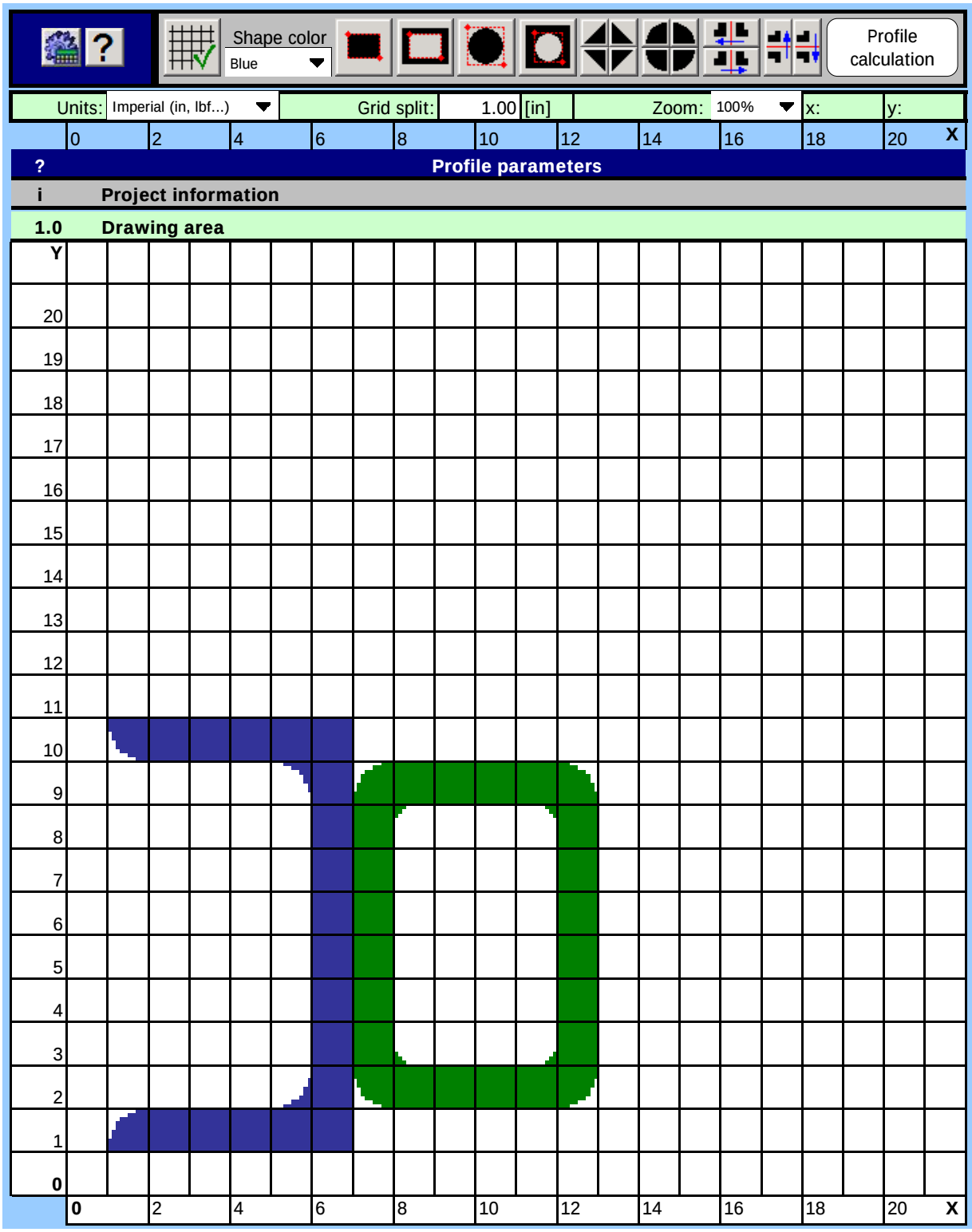
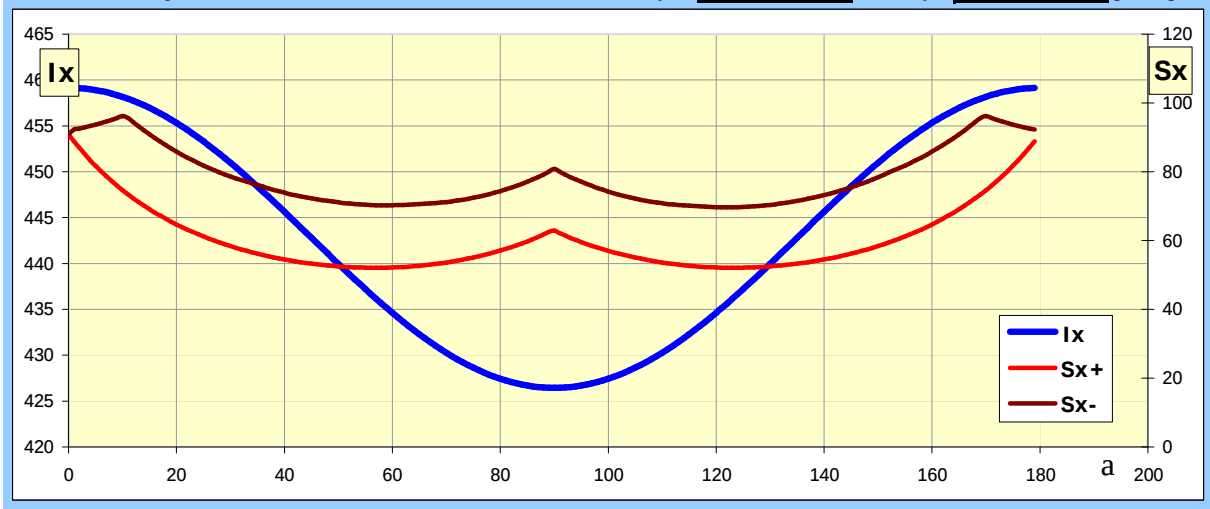

