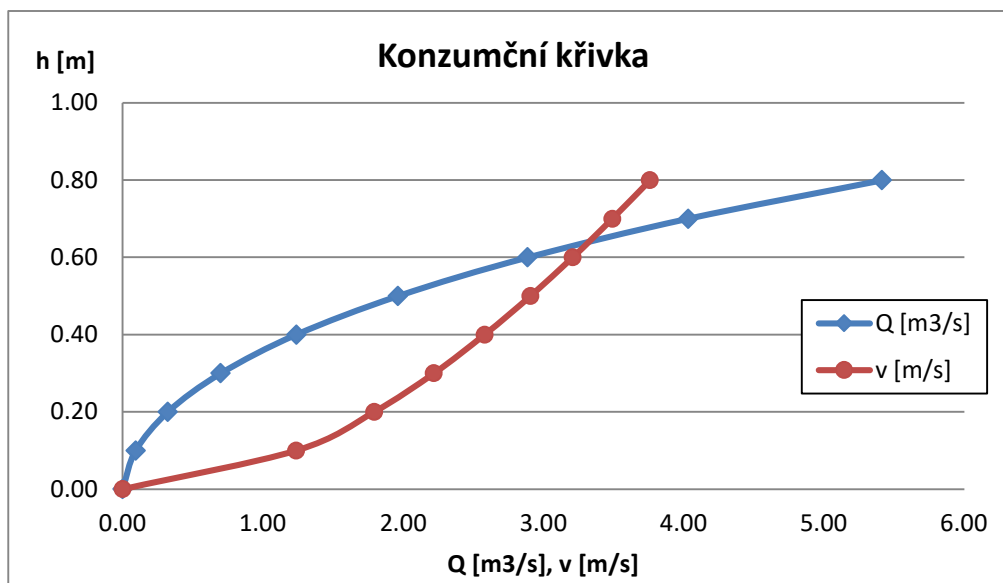
h	S	O	R	C	v	Q _{vyp}
(m)	(m ²)	(m)	(m)	-	(m/s)	(m ³ /s)
0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.10	0.08	0.96	0.078	19.811	1.238	0.093
0.20	0.18	1.32	0.136	21.737	1.794	0.323
0.30	0.32	1.68	0.187	22.922	2.218	0.699
0.40	0.48	2.04	0.235	23.805	2.581	1.239
0.50	0.68	2.40	0.281	24.524	2.906	1.962
0.60	0.90	2.76	0.326	25.136	3.208	2.887
0.70	1.16	3.12	0.370	25.672	3.491	4.032
0.80	1.44	3.48	0.413	26.153	3.759	5.414
Qkap	0.38	0.44	1.97	0.226	23.645	2.512

Výpočet stability příkopu

$$v_v = 5,556 \cdot h^{1/6} \cdot d_e^{1/3}$$

$$\tau_k = 0,7753 \cdot \rho \cdot d_e$$

Qkap	h	R	v	v _v	τ	τ _k	posuzení stability (návrhový průtok)	
	(m)	(m)	(m/s)	(m/s)	(Pa)	(Pa)		
	0.20	0.136	1.794	2.485	66.830	155.060		
	0.30	0.187	2.218	2.658	91.878	155.060		
	0.40	0.235	2.581	2.789	115.286	155.060		
	0.50	0.281	2.906	2.895	137.794	155.060		
	0.60	0.326	3.208	2.984	159.753	155.060		
	0.70	0.370	3.491	3.062	181.353	155.060		
	0.80	0.413	3.759	3.131	202.707	155.060	v < v _v	τ < τ _k
	0.380	0.226	2.512	2.765	110.692	155.060	OK	OK



ZPR1

PF2 až PF7

Výpočet kapacity mělkého průlehu

$Q_N = 1.10 \text{ m}^3/\text{s}$

$$Q = S \cdot v$$

$$R = S/O$$

$$c = 1/n \cdot R^{1/6}$$

$$v = c \cdot (R \cdot I)^{1/2}$$

$$n = (O_1 \cdot n_1^{1.5} + \dots + O_i \cdot n_i^{1.5})^{2/3} / O^{2/3}$$

š.dno= 0.60 m

n= 0.033

I= 0.19000

sklony 1.50

d_e= 0.20000

I= 19.00 %

Q_{kap}

h	S	O	R	C	v	Q _{vyp}
(m)	(m ²)	(m)	(m)	-	(m/s)	(m ³ /s)
0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.05	0.03	0.78	0.043	17.954	1.628	0.055
0.10	0.08	0.96	0.078	19.811	2.413	0.181
0.15	0.12	1.14	0.108	20.927	3.004	0.372
0.20	0.18	1.32	0.136	21.737	3.497	0.630
0.25	0.24	1.50	0.162	22.382	3.931	0.958
0.30	0.32	1.68	0.187	22.922	4.324	1.362
0.35	0.39	1.86	0.211	23.390	4.688	1.846
0.40	0.48	2.04	0.235	23.805	5.031	2.415
Q _{kap} 0.28	0.29	1.61	0.177	22.716	4.171	1.191

