



Nirvana Technologies Pvt. Ltd.

E-mail : info@nirvanatec.com Web : <http://www.nirvanatec.com>
Phone: +91-22-21661600 Fax: +91-22-39167297

Bar Nesting Software - PLUS 1D Report

Project Details

Project Name	
File Name	//Server/dev-nirvanatec.com/downloads/largeparts/plus1d_samples/sample1.p1D
Job Order	
Date	Friday, July 04, 2008
PLUS 1D Version No.	7.54

Summary of Optimization Results

Project Name	
Number of Layouts	24
Number of Stock Used	43
Total Parts Required	74
Total Parts Nested	74
Total Utilization	91.538
Overall Cost	421696.992
Minimum Offcut Size	Offcuts Not Allowed
Loss per cut	0
Total Part Length	389.95 [m]
Total Stock Length	426 [m]
Total Stock Weight	426
Total Part Weight	389.95
Total Scrap Weight	36.05
Cutting time (in Minutes)	31
Machine loading time (in Minutes)	43
Total Machine (in Minutes)	74

Summary of Layouts

No.	Section	Stock	Size	Qty	Utl %	Rest	Details [PartLength x Qty]
1	252	4	12500	1	94.98	628	4367x1 2686x2 2133x1
2	252	8	8040	1	80.85	1540	6500x1
3	300	5	8040	4	99.66	27	8013x1
4	300	5	8040	1	100	0	6663x1 1377x1
5	300	1	12500	1	99.16	105	6886x1 5509x1

No.	Section	Stock	Size	Qty	Utl %	Rest	Details [PartLength x Qty]
6	300	5	8040	1	99.9	8	5936x1 2096x1
7	300	5	8040	1	98.66	108	5159x1 2773x1
8	300	5	8040	1	100	0	4790x1 3250x1
9	300	1	12500	1	99.49	64	5936x1 3250x2
10	300	5	8040	4	100	0	8040x1
11	300	1	12500	1	97.99	251	6313x1 5936x1
12	300	5	8040	1	99.96	3	4787x1 3250x1
13	300	5	8040	2	99.9	8	4787x1 3245x1
14	300	5	8040	2	100	0	4399x1 3641x1
15	300	5	8040	2	98.25	141	4399x1 3500x1
16	300	1	12500	4	99.77	29	5968x1 3253x1 3250x1
17	300	1	12500	1	99.6	50	5936x1 4787x1 1727x1
18	300	1	12500	1	94.98	628	5936x2
19	300	5	8040	1	38.84	4917	3123x1
20	400	6	8040	1	100	0	5868x1 2172x1
21	400	6	8040	1	99.98	2	8038x1
22	400	6	8040	1	99.9	8	5164x1 2868x1
23	400	6	8040	1	91.24	704	7336x1
24	536	3	12500	8	73.49	3314	9186x1

Stock Details

Stock	Section	Length	Qty	Used	Remarks
1	300	12500	1000	9	
2	400	12500	1000	0	
3	536	12500	1000	8	
4	252	12500	1000	1	
5	300	8040	1000	20	
6	400	8040	1000	4	
7	536	8040	1000	0	
8	252	8040	1000	1	

Part Details

Part	Section	Length	Qty	Cut	Weight	Remarks
1	252	2686	2	2	2.686	
2	300	3250	4	4	3.25	
3	300	3250	4	4	3.25	
4	300	3500	2	2	3.5	
5	300	5936	2	2	5.936	
6	300	5936	4	4	5.936	
7	300	5968	4	4	5.968	
Lp1	252	6500	2	2	6.5	
Lp2	300	6886	4	4	6.886	
Lp3	300	6886	2	2	6.886	
Lp4	400	7336	2	2	7.336	
Lp5	300	8013	4	4	8.013	
Lp6	400	8038	1	1	8.038	
Lp7	400	8736	1	1	8.736	
Lp8	536	9186	8	8	9.186	
Lp9	300	9186	4	4	9.186	
Lp10	300	9436	2	2	9.436	
Lp11	300	11293	4	4	11.293	

Splitting Rules

Conditions	Values
Minimum Part Length considered for splitting	6000
Minimum smaller piece Length of part after splitting	1200
Minimum Joint Distance from end for flange	0.200000
Maximum Joint Distance from end for flange	0.333333
Joint Distance from end for web	0.500000
Tolerance allowed for web joint	+/- 250.000000
Maximum joints allowed, in case of multiple joints	2

