

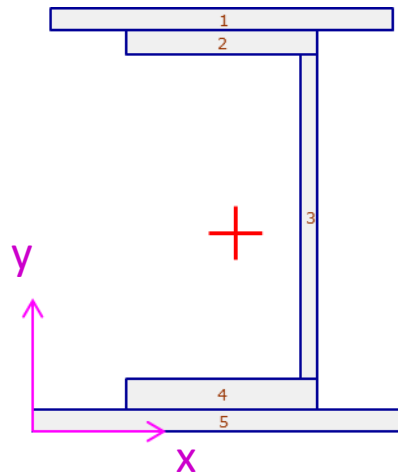


AEE 461 Design of Aircraft Structures

Lecturer: Murat ÇELİK

Task #1 Calculation of Sectional Properties

Solution:



Element		Size		Centroid		A [mm ²]	Ay [mm ³]	Ay ² [mm ⁴]	I _{xx} [mm ⁴]
i #		b [mm]	h [mm]	x [mm]	y [mm]				
1		45.00	3.00	25.00	54.50	135.00	7357.5	400984	101
2		25.00	3.00	25.00	51.50	75.00	3862.5	198919	56
3		2.00	43.00	36.50	28.50	86.00	2451.0	69854	13251
4		25.00	4.00	25.00	5.00	100.00	500.0	2500	133
5		50.00	3.00	25.00	1.50	150.00	225.0	338	113

Results		
y _{cg} [mm]	ΣA [mm ²]	I _{xx} [mm ⁴]
26.37	546.00	306679