



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	N:/Plus1D/Samples/singlestk.p1d
Job Order	
Date	Thursday, November 17, 2005
PLUS 1D Version No.	7.55

Summary of Optimization Results

Project Name	
Number of Layouts	14
Number of Stock Used	28
Total Parts Required	545
Total Parts Nested	545
Total Utilization	98.689
Overall Cost	140000
Minimum Offcut Size	400
Loss per cut	3
Total Part Length	137.625 [m]
Total Stock Length	140 [m]
Total Stock Weight	140
Total Part Weight	137.625
Total Offcut Weight	0.539
Total Scrap Weight	1.836
Cutting time (in Minutes)	517
Machine loading time (in Minutes)	28
Total Machine (in Minutes)	545

Summary of Layouts

No.	Stock	Size	Qty	Utl %	Rest	Details [PartLength x Qty]			
1	1	5000	1	98.6	1	300x12	265x1	255x1	95x3
								90x3	85x3
2	1	5000	8	99.1	0	370x4	355x4	300x6	255x1
3	1	5000	1	98.6	4	355x6	300x6	265x1	90x3
								85x3	70x3

No.	Stock	Size	Qty	Utl %	Rest	Details [PartLength x Qty]
4	1	5000	2	98.6	4	370x5 300x6 265x1 250x1 95x3 90x3 70x3
5	1	5000	1	98.6	10	370x1 355x5 300x6 265x1 255x1 85x3 70x3
6	1	5000	4	98.8	3	370x5 355x5 300x2 250x1 85x3 70x3
7	1	5000	2	98.5	9	370x8 265x1 255x2 250x2 90x3 70x6
8	1	5000	1	98.4	2	370x7 265x1 255x2 250x1 95x6 90x3 85x3 70x3
9	1	5000	3	98.5	9	355x8 265x1 255x2 250x2 95x3 90x3 85x3
10	1	5000	1	98.1	53	370x13 95x1
11	1	5000	1	98.6	28	370x1 355x12 300x1
12	1	5000	1	98.9	4	355x1 300x15 90x1
13	1	5000	1	98.3	34	300x12 265x4 255x1
14	1	5000	1	97.48	(539)	255x2 250x3 95x5 90x9 85x12 70x11

Stock Details

Stock	Length	Qty	Used	Remarks
1	5000	100	28	

Part Details

Part	Length	Qty	Cut	Weight	Remarks
1	70	50	50	0.07	
2	85	45	45	0.085	
3	90	40	40	0.09	
4	95	30	30	0.095	
5	255	25	25	0.255	
6	250	20	20	0.25	
7	265	15	15	0.265	
8	300	120	120	0.3	
9	355	100	100	0.355	
10	370	100	100	0.37	

Layout 1 of 14

Stock:1	Length:5000	Qty:1	Utl %:98.60	No Offcuts
[8] 300x12	[7] 265x1	[5] 255x1	[4] 95x3	[3] 90x3 [2] 85x3
300x12	265x1	255x1	95x3	90x3 85x3

8	8	8	8	8	8	8	8	8	8	8	8	7	5	4	4	4	3	3	3	2	2	2
300	300	300	300	300	300	300	300	300	300	300	300	265	255	9	9	9	9	9	8	8	8	85

Cut Details

Cut No	Cut Position	Angle	Part No	Flipped	Rotated (180)
1	303	0	8	0	0
2	606	0	8	0	0
3	909	0	8	0	0
4	1212	0	8	0	0
5	1515	0	8	0	0
6	1818	0	8	0	0
7	2121	0	8	0	0
8	2424	0	8	0	0
9	2727	0	8	0	0
10	3030	0	8	0	0
11	3333	0	8	0	0
12	3636	0	8	0	0
13	3904	0	7	0	0
14	4162	0	5	0	0
15	4260	0	4	0	0
16	4358	0	4	0	0
17	4456	0	4	0	0
18	4549	0	3	0	0
19	4642	0	3	0	0
20	4735	0	3	0	0
21	4823	0	2	0	0
22	4911	0	2	0	0
23	4999	0	2	0	0

Layout 2 of 14

Stock:1	Length:5000	Qty:8	Utl %:99.10	No Offcuts
[10] 370x4	[9] 355x4	[8] 300x6	[5] 255x1	
370x4	355x4	300x6	255x1	

