

Typical Examples

This section shows typical examples of workshop documents:

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- [Girth table resource drawing](#).

Types of workshop document that can be extracted are:

- **Fabrication sketches.** A fabrication sketch is a CATDrawing file representing the sketch of a part (flat or curved plate, straight, bent or rolled profile) ready for manufacturing and is used as input for marking and cutting operations. It contains dimensions, annotations and some identification data.
For curved plates, the fabrication sketch is also used for forming operations and shows, in addition, roll lines, template location lines and reference lines.
Note: The system automatically detects whether the plate is flat or curved and generates the CATDrawing with the appropriate data.
For profiles, the fabrication sketch is a not-to-scale CATDrawing and shows two views of the profile.
- **Nesting data.** This data is contained in a DXF file.
- **Template sketches for plates and shapes.** A template sketch is a CATDrawing file with a number of sheets, each sheet representing the shape of one template. In addition for plates, it contains the base plane trace, the template curve, the sight plane trace and annotations.
- **Not-to-scale profile drawings.** A CATDrawing showing a symbolic view of the straight profile.
- **Inverse bending curve data.** This data is contained in an XML file.
- **Plate distortion data.** This data is contained in an XML file.

CATDrawings can then, if desired, be edited using the V5 Drafting workbench, for which the appropriate license is required.

The Structure tab in the Properties dialog box lists all workshop documents associated with the selected activity.

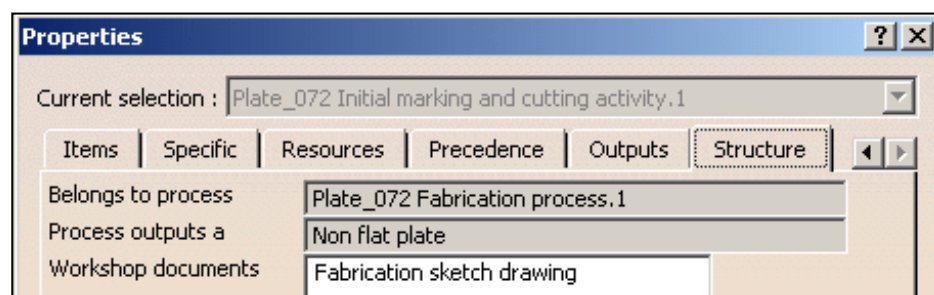
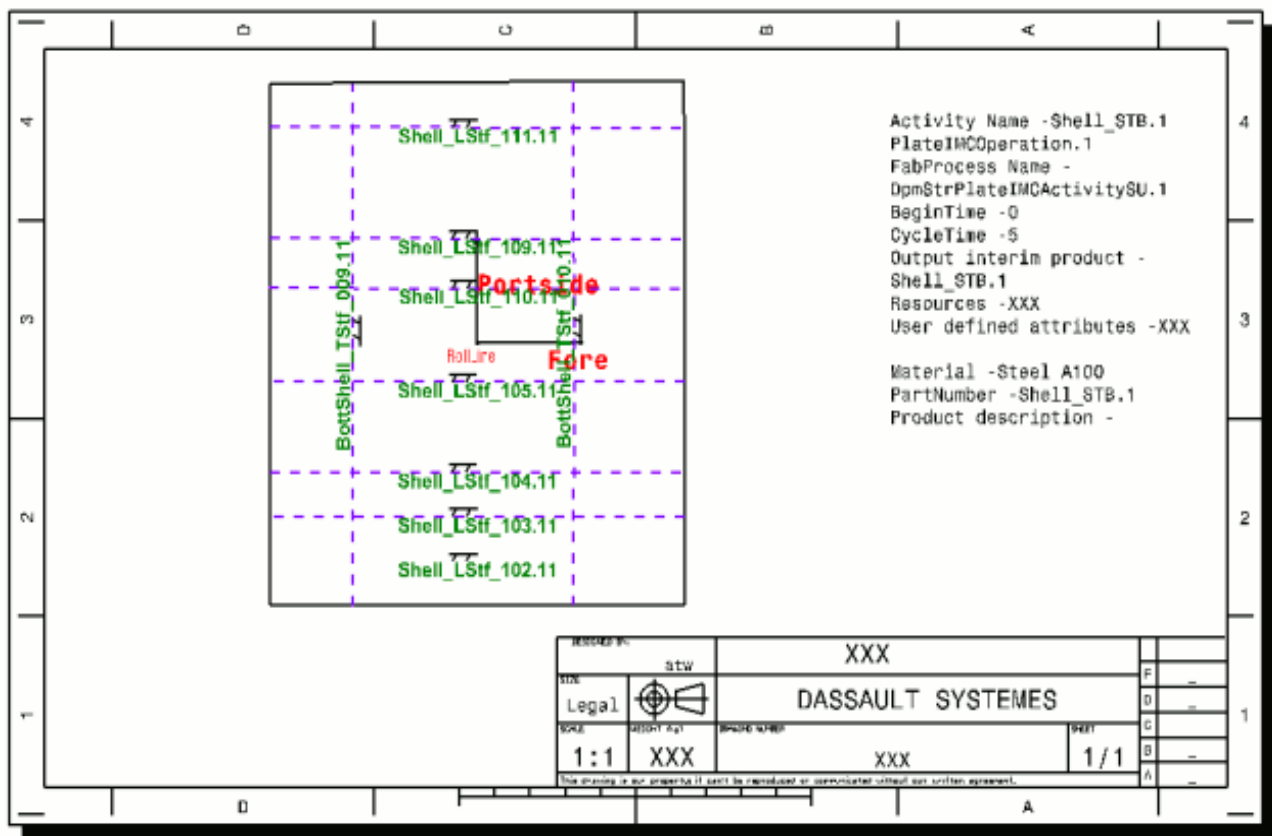