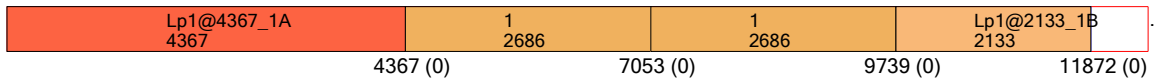
Joint Part Details

Part Name	Section	Length	Qty	Cut	Layout_Qty
Lp1	252	6500	2	2	
Lp1@4367_1A	252	4367	1	1	1_1
Lp1@2133_1B	252	2133	1	1	1_1
Lp1@6500_A	252	6500	1	1	2_1
Lp2	300	6886	4	4	
Lp2@5509_1A	300	5509	1	1	5_1
Lp2@1377_1B	300	1377	1	1	4_1
Lp2@5159_2A	300	5159	1	1	7_1
Lp2@1727_2B	300	1727	1	1	17_1
Lp2@4790_3A	300	4790	1	1	8_1
Lp2@2096_3B	300	2096	1	1	6_1
Lp2@6886_A	300	6886	1	1	5_1
Lp3	300	6886	2	2	
Lp3@3641_1A	300	3641	2	2	14_2
Lp3@3245_1B	300	3245	2	2	13_2
Lp4	400	7336	2	2	
Lp4@5164_1A	400	5164	1	1	22_1
Lp4@2172_1B	400	2172	1	1	20_1
Lp4@7336_A	400	7336	1	1	23_1
Lp5	300	8013	4	4	
Lp5@8013_A	300	8013	4	4	3_4
Lp6	400	8038	1	1	
Lp6@8038_A	400	8038	1	1	21_1
Lp7	400	8736	1	1	
Lp7@5868_1A	400	5868	1	1	20_1
Lp7@2868_1B	400	2868	1	1	22_1
Lp8	536	9186	8	8	
Lp8@9186_A	536	9186	8	8	24_8

Part Name	Section	Length	Qty	Cut	Layout_Qty
Lp9	300	9186	4	4	
Lp9@4787_1A	300	4787	4	4	12_1,13_2,17_1
Lp9@4399_1B	300	4399	4	4	14_2,15_2
Lp10	300	9436	2	2	
Lp10@6663_1A	300	6663	1	1	4_1
Lp10@2773_1B	300	2773	1	1	7_1
Lp10@6313_2A	300	6313	1	1	11_1
Lp10@3123_2B	300	3123	1	1	19_1
Lp11	300	11293	4	4	
Lp11@8040_1A	300	8040	4	4	10_4
Lp11@3253_1B	300	3253	4	4	16_4

Layout 1 of 24

Stock:4	Material:252	Length:12500	Qty:1	Utl %:94.98
[Lp1@4367_1A] 4367x1 [1] 2686x2 [Lp1@2133_1B] 2133x1				
4367x1 2686x2 2133x1				

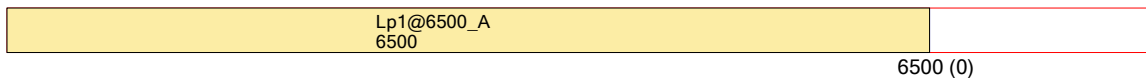


Cut Details

Cut No	Cut Position	Angle	Part No	Flipped	Rotated (180)
1	4367	0	Lp1@4367_1A	0	0
2	7053	0	1	0	0
3	9739	0	1	0	0
4	11872	0	Lp1@2133_1B	0	0

Layout 2 of 24

Stock:8	Material:252	Length:8040	Qty:1	Utl %:80.85
[Lp1@6500_A] 6500x1				
6500x1				

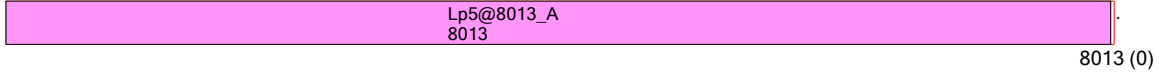


Cut Details

Cut No	Cut Position	Angle	Part No	Flipped	Rotated (180)
1	6500	0	Lp1@6500_A	0	0

Layout 3 of 24

Stock:5	Material:300	Length:8040	Qty:4	Utl %:99.66
[Lp5@8013_A] 8013x1				
8013x1				



