

CROSS SECTION: KRAUS(2) S.120

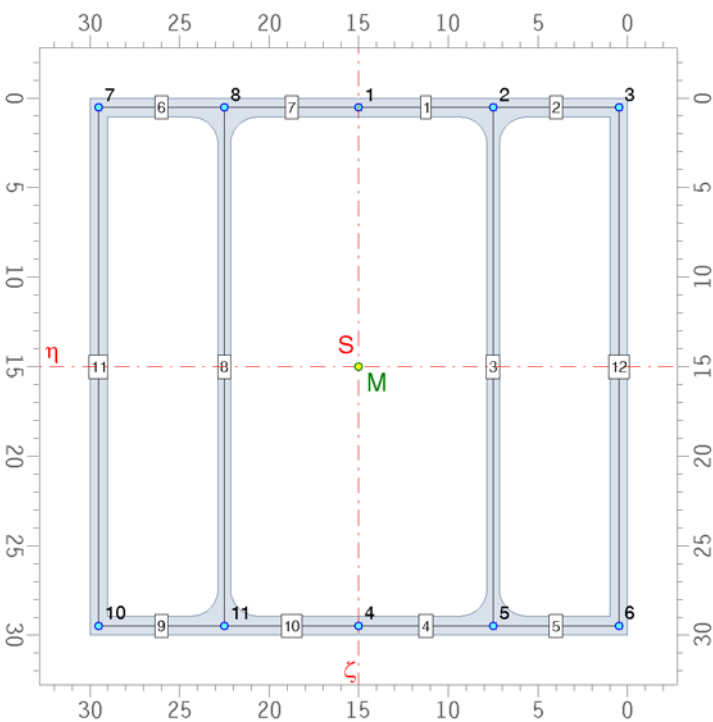
nodes

nodes	y	z	nodes	y	z	nodes	y	z
-	cm	cm	-	cm	cm	-	cm	cm
1	15.00	0.54	5	7.50	29.46	10	29.50	29.46
2	7.50	0.54	6	0.50	29.46	11	22.50	29.46
3	0.50	0.54	7	29.50	0.54			
4	15.00	29.46	8	22.50	0.54			

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	2	1.07	1.07	0.000	0.00	0.00	1.50	0.00	0.00	0.00
2	3	2	1.07	1.07	0.000	0.00	0.00	0.00	1.50	0.00	0.00
3	2	5	0.71	0.71	0.000	1.50	1.50	1.50	1.50	0.00	0.00
4	4	5	1.07	1.07	0.000	0.00	0.00	0.00	1.50	0.00	0.00
5	6	5	1.07	1.07	0.000	0.00	0.00	1.50	0.00	0.00	0.00
6	7	8	1.07	1.07	0.000	0.00	0.00	1.50	0.00	0.00	0.00
7	1	8	1.07	1.07	0.000	0.00	0.00	0.00	1.50	0.00	0.00
8	8	11	0.71	0.71	0.000	1.50	1.50	1.50	1.50	0.00	0.00
9	10	11	1.07	1.07	0.000	0.00	0.00	0.00	1.50	0.00	0.00
10	4	11	1.07	1.07	0.000	0.00	0.00	1.50	0.00	0.00	0.00
11	7	10	1.00	1.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00
12	3	6	1.00	1.00	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 =	163.34 cm ²	e _y =	15.00 cm	e _z =	15.00 cm	α =	0.00 °
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spread

y _{max} =	30.00 cm	y _{min} =	0.00 cm	b =	30.00 cm	U _a =	120.00 cm
z _{max} =	30.00 cm	z _{min} =	0.00 cm	h =	30.00 cm	U _i =	215.17 cm
						U =	335.17 cm

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

(Imn = ξηζ)

I _m =	20316.44 cm ⁴	W _{m+} =	1354.43 cm ³	h _{m+} =	15.00 cm	i _m =	11.15 cm
I _n =	18981.23 cm ⁴	W _{m-} =	1354.43 cm ³	h _{m-} =	-15.00 cm	i _n =	10.78 cm
I _p =	39297.68 cm ⁴	W _{n+} =	1265.42 cm ³	h _{n+} =	15.00 cm	i _p =	15.51 cm
		W _{n-} =	1265.42 cm ³	h _{n-} =	-15.00 cm		

shear centre

Y _M =	15.00 cm	Y _{SM} =	0.00 cm	η _M =	0.00 cm
Z _M =	15.00 cm	Z _{SM} =	0.00 cm	ζ _M =	0.00 cm

shear area coefficient

κ _m =	3.17 -	A _m =	51.51 cm ²	κ _η =	3.17 -	A _η =	51.51 cm ²
κ _n =	1.78 -	A _n =	91.69 cm ²	κ _ζ =	1.78 -	A _ζ =	91.69 cm ²

torsion + warping

I _T =	27132.06 cm ⁴	I _ω =	17089.17 cm ⁶	R _{Sy} =	0.00 cm ⁵	R _{Sz} =	0.00 cm ⁵
C _s =	17089.17 cm ⁶	I _{pM} =	39297.68 cm ⁴	i _{ωM} =	0.66 cm		
ω _{M+} =	19.44 cm ²	ω _{M-} =	-19.44 cm ²	W _{ω+} =	879.29 cm ⁴	W _{ω-} =	879.29 cm ⁴

section lines

i _m =	15.51 cm	r _η =	0.00 cm	r _ζ =	0.00 cm	r _ω =	0.00 cm
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plastic characteristic values

W _{ply,max} =	1644.51 cm ³	W _{plz,max} =	1614.77 cm ³	W _{plη,max} =	1644.51 cm ³	W _{plζ,max} =	1614.77 cm ³
W _{ply,red} =	1644.51 cm ³	W _{plz,red} =	1614.77 cm ³	W _{plη,red} =	1644.51 cm ³	W _{plζ,red} =	1614.77 cm ³