Plate Fabrication Sketch



Corresponding DXF File

This example shows a portion of the corresponding DXF file. There is no title block nor frame and the scale is set 1:1.

```

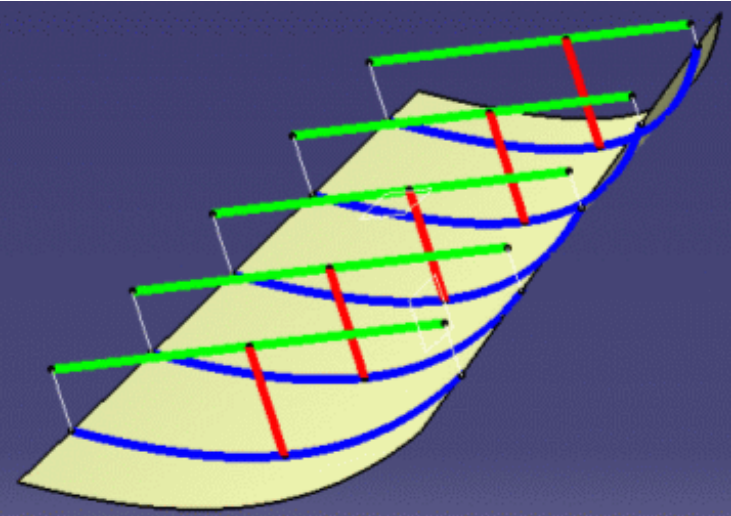
0.0
0
VERTEX
5
428
100
AcDbEntity
8
0
100
AcDbVertex
100
AcDb2dVertex
10
186.909088
20
11.391571
30
0.0
0
VERTEX
5
429
100
AcDbEntity
8
0
100
AcDbVertex
100
AcDb2dVertex
10
186.976089
20
11.289986
30
0.0

