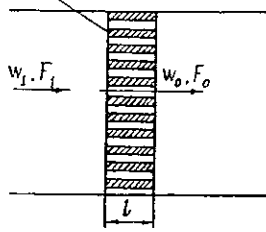


Grid made of thickened laths or perforated thick plate
($l/d_h > 0.015$); $Re = w_0 d_h / \nu \geq 10^5$ [14-17, 20]

Diagram
8-3

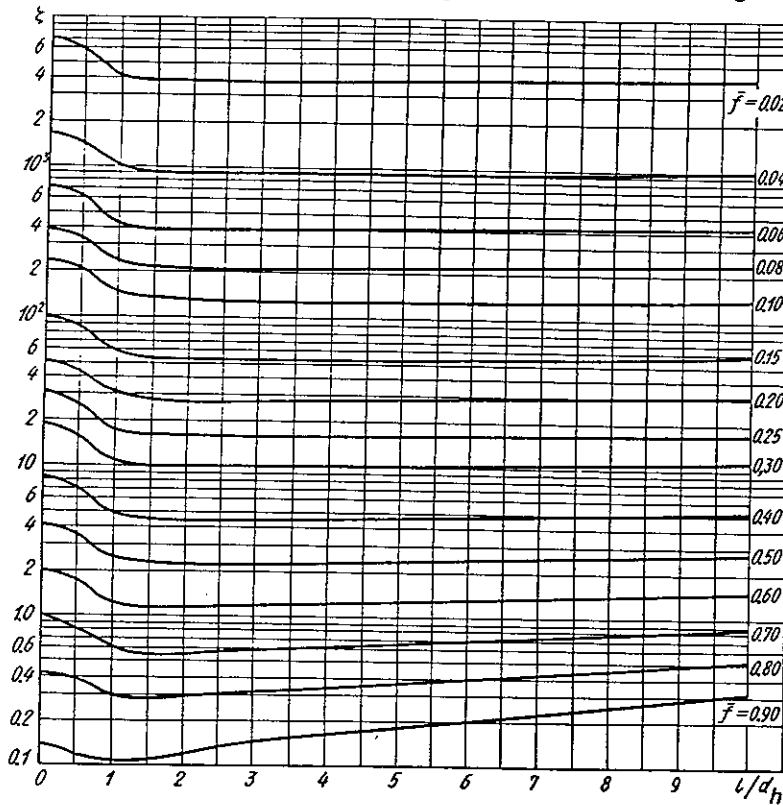
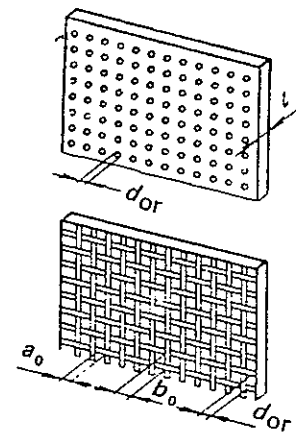
Grid (F_0 - Clear area)



$$d_h = \frac{4f_{or}}{\Pi_0}$$

$$\bar{f} = \frac{F_0}{F_1} = \frac{\Sigma f_{or}}{F_1}$$

f_{or} is the area of one orifice; F_0 is the clear area of the grid.



$$\zeta = \frac{\Delta p}{\rho w_1^2 / 2} = \left[(0.5 + \tau \sqrt{1 - \bar{f}}) \times (1 - \bar{f}) + (1 - \bar{f})^2 + \lambda \frac{l}{d_h} \right] \times \frac{1}{\bar{f}^2} = \left(\xi_0 + \lambda \frac{l}{d_h} \right) \frac{1}{\bar{f}^2}$$

where $\tau = f(l/d_h)$, see the table below or the graph of Diagram 4-12;

$$\xi_0 = (0.5 + \tau \sqrt{1 - \bar{f}}) (1 - \bar{f}) + (1 - \bar{f})^2$$

for λ , see Diagrams 2-1 through 2-6;
 $\xi = f(l/d_h)$ at different \bar{f} and
 $\lambda = 0.02$, see graph.

Values of ξ

l/d_h	τ	\bar{f}															
		0.02	0.04	0.06	0.08	0.10	0.15	0.20	0.25	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.0
0	1.35	7000	1670	730	400	245	96.0	51.5	30.0	18.2	8.25	4.00	2.00	0.97	0.42	0.13	0
0.2	1.22	6600	1600	687	374	230	94.0	48.0	28.0	17.4	7.70	3.75	1.87	0.91	0.40	0.13	0
0.4	1.10	6310	1530	660	356	221	89.0	46.0	26.5	16.6	7.40	3.60	1.80	0.88	0.39	0.13	0.01
0.6	0.84	5700	1380	590	322	199	81.0	42.0	24.0	15.0	6.60	3.20	1.60	0.80	0.36	0.13	0.01
0.8	0.42	4680	1130	486	264	164	66.0	34.0	19.6	12.2	5.50	2.70	1.34	0.66	0.31	0.12	0.02
1.0	0.24	4260	1030	443	240	149	60.0	31.0	17.8	11.1	5.00	2.40	1.20	0.61	0.29	0.11	0.02
1.4	0.10	3930	950	408	221	137	55.6	28.4	16.4	10.3	4.60	2.25	1.15	0.58	0.28	0.11	0.03
2.0	0.02	3770	910	391	212	134	53.0	27.4	15.8	9.90	4.40	2.20	1.13	0.58	0.28	0.12	0.04
3.0	0	3765	913	392	214	132	53.5	27.5	15.9	10.0	4.50	2.24	1.17	0.61	0.31	0.15	0.06
4.0	0	3775	930	400	215	132	53.8	27.7	16.2	10.0	4.60	2.25	1.20	0.64	0.35	0.16	0.08
5.0	0	3850	936	400	220	133	55.5	28.5	16.5	10.5	4.75	2.40	1.28	0.69	0.37	0.19	0.10
6.0	0	3870	940	400	222	133	55.8	28.5	16.6	10.5	4.80	2.42	1.32	0.70	0.40	0.21	0.12
7.0	0	4000	950	405	230	135	55.9	29.0	17.0	10.9	5.00	2.50	1.38	0.74	0.43	0.23	0.14
8.0	0	4000	965	410	236	137	56.0	30.0	17.2	11.1	5.10	2.58	1.45	0.80	0.45	0.25	0.16
9.0	0	4080	985	420	240	140	57.0	30.0	17.4	11.4	5.30	2.62	1.50	0.82	0.50	0.28	0.18
10	0	4110	1000	430	245	146	59.7	31.0	18.2	11.5	5.40	2.80	1.57	0.89	0.53	0.32	0.20