API650 STRENGTH CALCULATION

WIND GIRDER SELECTION (API 650 Para 5.9.7)-Intermediate

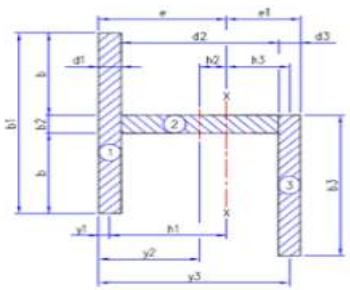
INPUT DATA 계산실행 *V.1.0 Pgm By C.M. Ryu/P.E*

* DESCRIPTION	PES21		* ITEM NO.	E-104	
* Inside Diameter, D	48.0	m	* Wind Velocity, V1	60	m/s
* Thinnest Thickness of Shell Course, ta	8	mm	* Modulus Elasticity	199000	Mpa
* Thickness where Wind girder attached	8	mm	* Corrosion Allowance. CA	1.6	mm
* Max. Distance between 1ST and Top angle, H2	3.2	m			

Course No.	ut(mm)	Width(m)	* Course No.	ut(mm)	Width(m)
1	22	3	5	10	3
2	16	3	6	8	3
3	14	3	7	6	2
4	12	3	8	6	3

$*#(! :-$ °,! :ˆ .+,!.0%/ :

b2	15	d1	8
b3	200	d2	185
		d3	15



RESULT OF CALCULATION

* H1 = 9.47ta * √ (ta/D)^3 * (190/V)^2	3.989	m	* Wind Velocity, V	216.0	km/h

Course No.	t(mm)	가중평균 (mm)	Wtr(m)	* Course No.	t(mm)	가중평균 (mm)	Wtr(m)
1	20.4	20.4	0.289	5	8.4	9.4	2.005
2	14.4	17.4	0.430	6	6.4	7.4	3.646
3	12.4	13.4	0.826	7	4.4	7.0	2.793
4	10.4	11.4	1.238	8	4.4	3.7	21.094

1. Sum of transposed width of each course, Htr = ∑Wtr (m) 32.320

2. Wind Girder required, if Htr is greater than H1 (m) Required

3. Minimum required sectional Modulus, Zr (cm^3) =D^2*H2/17*(V/190)

^2 560.51

Mark	b(cm)	A(cm^2)	y(cm)	A*y (cm^3)	h(cm)	A*h^2 (cm^4)	Ig(cm^4)
1	26.26	21.01	0.40	8.40	10.89	2,489.[illegible]	1.12
2	1.50	27.75	10.05	278.89	1.24	42.34	791.45
3	20.00	30.00	20.05	601.50	8.76	2,304.[illegible]	5.63
Total		78.76		888.79		4,836.[illegible]	798.20

1) 도심까지거리 : ∑AY/∑A = e 11.29 cm

2) 관성모멘트 : AH^2+Ig = I 5,634.[illegible] cm^4

3) 유효 단면계수 : I/e = Za 499.26 cm^3

IF Za is greater than required Zr, then O.K Not enough!

MENU PAGE-->

Copyright © 2001 피이에스21 All rights reserved.
Please contact E-mail ***pes21@pes21.com***