10	10	10	10	9	9	9	9	8	8	8	8	8	8	5
370	370	370	370	355	355	355	355	300	300	300	300	300	300	255

Cut Details

Cut No	Cut Position	Angle	Part No	Flipped	Rotated (180)
1	373	0	10	0	0
2	746	0	10	0	0
3	1119	0	10	0	0

Cut No	Cut Position	Angle	Part No	Flipped	Rotated (180)
4	1492	0	10	0	0
5	1850	0	9	0	0
6	2208	0	9	0	0
7	2566	0	9	0	0
8	2924	0	9	0	0
9	3227	0	8	0	0
10	3530	0	8	0	0
11	3833	0	8	0	0
12	4136	0	8	0	0
13	4439	0	8	0	0
14	4742	0	8	0	0
15	5000	0	5	0	0

Layout 3 of 14

Stock:1	Length:5000	Qty:1	Utl %:98.60	No Offcuts	
[9] 355x6	[8] 300x6	[7] 265x1	[3] 90x3	[2] 85x3	[1] 70x3
355x6	300x6	265x1	90x3	85x3	70x3

9	9	9	9	9	9	8	8	8	8	8	8	7	3	3	2	2	1	1
355	355	355	355	355	355	300	300	300	300	300	300	265	9	9	9	8	8	7

Cut Details

Cut No	Cut Position	Angle	Part No	Flipped	Rotated (180)
1	358	0	9	0	0
2	716	0	9	0	0
3	1074	0	9	0	0
4	1432	0	9	0	0
5	1790	0	9	0	0
6	2148	0	9	0	0
7	2451	0	8	0	0
8	2754	0	8	0	0
9	3057	0	8	0	0
10	3360	0	8	0	0
11	3663	0	8	0	0
12	3966	0	8	0	0
13	4234	0	7	0	0
14	4327	0	3	0	0
15	4420	0	3	0	0
16	4513	0	3	0	0
17	4601	0	2	0	0
18	4689	0	2	0	0
19	4777	0	2	0	0
20	4850	0	1	0	0
21	4923	0	1	0	0
22	4996	0	1	0	0

Layout 4 of 14

Stock:1	Length:5000	Qty:2	Utl %:98.60	No Offcuts		
[10] 370x5	[8] 300x6	[7] 265x1	[6] 250x1	[4] 95x3	[3] 90x3	[1] 70x3
370x5	300x6	265x1	250x1	95x3	90x3	70x3

10	10	10	10	10	8	8	8	8	8	8	7	6	4	4	4	3	3	1	1	1
370	370	370	370	370	300	300	300	300	300	300	265	250	9	9	9	9	9	7	7	70

Cut Details

Cut No	Cut Position	Angle	Part No	Flipped	Rotated (180)
1	373	0	10	0	0
2	746	0	10	0	0
3	1119	0	10	0	0
4	1492	0	10	0	0
5	1865	0	10	0	0
6	2168	0	8	0	0
7	2471	0	8	0	0
8	2774	0	8	0	0
9	3077	0	8	0	0
10	3380	0	8	0	0
11	3683	0	8	0	0
12	3951	0	7	0	0
13	4204	0	6	0	0
14	4302	0	4	0	0
15	4400	0	4	0	0
16	4498	0	4	0	0
17	4591	0	3	0	0
18	4684	0	3	0	0
19	4777	0	3	0	0
20	4850	0	1	0	0
21	4923	0	1	0	0
22	4996	0	1	0	0

Layout 5 of 14

Stock:1	Length:5000	Qty:1	Utl %:98.60	No Offcuts		
[10] 370x1	[9] 355x5	[8] 300x6	[7] 265x1	[5] 255x1	[2] 85x3	[1] 70x3
370x1	355x5	300x6	265x1	255x1	85x3	70x3

10	9	9	9	9	9	8	8	8	8	8	8	7	5	2	2	2	1	1	1
370	355	355	355	355	355	300	300	300	300	300	300	265	255	8	8	8	7	7	70

