

2-1/4" Chain Link Mesh Variables 11-1/2 ga to 5 ga

2-1/4" Mesh Wind & Weight Values				
Gauge	Dia (in)	ϵ	C_{fw}	D_m (psf)
5	0.207	0.17	1.3	1.5
6	0.192	0.16	1.3	1.3
8	0.162	0.14	1.3	0.9
9	0.148	0.13	1.3	0.8
10	0.135	0.12	1.3	0.6
11	0.120	0.10	1.3	0.5
11-1/2	0.113	0.10	1.2	0.5

ϵ = solidity ratio for chain link
 ϵ' = solidity ratio for iced chain link
 C_{fw} = wind force coefficient
 C_{fi} = wind on ice force coefficient
 D_m = estimated weight of chain link mesh
 Check with supplier for actual weight
 D_i = estimated weight of ice (includes 0.7 ASD factor)
 The values below are only valid for Risk Category I and $K_{zt} = 1.0$
 For ice thickness not shown below, round up to next nearest value

2-1/4" Mesh (all gauges) Estimated Ice Loading Risk Category I $K_{zt} = 1.0$												
ASCE 7-10 Nominal Ice Thickness, t (in)	Fence Height, h											
	5'			10'			15'			20'		
	ϵ'	C_{fi}	D_i (psf)	ϵ'	C_{fi}	D_i (psf)	ϵ'	C_{fi}	D_i (psf)	ϵ'	C_{fi}	D_i (psf)
0.25	0.58	1.5	1.3	0.61	1.5	1.4	0.62	1.5	1.5	0.63	1.5	1.5
0.50	0.86	See solid wall C_{fi} table below	3.5	0.89	See solid wall C_{fi} table below	3.9	0.90	See solid wall C_{fi} table below	4.1	0.91	See solid wall C_{fi} table below	4.3
0.75	0.99		6.2	1.00		6.7	1.00		7.0	1.00		7.3
1.00	1.00		9.0	1.00		9.9	1.00		10.4	1.00		10.8
1.25	1.00		12.0	1.00		13.0	1.00		13.6	1.00		14.1
1.50	1.00		14.8	1.00		16.1	1.00		16.8	1.00		17.4
ASCE 7-16 Nominal Ice Thickness, t (in)	Fence Height, h											
	5'			10'			15'			20'		
	ϵ'	C_{fi}	D_i (psf)	ϵ'	C_{fi}	D_i (psf)	ϵ'	C_{fi}	D_i (psf)	ϵ'	C_{fi}	D_i (psf)
0.25	0.39	1.5	0.5	0.41	1.5	0.5	0.41	1.5	0.5	0.42	1.5	0.6
0.50	0.58	1.5	1.3	0.61	1.5	1.4	0.62	1.5	1.5	0.63	1.5	1.5
0.75	0.74	See solid wall C_{fi} table below	2.3	0.77	See solid wall C_{fi} table below	2.5	0.78	See solid wall C_{fi} table below	2.7	0.80	See solid wall C_{fi} table below	2.8
1.00	0.86		3.5	0.89		3.9	0.90		4.1	0.91		4.3
1.25	0.94		4.8	0.96		5.3	0.97		5.6	0.98		5.8
1.50	0.99		6.2	1.00		6.7	1.00		7.0	1.00		7.3
1.75	1.00		7.5	1.00		8.3	1.00		8.7	1.00		9.1
2.00	1.00	9.0	1.00	9.9	1.00	10.4	1.00	10.8				
2.25	1.00	10.5	1.00	11.5	1.00	12.1	1.00	12.5				
2.50	1.00	12.0	1.00	13.0	1.00	13.6	1.00	14.1				
ASCE 7-22 Nominal Ice Thickness, t (in)	Fence Height, h											
	5'			10'			15'			20'		
	ϵ'	C_{fi}	D_i (psf)	ϵ'	C_{fi}	D_i (psf)	ϵ'	C_{fi}	D_i (psf)	ϵ'	C_{fi}	D_i (psf)
0.25	0.44	1.50	0.6	0.46	1.50	0.7	0.47	1.50	0.7	0.48	1.50	0.8
0.50	0.67	1.5	1.7	0.69	1.5	1.9	0.71	See solid wall C_{fi} table below	2.1	0.72	See solid wall C_{fi} table below	2.2
0.75	0.83	3.2	0.86	3.5	0.88	3.8	0.89		3.9			
1.00	0.94	4.8	0.96	5.3	0.97	5.6	0.98		5.8			
1.25	0.99	6.5	1.00	7.0	1.00	7.5	1.00		7.8			
1.50	1.00	8.3	1.00	9.1	1.00	9.6	1.00		10.0			
1.75	1.00	10.2	1.00	11.1	1.00	11.7	1.00	12.1				
2.00	1.00	12.0	1.00	13.0	1.00	13.6	1.00	14.1				
2.25	1.00	13.8	1.00	14.9	1.00	15.6	1.00	16.1				
2.50	1.00	15.5	1.00	16.8	1.00	17.6	1.00	18.2				

Solid Wall Case A C_{fi} values for line posts away from ends and corners for $\epsilon' > 0.7$										
Only for $s/h = 1$	B/s									
	1	2	3	4	5	6	7	8	9	≥ 10
	1.45	1.40	1.38	1.35	1.35	1.34	1.33	1.32	1.31	1.30

B = Length of fence segment being considered Round B/s value down to nearest value shown on the chart
 s = Solid height of fence
 h = Overall height of fence
 $s/h = 1$ assumes ice bridges any gap at the bottom of the fence and $s = h$
 For conditions not show above, see the ASCE §29 Solid Wall Table