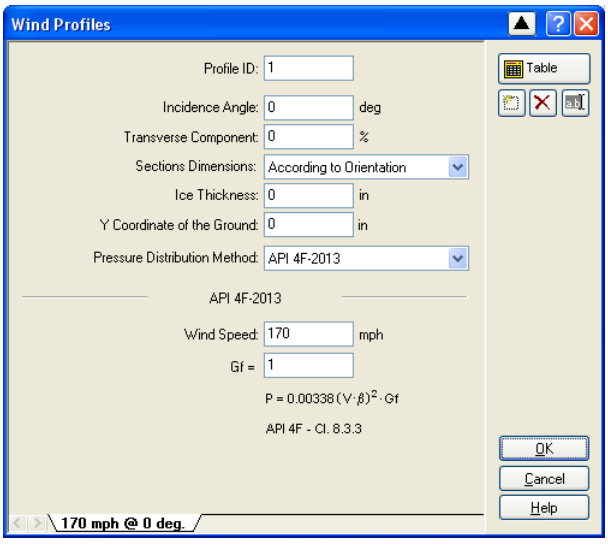
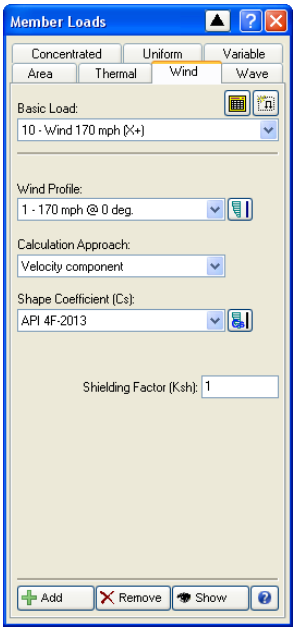
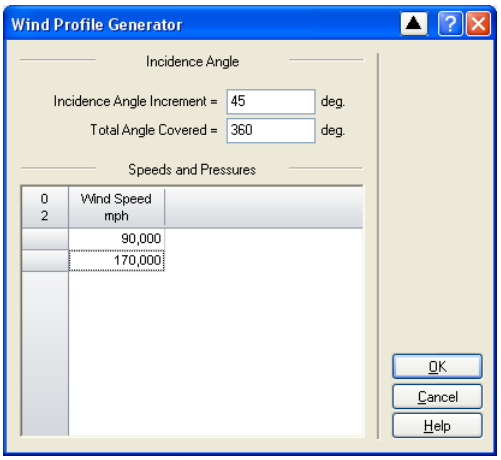
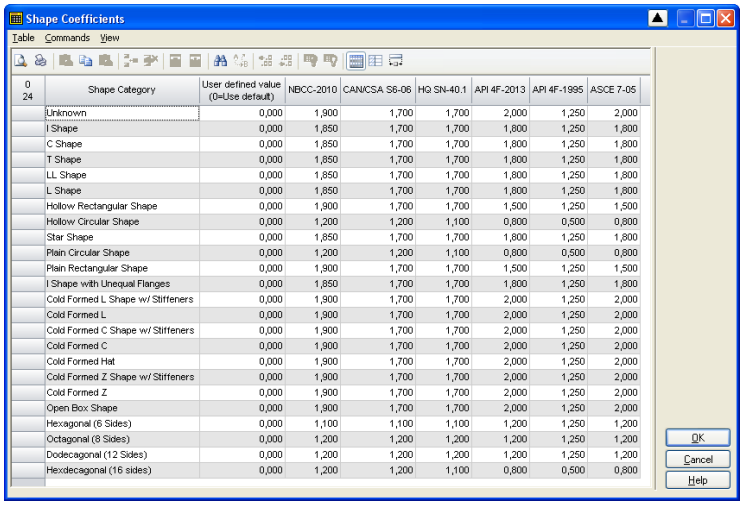
PETROLEUM STRUCTURAL ENGINEERING®
WIND LOADS

The Petroleum Structural Engineering software automates wind loads applied to members. These loads are calculated based on the projected area, projected pressures or velocity components approaches. The program offers a variety of wind profiles and automates the determination of the shape coefficients (drag factors). The automation of the drag coefficients is also available for the NBCC-2005, ASCE 7-05, CSA S6-06, HQ SN-40.1, API 4F-2013 and API 4F-1995 codes. Tools are provided to quickly generate wind profiles acting on several directions.