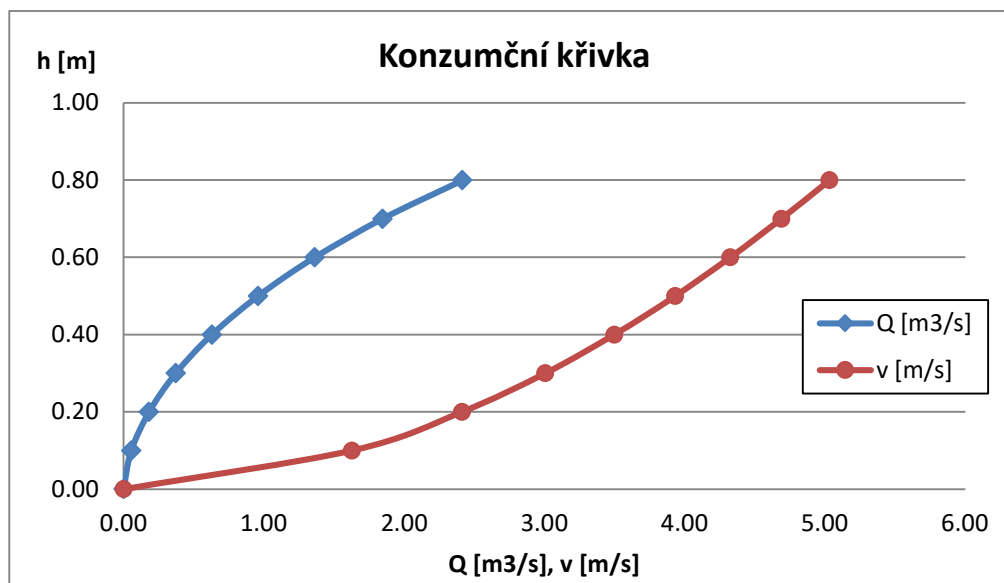
Výpočet stability příkopu

$$v_v = 5,556 \cdot h^{1/6} \cdot d_e^{1/3}$$

$$\tau_k = 0,7753 \cdot \rho \cdot d_e$$

Q_{kap}

h	R	v	v _v	τ	τ _k	posuzení stability (návrhový průtok)	
(m)	(m)	(m/s)	(m/s)	(Pa)	(Pa)		
0.10	0.078	2.413	2.214	145.533	155.060		
0.15	0.108	3.004	2.368	202.184	155.060		
0.20	0.136	3.497	2.485	253.955	155.060		
0.25	0.162	3.931	2.579	302.604	155.060		
0.30	0.187	4.324	2.658	349.135	155.060		
0.35	0.211	4.688	2.728	394.164	155.060		
0.40	0.235	5.031	2.789	438.088	155.060	$v < v_v$	$\tau < \tau_k$
Q _{kap} 0.280	0.177	4.171	2.628	330.731	155.060	X	X



ZPR2

PF 09 až PF 20

Výpočet kapacity mělkého průlehu

$Q_N = 0.40 \text{ m}^3/\text{s}$

$$Q = S \cdot v$$

$$R = S/O$$

$$c = 1/n \cdot R^{1/6}$$

$$v = c \cdot (R \cdot I)^{1/2}$$

$$n = (O_1 \cdot n_1^{1.5} + \dots + O_i \cdot n_i^{1.5})^{2/3} / O^{2/3}$$

š.dno= 0.45 m

n= 0.033

I= 0.06000

sklony 1.75

d_e= 0.20000

I= 6.00 %

Q_{kap}

h	S	O	R	C	v	Q _{vyp}
(m)	(m ²)	(m)	(m)	-	(m/s)	(m ³ /s)
0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.10	0.06	0.85	0.073	19.602	1.300	0.081
0.20	0.16	1.26	0.127	21.495	1.879	0.301
0.30	0.29	1.66	0.176	22.691	2.334	0.683
0.40	0.46	2.06	0.223	23.598	2.730	1.256
0.50	0.66	2.47	0.269	24.342	3.091	2.048
0.60	0.90	2.87	0.314	24.979	3.427	3.084
0.70	1.17	3.27	0.358	25.539	3.745	4.391
0.80	1.48	3.67	0.403	26.041	4.048	5.991
Q _{kap} 0.24	0.21	1.42	0.147	22.022	2.070	0.432