Cut Details

Cut No	Cut Position	Angle	Part No	Flipped	Rotated (180)
1	373	0	10	0	0
2	731	0	9	0	0
3	1089	0	9	0	0
4	1447	0	9	0	0
5	1805	0	9	0	0

Cut No	Cut Position	Angle	Part No	Flipped	Rotated (180)
6	2163	0	9	0	0
7	2466	0	8	0	0
8	2769	0	8	0	0
9	3072	0	8	0	0
10	3375	0	8	0	0
11	3678	0	8	0	0
12	3981	0	8	0	0
13	4249	0	7	0	0
14	4507	0	5	0	0
15	4595	0	2	0	0
16	4683	0	2	0	0
17	4771	0	2	0	0
18	4844	0	1	0	0
19	4917	0	1	0	0
20	4990	0	1	0	0

Layout 6 of 14

Stock:1	Length:5000	Qty:4	Utl %:98.80	No Offcuts
[10] 370x5	[9] 355x5	[8] 300x2	[6] 250x1	[2] 85x3
[1] 70x3				
370x5	355x5	300x2	250x1	85x3
				70x3

10 370	10 370	10 370	10 370	10 370	9 355	9 355	9 355	9 355	9 355	8 300	8 300	6 250	2 88	2 88	2 88	1 77	1 77	1 70
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Cut Details

Cut No	Cut Position	Angle	Part No	Flipped	Rotated (180)
1	373	0	10	0	0
2	746	0	10	0	0
3	1119	0	10	0	0
4	1492	0	10	0	0
5	1865	0	10	0	0
6	2223	0	9	0	0
7	2581	0	9	0	0
8	2939	0	9	0	0
9	3297	0	9	0	0
10	3655	0	9	0	0
11	3958	0	8	0	0
12	4261	0	8	0	0
13	4514	0	6	0	0
14	4602	0	2	0	0
15	4690	0	2	0	0
16	4778	0	2	0	0
17	4851	0	1	0	0
18	4924	0	1	0	0
19	4997	0	1	0	0

Cut No	Cut Position	Angle	Part No	Flipped	Rotated (180)
6	2238	0	10	0	0
7	2611	0	10	0	0
8	2879	0	7	0	0
9	3137	0	5	0	0
10	3395	0	5	0	0
11	3648	0	6	0	0
12	3746	0	4	0	0
13	3844	0	4	0	0
14	3942	0	4	0	0
15	4040	0	4	0	0
16	4138	0	4	0	0
17	4236	0	4	0	0
18	4329	0	3	0	0
19	4422	0	3	0	0
20	4515	0	3	0	0
21	4603	0	2	0	0
22	4691	0	2	0	0
23	4779	0	2	0	0
24	4852	0	1	0	0
25	4925	0	1	0	0
26	4998	0	1	0	0

Layout 9 of 14

Stock:1	Length:5000	Qty:3	Utl %:98.50	No Offcuts		
[9] 355x8	[7] 265x1	[5] 255x2	[6] 250x2	[4] 95x3	[3] 90x3	[2] 85x3
355x8	265x1	255x2	250x2	95x3	90x3	85x3

9	9	9	9	9	9	9	9	7	5	5	6	6	4	4	4	3	3	3	2	2	2
355	355	355	355	355	355	355	355	265	255	255	250	250	90	90	90	90	90	90	85	85	85

Cut Details

Cut No	Cut Position	Angle	Part No	Flipped	Rotated (180)
1	358	0	9	0	0
2	716	0	9	0	0
3	1074	0	9	0	0
4	1432	0	9	0	0
5	1790	0	9	0	0
6	2148	0	9	0	0
7	2506	0	9	0	0
8	2864	0	9	0	0
9	3132	0	7	0	0
10	3390	0	5	0	0
11	3648	0	5	0	0
12	3901	0	6	0	0
13	4154	0	6	0	0
14	4252	0	4	0	0
15	4350	0	4	0	0

Cut No	Cut Position	Angle	Part No	Flipped	Rotated (180)
16	4448	0	4	0	0
17	4541	0	3	0	0
18	4634	0	3	0	0
19	4727	0	3	0	0
20	4815	0	2	0	0
21	4903	0	2	0	0
22	4991	0	2	0	0