```

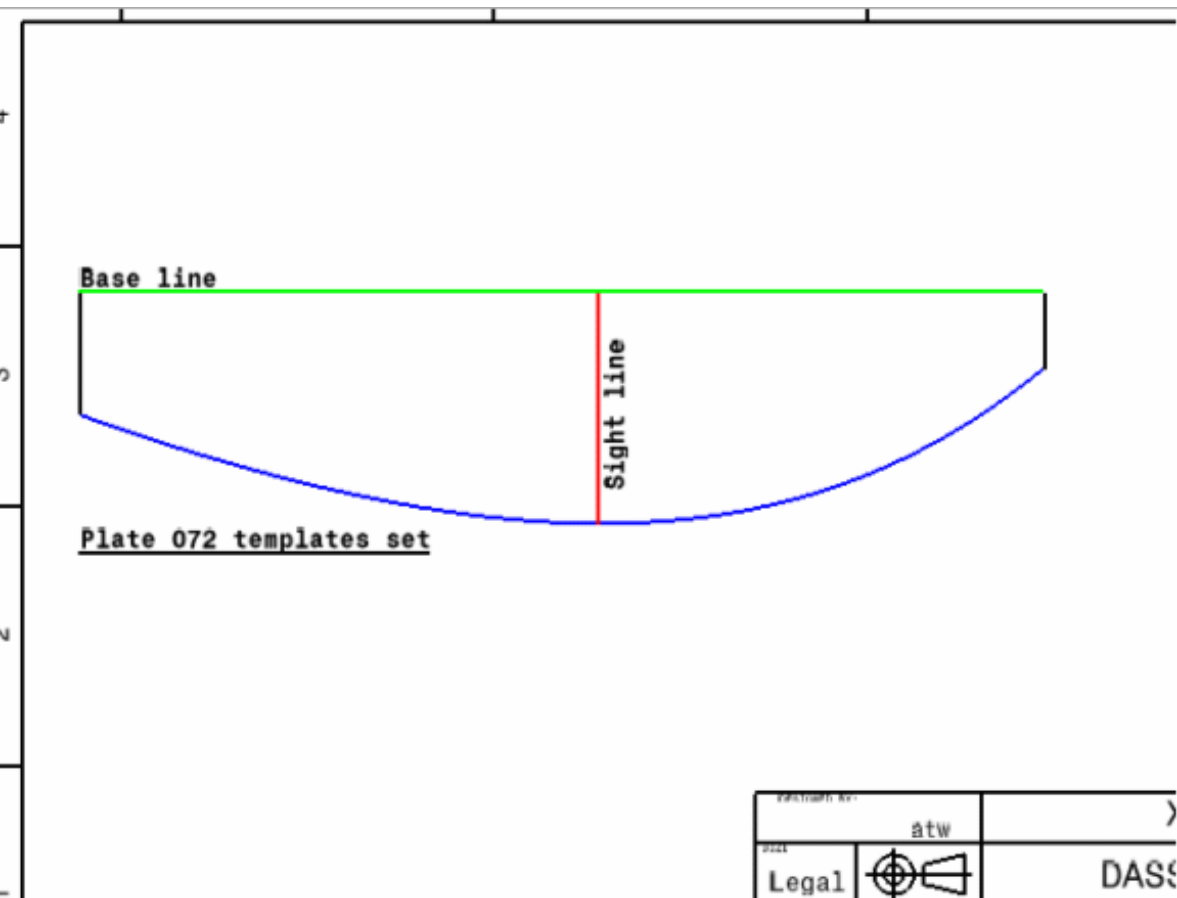
Pat21_Initial marking and cutting activity.1_Fabrication sketch drawing.dxf

Plate Template Sketch

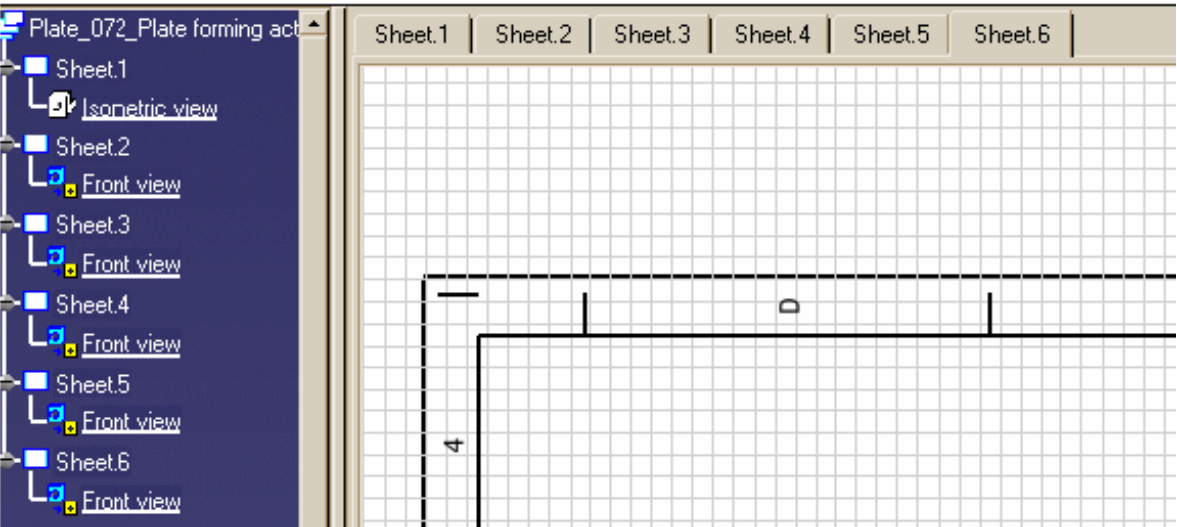
The 3D model showing five plate forming template resources:



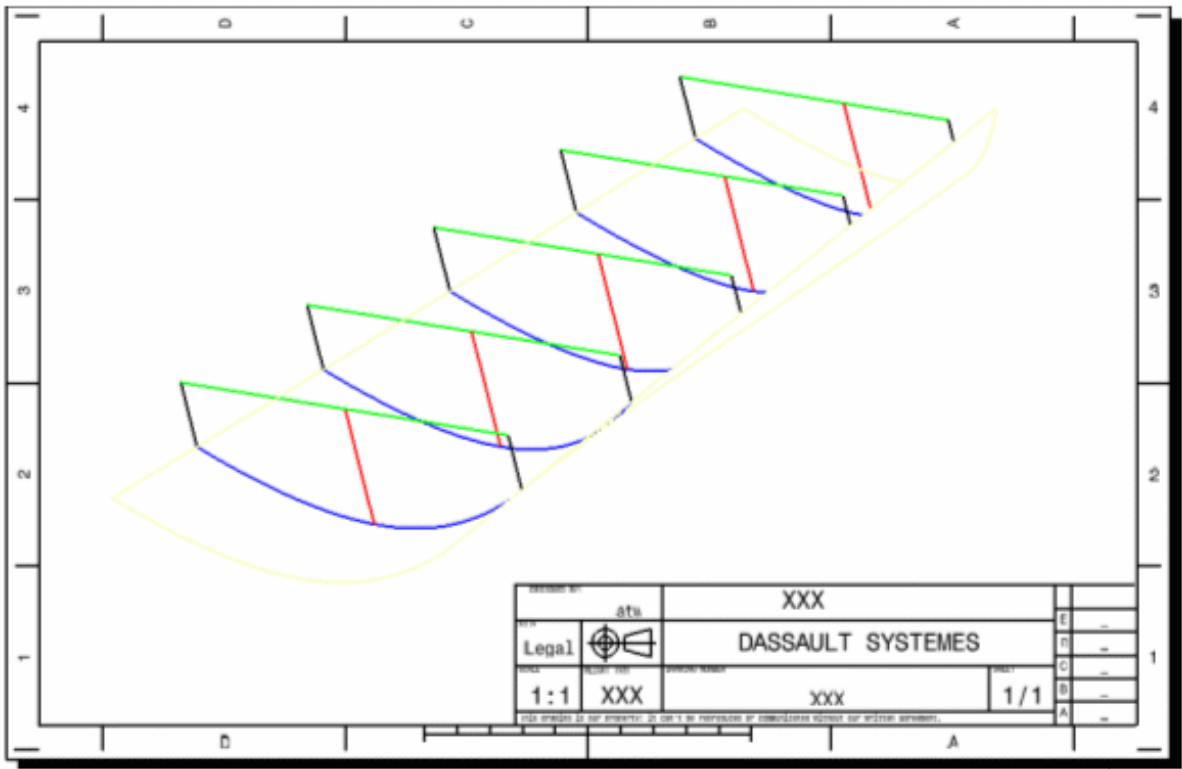
The extracted workshop document is based on the drawing template which contains one sheet with the frame and title block.