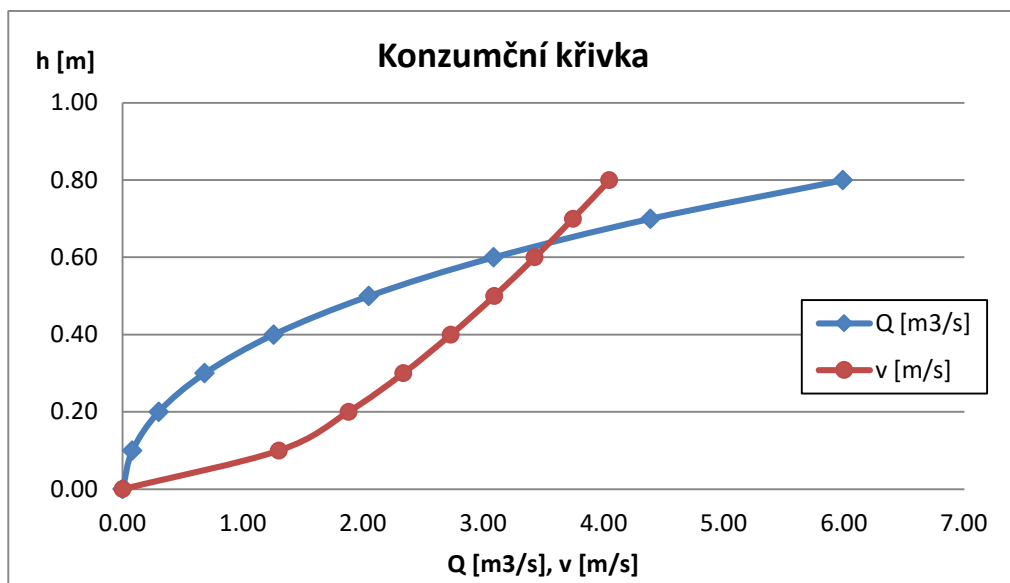
Výpočet stability příkopu

$$v_v = 5,556 \cdot h^{1/6} \cdot d_e^{1/3}$$

$$\tau_k = 0,7753 \cdot \rho \cdot d_e$$

Q_{kap}

h	R	v	v _v	τ	τ _k	posuzení stability (návrhový průtok)	
(m)	(m)	(m/s)	(m/s)	(Pa)	(Pa)		
0.20	0.127	1.879	2.485	74.967	155.060		
0.30	0.176	2.334	2.658	103.755	155.060		
0.40	0.223	2.730	2.789	131.279	155.060		
0.50	0.269	3.091	2.895	158.157	155.060		
0.60	0.314	3.427	2.984	184.664	155.060		
0.70	0.358	3.745	3.062	210.935	155.060		
0.80	0.403	4.048	3.131	237.048	155.060	v < v _v	τ < τ _k
Q _{kap} 0.240	0.147	2.070	2.561	86.703	155.060	OK	OK