Layout 10 of 14

Stock:1	Length:5000	Qty:1	Utl %:98.10	No Offcuts
[10] 370x13	[4] 95x1			
370x13	95x1			

10	10	10	10	10	10	10	10	10	10	10	10	10	10	4
370	370	370	370	370	370	370	370	370	370	370	370	370	370	95

Cut Details

Cut No	Cut Position	Angle	Part No	Flipped	Rotated (180)
1	373	0	10	0	0
2	746	0	10	0	0
3	1119	0	10	0	0
4	1492	0	10	0	0
5	1865	0	10	0	0
6	2238	0	10	0	0
7	2611	0	10	0	0
8	2984	0	10	0	0
9	3357	0	10	0	0
10	3730	0	10	0	0
11	4103	0	10	0	0
12	4476	0	10	0	0
13	4849	0	10	0	0
14	4947	0	4	0	0

Layout 11 of 14

Stock:1	Length:5000	Qty:1	Utl %:98.60	No Offcuts
[10] 370x1	[9] 355x12	[8] 300x1		
370x1	355x12	300x1		

10	9	9	9	9	9	9	9	9	9	9	9	9	9	8
370	355	355	355	355	355	355	355	355	355	355	355	355	355	300

Cut Details

Cut No	Cut Position	Angle	Part No	Flipped	Rotated (180)
1	373	0	10	0	0
2	731	0	9	0	0
3	1089	0	9	0	0
4	1447	0	9	0	0

Cut No	Cut Position	Angle	Part No	Flipped	Rotated (180)
5	1805	0	9	0	0
6	2163	0	9	0	0
7	2521	0	9	0	0
8	2879	0	9	0	0
9	3237	0	9	0	0
10	3595	0	9	0	0
11	3953	0	9	0	0
12	4311	0	9	0	0
13	4669	0	9	0	0
14	4972	0	8	0	0

Layout 12 of 14

Stock:1	Length:5000	Qty:1	Utl %:98.90	No Offcuts
[9] 355x1	[8] 300x15	[3] 90x1		
355x1	300x15	90x1		

9	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	3
355	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	90

Cut Details

Cut No	Cut Position	Angle	Part No	Flipped	Rotated (180)
1	358	0	9	0	0
2	661	0	8	0	0
3	964	0	8	0	0
4	1267	0	8	0	0
5	1570	0	8	0	0
6	1873	0	8	0	0
7	2176	0	8	0	0
8	2479	0	8	0	0
9	2782	0	8	0	0
10	3085	0	8	0	0
11	3388	0	8	0	0
12	3691	0	8	0	0
13	3994	0	8	0	0
14	4297	0	8	0	0
15	4600	0	8	0	0
16	4903	0	8	0	0
17	4996	0	3	0	0

Layout 13 of 14

Stock:1	Length:5000	Qty:1	Utl %:98.30	No Offcuts
[8] 300x12	[7] 265x4	[5] 255x1		
300x12	265x4	255x1		

8	8	8	8	8	8	8	8	8	8	8	8	7	7	7	7	5
300	300	300	300	300	300	300	300	300	300	300	300	265	265	265	265	255

Cut No	Cut Position	Angle	Part No	Flipped	Rotated (180)
19	2602	0	3	0	0
20	2690	0	2	0	0
21	2778	0	2	0	0
22	2866	0	2	0	0
23	2954	0	2	0	0
24	3042	0	2	0	0
25	3130	0	2	0	0
26	3218	0	2	0	0
27	3306	0	2	0	0
28	3394	0	2	0	0
29	3482	0	2	0	0
30	3570	0	2	0	0
31	3658	0	2	0	0
32	3731	0	1	0	0
33	3804	0	1	0	0
34	3877	0	1	0	0
35	3950	0	1	0	0
36	4023	0	1	0	0
37	4096	0	1	0	0
38	4169	0	1	0	0
39	4242	0	1	0	0
40	4315	0	1	0	0
41	4388	0	1	0	0
42	4461	0	1	0	0

Offcut/Drops List

No.	From Stock	Size	Qty	Weight
1	1	539	1	0.539

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

Section	Used Len	Used Wt	Scrap Len	Total Scrap Weight	Off Len	Total Offcut Weight
Default	140	140	0.201	0.201	0.539	0.539