The workshop document itself contains as many sheets as plate forming templates:

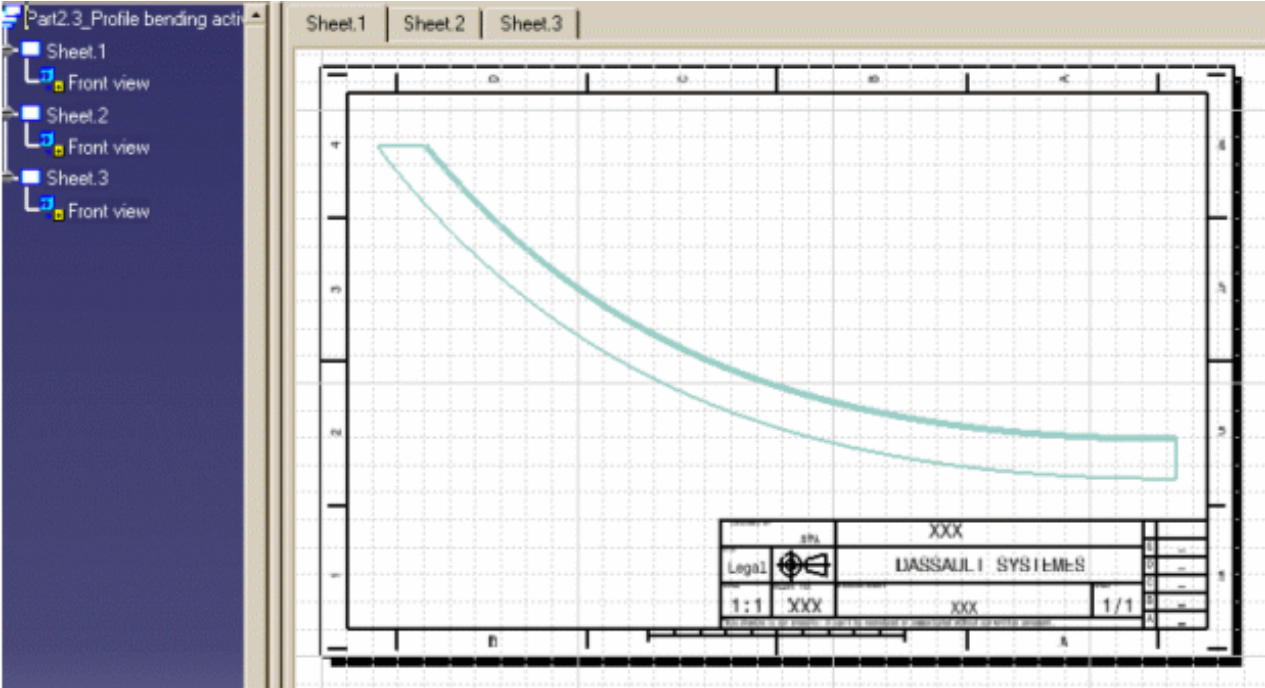


Plus a first sheet showing the isometric view of templates on the curved plate. This sheet has the same viewpoint as the 3D model. If the user changes the viewpoint, for example, rotates the model, then generates the drawing again, the isometric view on the first sheet will be updated to reflect the viewpoint of the 3D model.