ZPR2

PF 20 až PF 22

Výpočet kapacity mělkého průlehu

$Q_N = 0.40 \text{ m}^3/\text{s}$

$$Q = S \cdot v$$

$$R = S/O$$

$$c = 1/n \cdot R^{1/6}$$

$$v = c \cdot (R \cdot I)^{1/2}$$

$$n = (O_1 \cdot n_1^{1.5} + \dots + O_i \cdot n_i^{1.5})^{2/3} / O^{2/3}$$

š.dno= 0.45 m

n= 0.033

I= 0.01000

sklony 1.75

d_e= 0.20000

I= 1.00 %

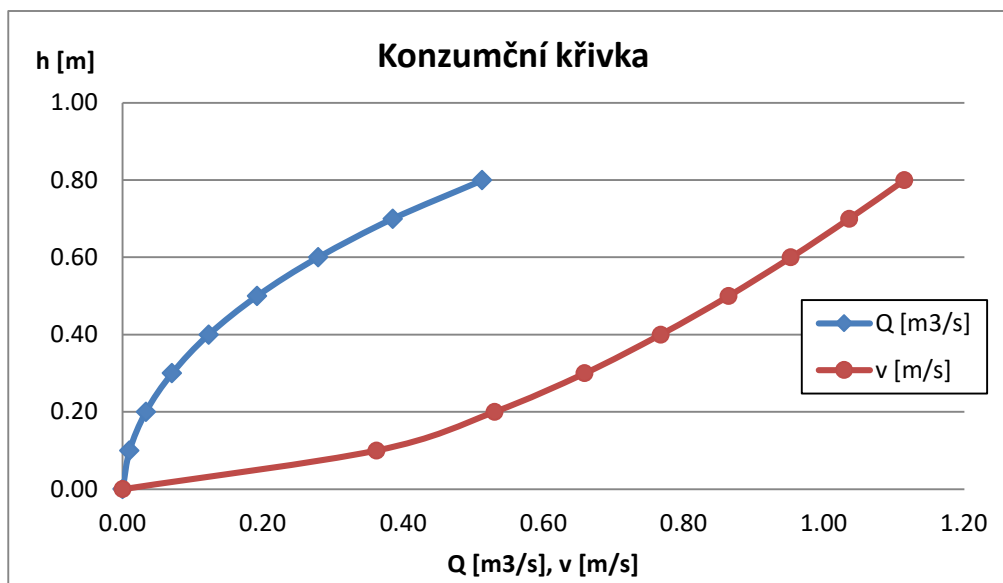
h	S	O	R	C	v	Q _{vyp}
(m)	(m ²)	(m)	(m)	-	(m/s)	(m ³ /s)
0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.05	0.03	0.65	0.041	17.812	0.362	0.010
0.10	0.06	0.85	0.073	19.602	0.531	0.033
0.15	0.11	1.05	0.101	20.691	0.659	0.070
0.20	0.16	1.26	0.127	21.495	0.767	0.123
0.25	0.22	1.46	0.152	22.142	0.864	0.192
0.30	0.29	1.66	0.176	22.691	0.953	0.279
0.35	0.37	1.86	0.200	23.170	1.036	0.385
0.40	0.46	2.06	0.223	23.598	1.114	0.513
Qkap	0.36	0.39	1.90	0.205	23.260	1.052

Výpočet stability příkopu

$$v_v = 5,556 \cdot h^{1/6} \cdot d_e^{1/3}$$

$$\tau_k = 0,7753 \cdot \rho \cdot d_e$$

Qkap	h	R	v	v _v	τ	τ _k	posuzení stability (návrhový průtok)	
	(m)	(m)	(m/s)	(m/s)	(Pa)	(Pa)		
	0.10	0.073	0.531	2.214	7.187	155.060		
	0.15	0.101	0.659	2.368	9.941	155.060		
	0.20	0.127	0.767	2.485	12.495	155.060		
	0.25	0.152	0.864	2.579	14.931	155.060		
	0.30	0.176	0.953	2.658	17.293	155.060		
	0.35	0.200	1.036	2.728	19.604	155.060		
	0.40	0.223	1.114	2.789	21.880	155.060	v < v _v	τ < τ _k
	0.360	0.205	1.052	2.740	20.062	155.060	OK	OK



ZPR2

PF 24 až KÚ

Výpočet kapacity mělkého průlehu

$Q_N = 0.21 \text{ m}^3/\text{s}$

$$Q = S \cdot v$$

$$R = S/O$$

$$c = 1/n \cdot R^{1/6}$$

$$v = c \cdot (R \cdot I)^{1/2}$$

$$n = (O_1 \cdot n_1^{1.5} + \dots + O_i \cdot n_i^{1.5})^{2/3} / O^{2/3}$$

š.dno= 0.30 m

n= 0.033

I= 0.03000

sklony 1.75

d_e= 0.20000

I= 3.00 %

h	S	O	R	C	v	Q _{vyp}
(m)	(m ²)	(m)	(m)	-	(m/s)	(m ³ /s)
0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.05	0.02	0.50	0.039	17.619	0.600	0.012
0.10	0.05	0.70	0.068	19.339	0.871	0.041
0.15	0.08	0.90	0.093	20.407	1.079	0.091
0.20	0.13	1.11	0.118	21.208	1.259	0.164
0.25	0.18	1.31	0.141	21.862	1.422	0.262
0.30	0.25	1.51	0.164	22.419	1.572	0.389
0.35	0.32	1.71	0.187	22.909	1.714	0.548
0.40	0.40	1.91	0.209	23.347	1.849	0.740
Q_{kap}	0.23	0.16	1.23	0.132	1.358	0.219

Výpočet stability příkopu

$$v_v = 5,556 \cdot h^{1/6} \cdot d_e^{1/3}$$

$$\tau_k = 0,7753 \cdot \rho \cdot d_e$$

Q _{kap}	h	R	v	v _v	τ	τ _k	posuzení stability (návrhový průtok)	
	(m)	(m)	(m/s)	(m/s)	(Pa)	(Pa)		
	0.10	0.068	0.871	2.214	19.882	155.060		
	0.15	0.093	1.079	2.368	27.448	155.060		
	0.20	0.118	1.259	2.485	34.585	155.060		
	0.25	0.141	1.422	2.579	41.491	155.060		
	0.30	0.164	1.572	2.658	48.259	155.060		
	0.35	0.187	1.714	2.728	54.937	155.060		
	0.40	0.209	1.849	2.789	61.555	155.060	v < v _v	τ < τ _k
0.230	0.132	1.358	2.543	38.749	155.060	OK	OK	