Shape color
Blue
Profile calculation
Units: Imperial (in, lbf...)
Grid split: 1.00 [in]
Zoom: 100%
x:
y:
0 2 4 6 8 10 12 14 16 18 20 X
?
Profile parameters
i
Project information
1.0
Drawing area
Y
20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0
0 2 4 6 8 10 12 14 16 18 20 X

2.0 Cross section properties to axes going through the centre of gravity

2.1	Profile area	A	43.40			[in^2]
2.2	Co-ordinates of the centre of gravity	Tx	7.74	Ty	6.00	[in]
2.3	Moment of inertia	Ix	459.1550667	Iy	426.4461866	[in^4]
2.4	Polar moment of inertia	Ip	885.6012532			[in^4]
2.5	Product of inertia	Ixy	0			[in^4]
2.6	Minimum moment of inertia	Imin	426.4461866	αmin	90 °	[in^4]
2.7	Maximum moment of inertia	Imax	459.1550667	αmax	0 °	[in^4]
2.8	Radius of gyration	rx	3.25	ry	3.13	[in]
2.9	Bending modulus of section	Sx+	91.83	Sx-	91.83	[in^3]
2.10	Bending modulus of section	Sy+	81.07	Sy-	63.27	[in^3]



3.0 Cross section properties to shifted and inclined axes

3.1	A shift of axes related to the centre of gravity	dx	0	dy	0	[in]
3.2	Axis rotation angle	α	90			[°]
3.3	Moment of inertia	Ix'	426.4461866	Iy'	459.1550667	[in^4]
3.4	Polar moment of inertia	Ip'	885.6012532			[in^4]
3.5	Products of inertia	Ixy'	2.36746E-15			[in^4]

4.0 Properties of homogeneous solids (rotation, extrusion)

4.1	Specific density	γ	486.9	Steel (486,9)	[lb/feet3]
4.2	**Solid created by drawing the profile - beam**				
4.3	Length of the beam	L	100		[in]
4.4	Volume of the beam	V	4340		[in^3]
4.5	Mass of the beam	m	1222.885417		[lbf]
4.6	Moment of inertia of masses (Z axis)	Imz	24953.66031		[lb.in.sec^2]
4.7	**Solid created by rotation of the profile around the X axis**				
4.8	Volume of the solid of revolution	V	1636.141454		[in^3]
4.9	Mass of the solid of revolution	m	461.0169409		[lbf]
4.10	Moment of inertia of the profile to the X axis	Ix'	2021.555067		[in^4]
4.11	Mass moment of inertia (axis X)	Imx	30845.36494		[lb.in.sec^2]