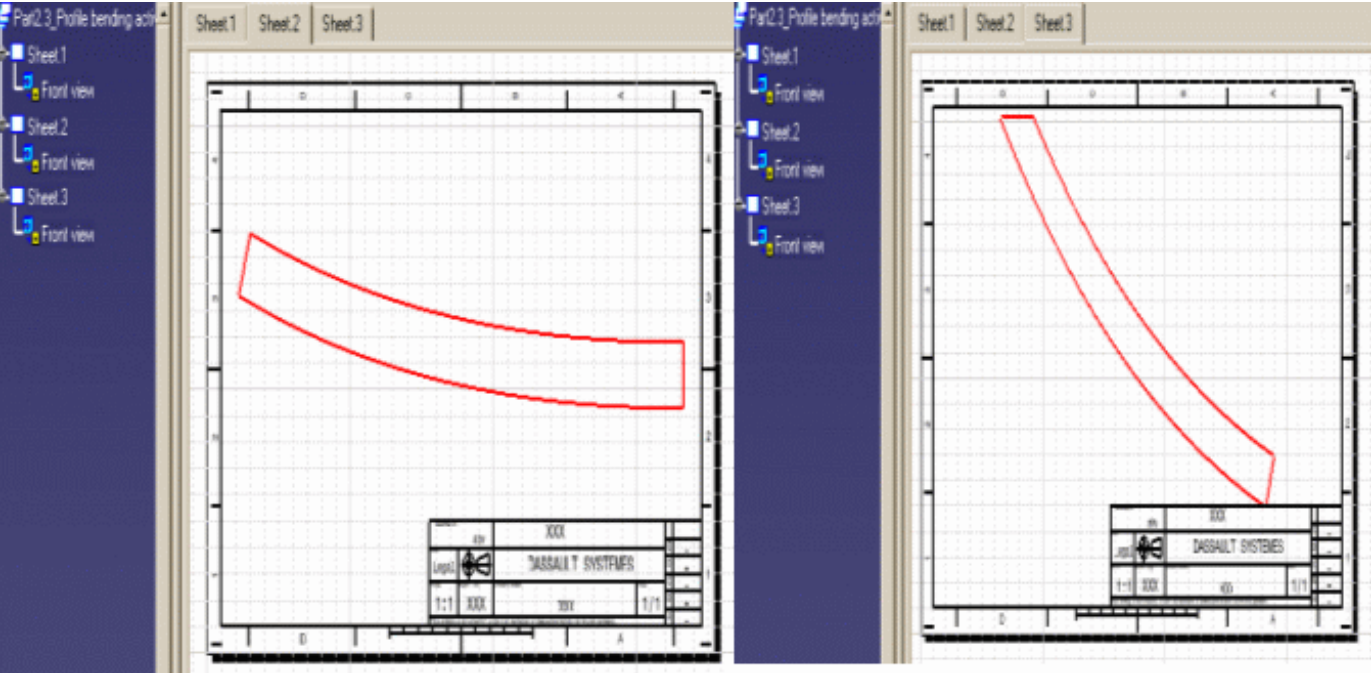


Profile Template Sketch

The composition of the CATDrawing is very similar to that for the [plate template sketch](#). The only difference being that the first sheet contains a front view of the curved profile as shown below.

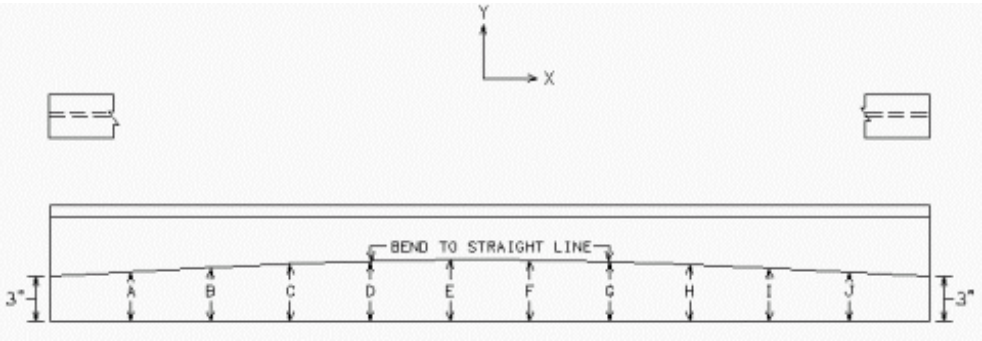


Similarly, the workshop contains one sheet per template:



Inverse Bending Curve Data

The in-process model of the straight profile:



XML file containing inverse bending curve data:

OS	UserName	Date
Windows_NT	atw	7/6/2005
Interim_Product	Activity_Name	Activity_Type
Shape_123	Shape_123 Initial marking and cutting activity.14	ProfileIMCActivity

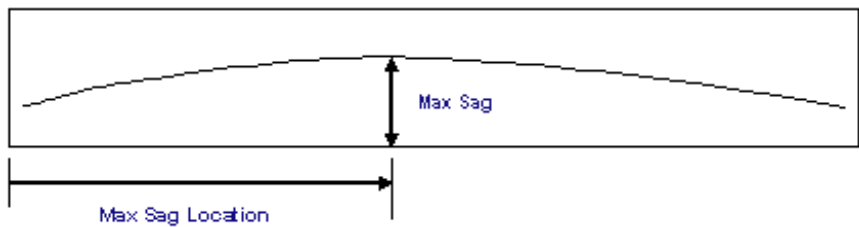
Inverse Bending Curve Data Table

Maximum Sag = 1183.47

-----CurveID-----	-----MaxSagPointID-----	-----MaxSag-X-----	-----MaxSag-Y-----
1	MaxSag Point 1	980	335
2	MaxSag Point 2	3565	335
3	MaxSag Point 3	0	0