Cut Details

Cut No	Cut Position	Angle	Part No	Flipped	Rotated (180)
1	8013	0	Lp5@8013_A	0	0

Layout 4 of 24

Stock:5	Material:300	Length:8040	Qty:1	Utl %:100.00
[Lp10@6663_1A] 6663x1 [Lp2@1377_1B] 1377x1				
6663x1 1377x1				

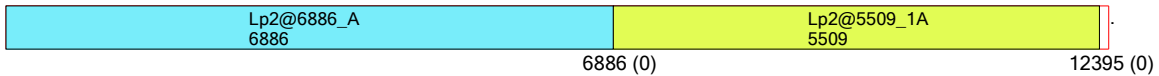


Cut Details

Cut No	Cut Position	Angle	Part No	Flipped	Rotated (180)
1	6663	0	Lp10@6663_1A	0	0
2	8040	0	Lp2@1377_1B	0	0

Layout 5 of 24

Stock:1	Material:300	Length:12500	Qty:1	Utl %:99.16
[Lp2@6886_A] 6886x1 [Lp2@5509_1A] 5509x1				
6886x1 5509x1				



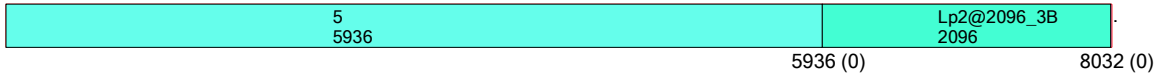
Cut Details

Cut No	Cut Position	Angle	Part No	Flipped	Rotated (180)
1	6886	0	Lp2@6886_A	0	0
2	12395	0	Lp2@5509_1A	0	0

Layout 6 of 24

Stock:5	Material:300	Length:8040	Qty:1	Utl %:99.90
----------------	---------------------	--------------------	--------------	--------------------

Stock:5	Material:300	Length:8040	Qty:1	Utl %:99.90
[5] 5936x1 [Lp2@2096_3B] 2096x1				
5936x1 2096x1				



Cut Details

Cut No	Cut Position	Angle	Part No	Flipped	Rotated (180)
1	5936	0	5	0	0
2	8032	0	Lp2@2096_3B	0	0

Layout 7 of 24

Stock:5	Material:300	Length:8040	Qty:1	Utl %:98.66
[Lp2@5159_2A] 5159x1 [Lp10@2773_1B] 2773x1				
5159x1 2773x1				

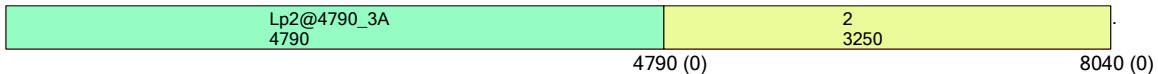


Cut Details

Cut No	Cut Position	Angle	Part No	Flipped	Rotated (180)
1	5159	0	Lp2@5159_2A	0	0
2	7932	0	Lp10@2773_1B	0	0

Layout 8 of 24

Stock:5	Material:300	Length:8040	Qty:1	Utl %:100.00
[Lp2@4790_3A] 4790x1 [2] 3250x1				
4790x1 3250x1				



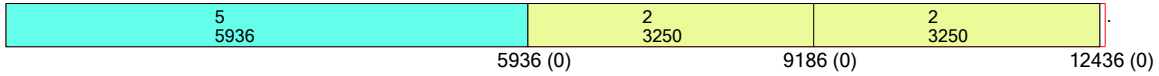
Cut Details

Cut No	Cut Position	Angle	Part No	Flipped	Rotated (180)
1	4790	0	Lp2@4790_3A	0	0
2	8040	0	2	0	0

Layout 9 of 24

Stock:1	Material:300	Length:12500	Qty:1	Utl %:99.49
[5] 5936x1 [2] 3250x2				

Stock:1	Material:300	Length:12500	Qty:1	Utl %:99.49
5936x1	3250x2			

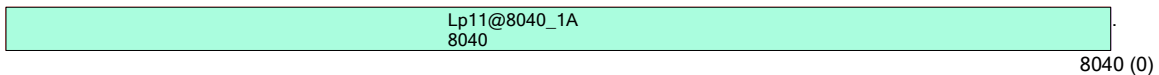


Cut Details

Cut No	Cut Position	Angle	Part No	Flipped	Rotated (180)
1	5936	0	5	0	0
2	9186	0	2	0	0
3	12436	0	2	0	0

