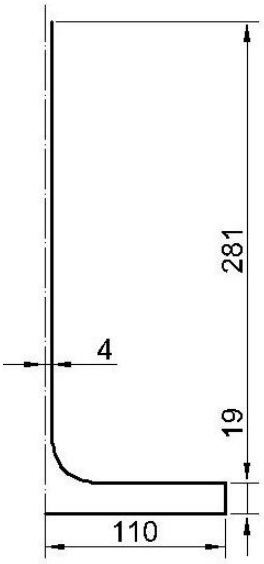
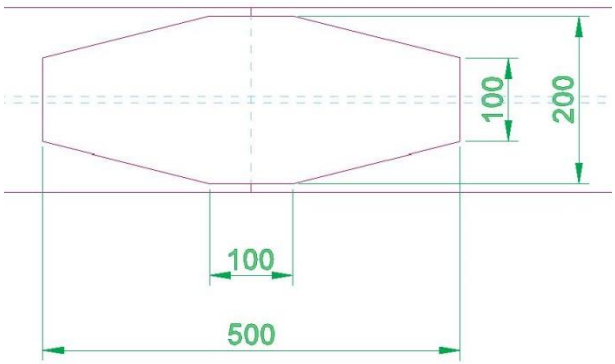
Exercise no 12

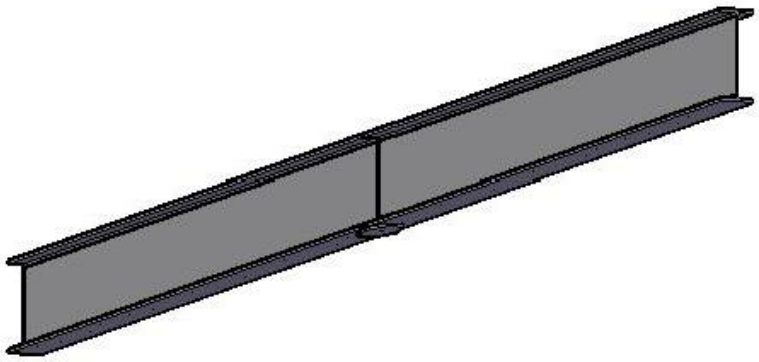
New commands: SOLVIEW, SOLDRAW, MATERIALS



3D modelling, creating views and cross sections.

1. Begin a new drawing and set view to LEFT. Use PLINE to draw a quarter of the contour according to the data at right, starting at point 0,0. Use FILLET with radius R=24 to create the fillet in the internal corner.
2. Apply MIRROR twice (along vertical and horizontal axes) to create complete cross section of the beam.
3. Use JOIN to convert the set of arcs and lines making the contour into one single polyline.
4. Set isometric view. Use EXTRUDE to obtain a beam of length 6500. Use MIRROR3D to obtain a beam of total length equal to 13000.
5. Set view to BOTTOM. Use RECTANGLE (-250,100 ; @500,-200), CHAMFER (chamfer distances: 200 ; 50) and EXTRUDE (20) to create the plate dimensioned as seen below and having the thickness of 20.
6. Check the result using one of isometric views or 3DORBIT. Set visual style to conceptual. Set view to FRONT.