-----CurveID-----	-----PointID-----	-----X-Coord-----	-----Y-Coord-----
1	Point 1	0	189.421
1	Point 2	300	257.02
1	Point 3	600	310.231
1	Point 4	900	334.307
1	Point 5	1200	326.548
1	Point 6	1500	284.528
1	Point 7	1800	207.927
1	Point 8	2100	99.2928
1	Point 9	2314.88	5.00001
2	Point 1	1890.43	5.00048
2	Point 2	2100	90.2582

This table will also contain maximum sag point information.



An XSL stylesheet is necessary to show data in tabular form. This stylesheet is located in the same place as the XML file itself. You will be able to replace this XSL stylesheet with another or with a CSS stylesheet to have data formatted as per your practice.

Plate Distortion XML Data File

Here is an extract from a typical plate distortion data file:

OS	UserName	Date		
Windows_XP	cjn	01/06/2011		
Interim_Product	Activity_Name	Activity_Type		
Flat_Shell_STB.1	PlateFormingOperation.1	PlateFormingActivity		
Distortion Information of Plate Edges and Diagonals				
Edge/Diagonal	2D Length	3D Length	Difference	%Difference
Fwd Trans Butt Edge	8897.866mm	8884.61mm	13.256mm	0.149202
Aft Trans Butt Edge	8844.027mm	8830.446mm	13.581mm	0.1538
Lower Longitudinal Seam	7508.585mm	7510mm	-1.415mm	-0.0188374
Upper Longitudinal Seam	7510.333mm	7510.285mm	0.048mm	0.000634171
Diagonal 1	11641.949mm	11632.066mm	9.883mm	0.0849598
Diagonal 2	11603.544mm	11593.465mm	10.08mm	0.0869438

Pin Jig XML Data File

Here is an extract from a typical pin jig XML data file:

Interim_Product	Activity_Name	Activity_Type
SHELL.1	SHELL.1 Joining activity.1	JoiningActivity

Pin Jigs Corner Point Data Table

Pin Jig Label	Dx	Dy	Dz
PinJig_3_9	2957.31	2217.11	3404.71

Pin Jig Data Table

		Pin_1	Pin_2	Pin_3	Pin_4	Pin_5	Pin_6	Pin_7	Pin_8	P
	X/Y	0	2000	4000	6000	8000	10000	12000	14000	16000
Pin_1	0	500	500	500	500	500	500	500	500	16000
Pin_2	2000	500	500	500	500	500	500	500	500	14000
Pin_3	4000	500	500	500	500	3577.84	3486.63	3445.47	3429.41	12000
Pin_4	6000	3404.71	500	500	500	500	2258.49	2274.79	2299.74	10000
Pin_5	8000	2405.87	2441.13	500	500	500	500	1924.81	1930.25	8000
Pin_6	10000	1956.64	1977.29	2006.38	500	500	500	500	1872.31	6000
Pin_7	12000	1855.32	1853.88	1861.22	1881.18	500	500	500	500	4000
Pin_8	14000	1984.02	1973.41	1967.18	1968.53	1980.92	500	500	500	2000
Pin_9	16000	2402.05	2400.49	2384.72	2372.77	2366.26	2361.05	500	500	0

Girth Table XML Data File

Here is an extract from a typical girth table XML data file:

Interim_Product	Activity_Name	Activity_Type
SHELL.1	SHELL.1 Joining activity.	JoiningActivity

Girth Tape Data Table

Curve : Extract.7 Intersection Points Datum_Edge_Extract.2	Label	Girth Distance
	Shape_110	2020.09
	Shape_111	3520.12
	Shape_112	6520.14
	Shape_113	8020.2
	Shape_114	9520.46
	Shape_115	11020.7
	Shape_116	12520.6

Profile XML Data File

Here is an example of a Profile XML data file.