Layout 10 of 24

Stock:5	Material:300	Length:8040	Qty:4	Utl %:100.00
[Lp11@8040_1A]	8040x1			
8040x1				

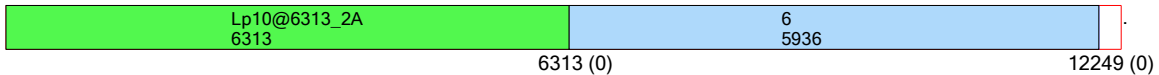


Cut Details

Cut No	Cut Position	Angle	Part No	Flipped	Rotated (180)
1	8040	0	Lp11@8040_1A	0	0

Layout 11 of 24

Stock:1	Material:300	Length:12500	Qty:1	Utl %:97.99
[Lp10@6313_2A]	6313x1	[6]	5936x1	
6313x1	5936x1			



Cut Details

Cut No	Cut Position	Angle	Part No	Flipped	Rotated (180)
1	6313	0	Lp10@6313_2A	0	0
2	12249	0	6	0	0

Layout 12 of 24

Stock:5	Material:300	Length:8040	Qty:1	Utl %:99.96
[Lp9@4787_1A]	4787x1	[2]	3250x1	
4787x1	3250x1			

Lp9@4787_1A 4787	2 3250
4787 (0)	8037 (0)

Cut Details

Cut No	Cut Position	Angle	Part No	Flipped	Rotated (180)
1	4787	0	Lp9@4787_1A	0	0
2	8037	0	2	0	0

Layout 13 of 24

Stock:5	Material:300	Length:8040	Qty:2	Utl %:99.90
[Lp9@4787_1A] 4787x1 [Lp3@3245_1B] 3245x1				
4787x1 3245x1				

Lp9@4787_1A 4787	Lp3@3245_1B 3245
4787 (0)	8032 (0)

Cut Details

Cut No	Cut Position	Angle	Part No	Flipped	Rotated (180)
1	4787	0	Lp9@4787_1A	0	0
2	8032	0	Lp3@3245_1B	0	0

Layout 14 of 24

Stock:5	Material:300	Length:8040	Qty:2	Utl %:100.00
[Lp9@4399_1B] 4399x1 [Lp3@3641_1A] 3641x1				
4399x1 3641x1				

Lp9@4399_1B 4399	Lp3@3641_1A 3641
4399 (0)	8040 (0)

Cut Details

Cut No	Cut Position	Angle	Part No	Flipped	Rotated (180)
1	4399	0	Lp9@4399_1B	0	0
2	8040	0	Lp3@3641_1A	0	0

Layout 15 of 24

Stock:5	Material:300	Length:8040	Qty:2	Utl %:98.25
[Lp9@4399_1B] 4399x1 [4] 3500x1				
4399x1 3500x1				

Lp9@4399_1B 4399	4 3500	
4399 (0)		7899 (0)

Cut Details

Cut No	Cut Position	Angle	Part No	Flipped	Rotated (180)
1	4399	0	Lp9@4399_1B	0	0
2	7899	0	4	0	0

Layout 16 of 24

Stock:1	Material:300	Length:12500	Qty:4	Utl %:99.77
[7] 5968x1	[Lp11@3253_1B] 3253x1	[3] 3250x1		
5968x1	3253x1	3250x1		

7 5968	Lp11@3253_1B 3253	3 3250	
5968 (0)	9221 (0)		12471 (0)

Cut Details

Cut No	Cut Position	Angle	Part No	Flipped	Rotated (180)
1	5968	0	7	0	0
2	9221	0	Lp11@3253_1B	0	0
3	12471	0	3	0	0

Layout 17 of 24

Stock:1	Material:300	Length:12500	Qty:1	Utl %:99.60
[6] 5936x1	[Lp9@4787_1A] 4787x1	[Lp2@1727_2B] 1727x1		
5936x1	4787x1	1727x1		

