

CROSS SECTION: KINDMANN S.228

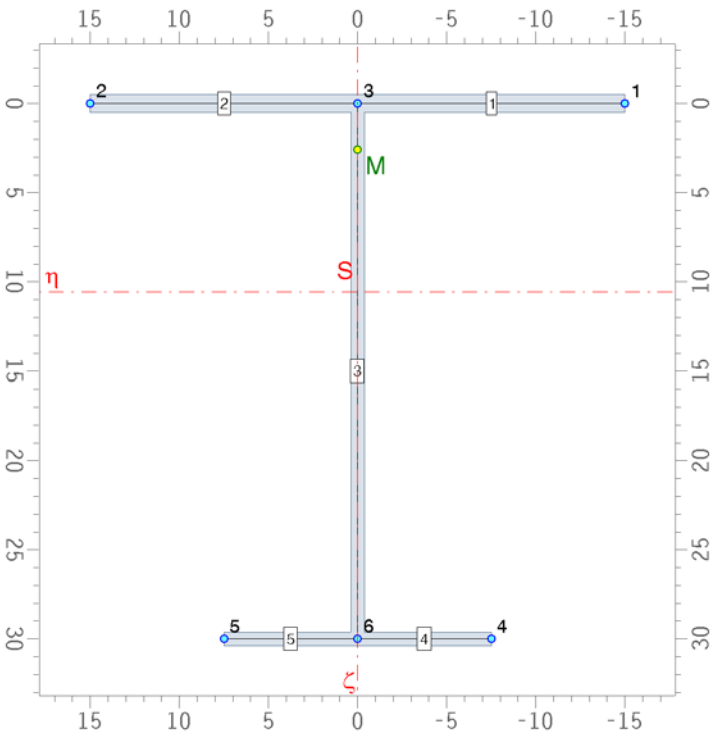
nodes

nodes	y	z	nodes	y	z
-	cm	cm	-	cm	cm
1	-15.00	0.00	4	-7.50	30.00
2	15.00	0.00	5	7.50	30.00
3	0.00	0.00	6	0.00	30.00

lines

line	from	to	thickn.A	thickn.E	arch rise	r _{ar}	r _{al}	r _{er}	r _{el}	Φ _a	Φ _e
-	-	-	cm	cm	cm	cm	cm	cm	cm	°	°
1	1	3	1.00	1.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00
2	2	3	1.00	1.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00
3	3	6	0.75	0.75	0.000	0.00	0.00	0.00	0.00	0.00	0.00
4	4	6	0.75	0.75	0.000	0.00	0.00	0.00	0.00	0.00	0.00
5	5	6	0.75	0.75	0.000	0.00	0.00	0.00	0.00	0.00	0.00

plotting



characteristic values

area, centroid and angle of principal axis

A =	63.09 cm ²	e _y =	0.00 cm	e _z =	10.56 cm	α =	0.00 °
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spread

y _{max} =	15.00 cm	y _{min} =	-15.00 cm	b =	30.00 cm	U =	150.25 cm
Z _{max} =	30.38 cm	Z _{min} =	-0.50 cm	h =	30.88 cm		

Imn-system: moments of inertia and section moduli, clearances and radii of gyration

(I_{mn} = ξηζ)

I _m =	9586.90 cm ⁴	W _{m+} =	483.92 cm ³	h _{m+} =	15.00 cm	i _m =	12.33 cm
I _n =	2461.96 cm ⁴	W _{m-} =	866.50 cm ³	h _{m-} =	-15.00 cm	i _n =	6.25 cm
I _p =	12048.86 cm ⁴	W _{n+} =	164.13 cm ³	h _{n+} =	19.81 cm	i _p =	13.82 cm
		W _{n-} =	164.13 cm ³	h _{n-} =	-11.06 cm		

shear centre

y _M =	0.00 cm	y _{SM} =	0.00 cm	η _M =	0.00 cm		
Z _M =	2.57 cm	Z _{SM} =	-7.99 cm	ζ _M =	-7.99 cm		

shear area coefficient

κ _m =	2.18 -	A _m =	28.92 cm ²	κ _η =	2.18 -	A _η =	28.92 cm ²
κ _n =	3.10 -	A _n =	20.38 cm ²	κ _ζ =	3.10 -	A _ζ =	20.38 cm ²

torsion + warping

I _T =	16.33 cm ⁴	I _W =	173571.43 cm ⁶	R _{Sy} =	0.00 cm ⁵	R _{Sz} =	19728.86 cm ⁵
C _s =	331733.89 cm ⁶	I _{pM} =	16079.35 cm ⁴	i _{ωM} =	3.29 cm		
ω _{M+} =	205.71 cm ²	ω _{M-} =	-205.71 cm ²	W _{ω+} =	843.75 cm ⁴	W _{ω-} =	843.75 cm ⁴

section lines

i _M =	15.96 cm	r _η =	0.00 cm	r _ζ =	21.24 cm	r _ω =	0.00 cm
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plastic characteristic values

W _{ply,max} =	661.60 cm ³	W _{plz,max} =	271.07 cm ³	W _{plη,max} =	661.60 cm ³	W _{plζ,max} =	271.07 cm ³
W _{ply,red} =	661.60 cm ³	W _{plz,red} =	271.07 cm ³	W _{plη,red} =	661.60 cm ³	W _{plζ,red} =	271.07 cm ³