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Sheet Metal Nesting Report for Plasma & Laser Cutting

Case Study Highlights

Client Profile:

Sheet Metal Fabricator, USA

Objective:

To develop comprehensive sheet metal nesting report for plasma & laser cutting.

Challenges:

- Identifying optimum orientation of the blanks for maximum material utilization.
- Developing 2D input file for laser cutting CNC machine
- Ensuring dimensional accuracy of the blank being cut.

Solution:

Comprehensive sheet metal nesting report was provided to the client with a 2D input file in DXF & DWG format accessible by the client's CNC machine. The nesting was applied to utilize the material optimally for maximum material savings.

Benefits

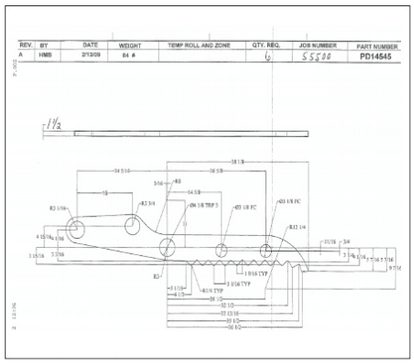
- 50% savings in material due to sheet metal nesting.
- Considerable reduction in manufacturing time.
- Future modification in the blank design made easier due to available CAD information.

Nesting is an extremely useful process involved in sheet metal works aimed at utilizing the material effectively during blanking or laser cutting metal sheets. Through the use of algorithms, an optimal orientation of the similar geometrical blanks to be cut from the metal sheet is identified to save the material considerably.

A leading engineering firm from US partnered with Hi-Tech for their sheet metal nesting requirements.

The Solution

The blank information received from the client was converted into 2D drawing using CAD tools. Nesting process was executed to identify six blanks of similar geometry to be laser cut with minimal material wastage. The final drawing in DWG and DXF format was provided to the client to make it accessible for the CNC machine.



SAP # QUOTE	File ID: --						
Number of sheets with same Layout	1	True Scrap		Qty Required	6	Layout 1 of 1	
Stack Quantity	1	Rect Scrap		Qty Nested	6		

		Sheet Length	288.000"	Sheet X USed	66.900"	**Programmed By:**	
Thickness	1.5"	Sheet Width	96.000"	Sheet Y Used	64.406"	**Total # Pierces:**	6
		Cutting Width	—	Gross Weight	1835.28lb		

File - ID:	Part - ID:	Drawing#	Rev.	Qty Nested	B.F.	Net. weight	Width	Length	Number Pierces	Customer	sales Person	Plant ID
	1	PD14545	No.	6	12.526'	178.50lb	13.372"	65.494"	1	E & D	P.SIEBER	1004

About Mechanical 3D Modelling

Mechanical 3D Modelling is an India based company that caters for global clientele and plans to penetrate deeper into the existing and emerging markets. Proficiency lies in offering qualitative, cost effective and time bound mechanical engineering design services, including 2D, 3D CAD drafting, 3D solid modeling, FEA, CFD, rapid prototyping, reverse engineering. Professional and highly experienced team can handle all kind of CAD projects with the use of AutoCAD, Wildfire, 3D Max, Inventor, Solid Works, Solid-edges and Pro-e tools.