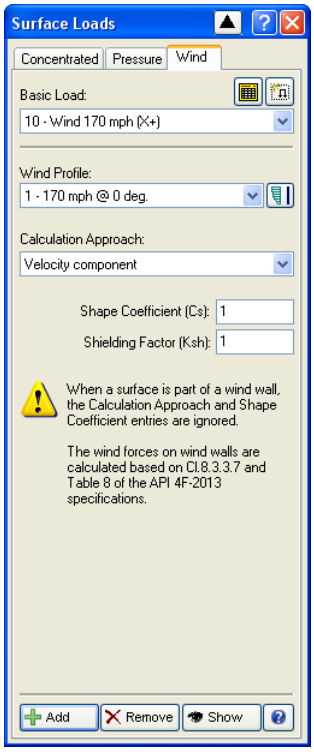


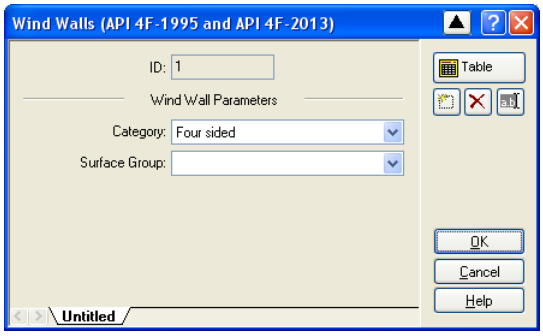




0 24	Shape Category	User defined value (0=Use default)	NBCC-2010	CAN/CSA S6-06	HQ SN-40.1	API 4F-2013	API 4F-1995	ASCE 7-05
	Unknown	0,000	1,900	1,700	1,700	2,000	1,250	2,000
	I Shape	0,000	1,850	1,700	1,700	1,800	1,250	1,800
	C Shape	0,000	1,850	1,700	1,700	1,800	1,250	1,800
	T Shape	0,000	1,850	1,700	1,700	1,800	1,250	1,800
	LL Shape	0,000	1,850	1,700	1,700	1,800	1,250	1,800
	L Shape	0,000	1,850	1,700	1,700	1,800	1,250	1,800
	Hollow Rectangular Shape	0,000	1,900	1,700	1,700	1,500	1,250	1,500
	Hollow Circular Shape	0,000	1,200	1,200	1,100	0,800	0,500	0,800
	Star Shape	0,000	1,850	1,700	1,700	1,800	1,250	1,800
	Plain Circular Shape	0,000	1,200	1,200	1,100	0,800	0,500	0,800
	Plain Rectangular Shape	0,000	1,900	1,700	1,700	1,500	1,250	1,500
	I Shape with Unequal Flanges	0,000	1,850	1,700	1,700	1,800	1,250	1,800
	Cold Formed L Shape w/ Stiffeners	0,000	1,900	1,700	1,700	2,000	1,250	2,000
	Cold Formed L	0,000	1,900	1,700	1,700	2,000	1,250	2,000
	Cold Formed C Shape w/ Stiffeners	0,000	1,900	1,700	1,700	2,000	1,250	2,000
	Cold Formed C	0,000	1,900	1,700	1,700	2,000	1,250	2,000
	Cold Formed Hat	0,000	1,900	1,700	1,700	2,000	1,250	2,000
	Cold Formed Z Shape w/ Stiffeners	0,000	1,900	1,700	1,700	2,000	1,250	2,000
	Cold Formed Z	0,000	1,900	1,700	1,700	2,000	1,250	2,000
	Open Box Shape	0,000	1,900	1,700	1,700	2,000	1,250	2,000
	Hexagonal (6 Sides)	0,000	1,100	1,100	1,100	1,200	1,250	1,200
	Octagonal (8 Sides)	0,000	1,200	1,200	1,200	1,200	1,250	1,200
	Dodecagonal (12 Sides)	0,000	1,200	1,200	1,200	1,200	1,250	1,200
	Hexdecagonal (16 sides)	0,000	1,200	1,200	1,100	0,800	0,500	0,800

It is also possible to apply the wind loads to load surfaces. In this situation, the shape coefficients and the method used to calculate the wind force must be defined by the user. It is possible to calculate the wind forces based on the velocity component approach, the projected area approach or the projected pressure approach.





In the API 4F-2013 code, wind walls behave differently than isolated surfaces. The wind walls implementation is based on article 8.3.3.6 and table 8.6 of the API 4F-2013 code.