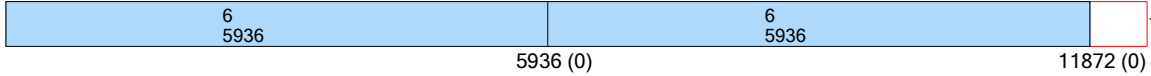
6 5936	Lp9@4787_1A 4787	Lp2@1727_2B 1727	
5936 (0)	10723 (0)		12450 (0)

Cut Details

Cut No	Cut Position	Angle	Part No	Flipped	Rotated (180)
1	5936	0	6	0	0
2	10723	0	Lp9@4787_1A	0	0
3	12450	0	Lp2@1727_2B	0	0

Layout 18 of 24

Stock:1	Material:300	Length:12500	Qty:1	Utl %:94.98
[6] 5936x2				
5936x2				



Cut Details

Cut No	Cut Position	Angle	Part No	Flipped	Rotated (180)
1	5936	0	6	0	0
2	11872	0	6	0	0

Layout 19 of 24

Stock:5	Material:300	Length:8040	Qty:1	Utl %:38.84
[Lp10@3123_2B] 3123x1				
3123x1				



Cut Details

Cut No	Cut Position	Angle	Part No	Flipped	Rotated (180)
1	3123	0	Lp10@3123_2B	0	0

Layout 20 of 24

Stock:6	Material:400	Length:8040	Qty:1	Utl %:100.00
[Lp7@5868_1A] 5868x1 [Lp4@2172_1B] 2172x1				
5868x1 2172x1				

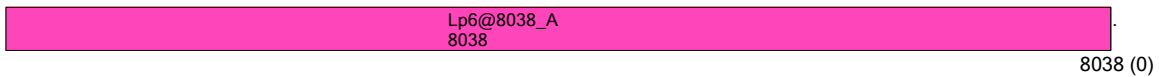


Cut Details

Cut No	Cut Position	Angle	Part No	Flipped	Rotated (180)
1	5868	0	Lp7@5868_1A	0	0
2	8040	0	Lp4@2172_1B	0	0

Layout 21 of 24

Stock:6	Material:400	Length:8040	Qty:1	Utl %:99.98
[Lp6@8038_A] 8038x1				
8038x1				



Cut Details

Cut No	Cut Position	Angle	Part No	Flipped	Rotated (180)
1	8038	0	Lp6@8038_A	0	0

Layout 22 of 24

Stock:6	Material:400	Length:8040	Qty:1	Utl %:99.90
[Lp4@5164_1A] 5164x1 [Lp7@2868_1B] 2868x1				
5164x1 2868x1				

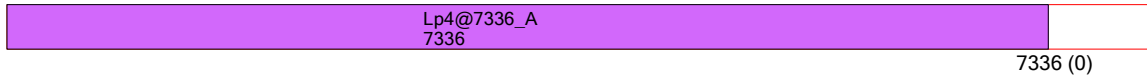


Cut Details

Cut No	Cut Position	Angle	Part No	Flipped	Rotated (180)
1	5164	0	Lp4@5164_1A	0	0
2	8032	0	Lp7@2868_1B	0	0

Layout 23 of 24

Stock:6	Material:400	Length:8040	Qty:1	Utl %:91.24
[Lp4@7336_A] 7336x1				
7336x1				



Cut Details

Cut No	Cut Position	Angle	Part No	Flipped	Rotated (180)
1	7336	0	Lp4@7336_A	0	0

Layout 24 of 24

Stock:3	Material:536	Length:12500	Qty:8	Utl %:73.49
[Lp8@9186_A] 9186x1				
9186x1				



Cut Details

Cut No	Cut Position	Angle	Part No	Flipped	Rotated (180)
1	9186	0	Lp8@9186_A	0	0

Offcut/Drops List

No.	From Stock	Size	Qty	Weight	Material
-----	------------	------	-----	--------	----------

Material Usage Summary (All Lengths in "[m]")

Section	Used Len	Used Wt	Scrap Len	Total Scrap Weight	Off Len	Total Offcut Weight
252	20.54	20.54	2.168	2.168	0	0
300	273.3	273.3	6.656	6.656	0	0
400	32.16	32.16	0.714	0.714	0	0
536	100	100	26.512	26.512	0	0