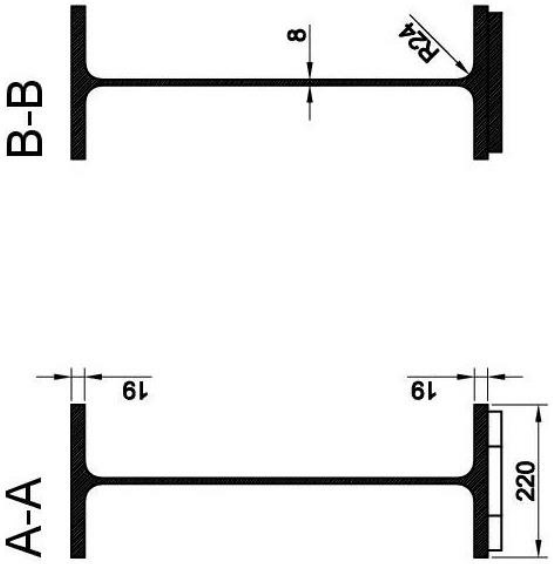


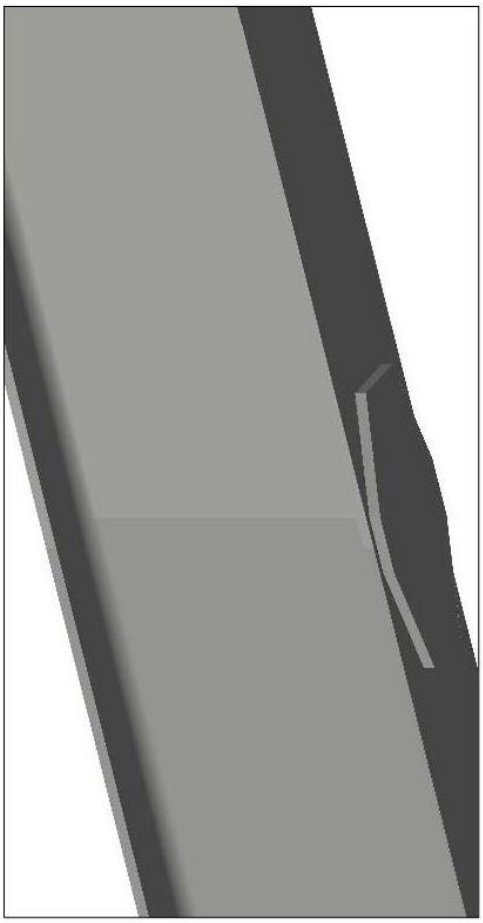
7. Switch to LAYOUT. Select proper printing device (PDF), set paper size to A4, and printing style to monochrome. Insert frame and table block from file A4_EN_L. Verify the attributes in the table.
8. Apply SOLVIEW command to create two projections and two cross sections as seen on the reverse page (scale 1:10). Do not forget to name the views and cross sections.
9. Manage the layers:

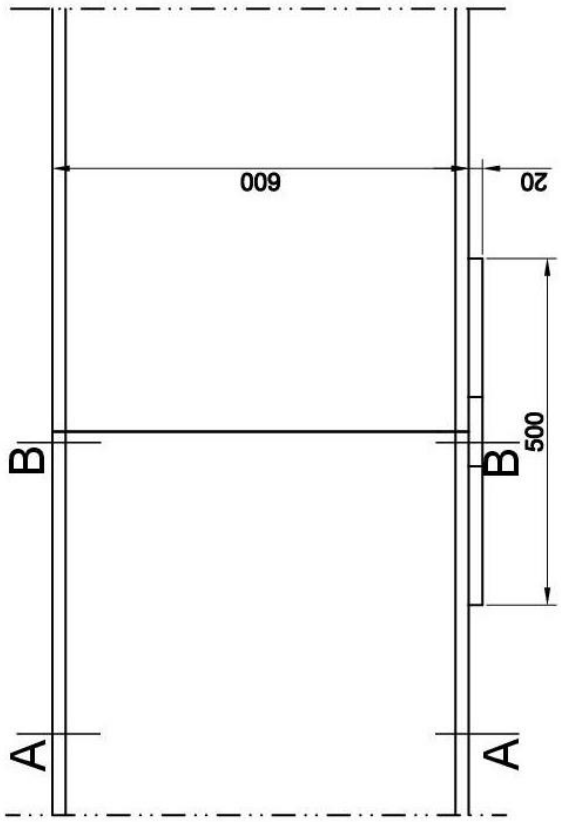
layers	*.VIS	colour red	continuous	0.35mm
layers	*.HID	colour cyan	hidden	0.25mm
layers	*.DIM	colour green	continuous	0.15mm
layers	*.HAT	colour blue	continuous	0.15mm

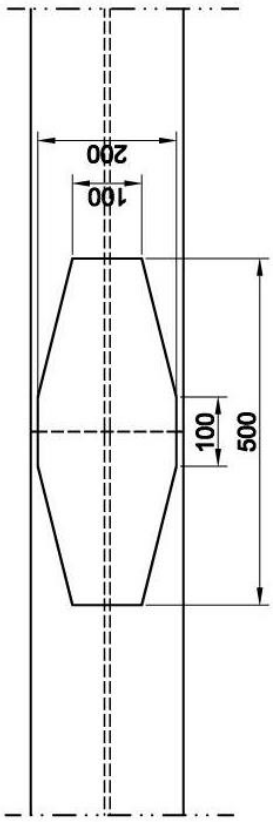
Set the HPNAME system variable to Steel (hatch pattern).

10. Apply SOLDRAW command to draw views and cross sections (select frames of the viewports).
11. Dimension the views and cross sections (preferably in the model space through the viewports) using correct layers *.DIM.
12. Use MATERIALS to assign correct material to the beam (structural steel). Set the realistic visual style for the viewport containing isometric view.
13. Add section marks and other comments if necessary. Hide the viewport frames. Check the plot preview.


B-B
8
R24
A-A
19
19
220




600
20
500
B
B
A
A


200
100
100
500