Expand Minimize

General

Date - 06/16/2005

Time - 21:24

User - atw

Object

ID - Shape_086

Description -

TimeStamp - 06/16/2005 21:24

Revision -

Quantity - 1

Parent

ID - DECK 2

Description -

TimeStamp - 06/16/2005 21:24

Revision -

Part

FunctionalDescription - Straight Stiffener

abstransform - ---

Material - Steel

Grade - A100

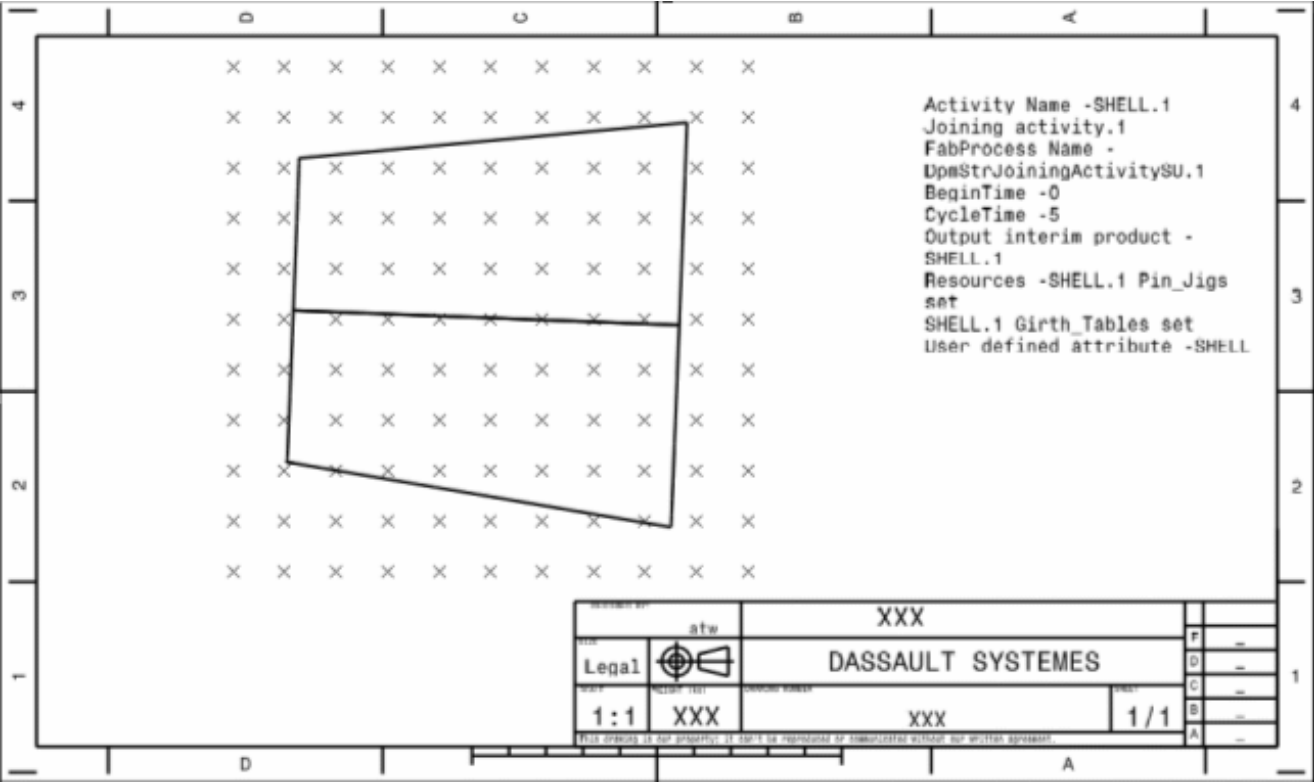
MaterialDensity - 7860kg_m3

XplusDirectionName - Fore

XminusDirectionName - Aft

Pin Jig Resource Drawing

This typical Pin Jig resource drawing shows the top view of panel profiles placed on the pin jigs workshop. Cross marks show the position of each pin on the plates.



Girth Table Resource Drawing

This typical Girth Table resource drawing shows girth tapes laid on plates and all the girth points with datum points.

