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Bar Nesting Software - PLUS 1D Report

Project Details

| | |
|---------------------|---|
| Project Name | |
| File Name | //Server/dev-nirvanatec.com/downloads/largeparts/plus1d_samples/sample3.p1D |
| Job Order | |
| Date | Wednesday, September 17, 2008 |
| PLUS 1D Version No. | 7.54 |

Summary of Optimization Results

| | |
|-----------------------------------|---------------------|
| Project Name | |
| Number of Layouts | 10 |
| Number of Stock Used | 19 |
| Total Parts Required | 28 |
| Total Parts Nested | 28 |
| Total Utilization | 98.284 |
| Overall Cost | 213920 |
| Minimum Offcut Size | Offcuts Not Allowed |
| Loss per cut | 0 |
| Total Part Length | 211.31 [m] |
| Total Stock Length | 215 [m] |
| Total Stock Weight | 215 |
| Total Part Weight | 211.31 |
| Total Scrap Weight | 3.69 |
| Cutting time (in Minutes) | 9 |
| Machine loading time (in Minutes) | 19 |
| Total Machine (in Minutes) | 28 |

Summary of Layouts

| No. | Stock | Size | Qty | Utl % | Rest | Details [PartLength x Qty] |
|-----|-------|-------|-----|-------|------|----------------------------|
| 1 | 2 | 12500 | 4 | 100 | 0 | 12500x1 |
| 2 | 2 | 12500 | 2 | 100 | 0 | 12500x1 |
| 3 | 1 | 10000 | 2 | 100 | 0 | 10000x1 |
| 4 | 1 | 10000 | 4 | 100 | 0 | 10000x1 |
| 5 | 2 | 12500 | 1 | 99.01 | 124 | 8722x1 3655x1 |

| No. | Stock | Size | Qty | Util % | Rest | Details [PartLength x Qty] |
|-----|-------|-------|-----|--------|------|----------------------------|
| 6 | 1 | 10000 | 1 | 100 | 0 | 7064x1 2936x1 |
| 7 | 2 | 12500 | 1 | 95.01 | 624 | 8222x1 3655x1 |
| 8 | 1 | 10000 | 1 | 95.27 | 473 | 6591x1 2936x1 |
| 9 | 2 | 12500 | 2 | 94.58 | 678 | 4443x2 2936x1 |
| 10 | 1 | 10000 | 1 | 88.86 | 1114 | 4443x2 |

Stock Details

| Stock | Length | Qty | Used | Remarks |
|-------|--------|-----|------|---------|
| 1 | 10000 | 25 | 9 | |
| 2 | 12500 | 25 | 10 | |

Part Details

| Part | Length | Qty | Cut | Weight | Remarks |
|------|--------|-----|-----|--------|---------|
| 1 | 13655 | 1 | 1 | 13.655 | 674 |
| 2 | 13655 | 2 | 2 | 13.655 | 325 |
| 3 | 12936 | 4 | 4 | 12.936 | 400 |
| 4 | 16943 | 1 | 1 | 16.943 | 750 |
| 5 | 16943 | 4 | 4 | 16.943 | 400 |
| 6 | 16943 | 2 | 2 | 16.943 | 363 |

Splitting Rules

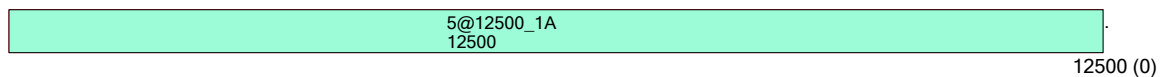
| Conditions | Values |
|--|----------------|
| Minimum Part Length considered for splitting | 6000 |
| Minimum smaller piece Length of part after splitting | 1200 |
| Minimum Joint Distance from end for flange | 0.200000 |
| Maximum Joint Distance from end for flange | 0.333333 |
| Joint Distance from 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 | Length | Qty | Cut | Layout_Qty |
|------------|--------|-----|-----|-------------|
| 1 | 13655 | 1 | 1 | |
| 1@7064_1A | 7064 | 1 | 1 | 6_1 |
| 1@6591_1B | 6591 | 1 | 1 | 8_1 |
| 2 | 13655 | 2 | 2 | |
| 2@10000_1A | 10000 | 2 | 2 | 3_2 |
| 2@3655_1B | 3655 | 2 | 2 | 5_1,7_1 |
| 3 | 12936 | 4 | 4 | |
| 3@10000_1A | 10000 | 4 | 4 | 4_4 |
| 3@2936_1B | 2936 | 4 | 4 | 6_1,8_1,9_2 |
| 4 | 16943 | 1 | 1 | |
| 4@8722_1A | 8722 | 1 | 1 | 5_1 |
| 4@8222_1B | 8222 | 1 | 1 | 7_1 |
| 5 | 16943 | 4 | 4 | |
| 5@12500_1A | 12500 | 4 | 4 | 1_4 |
| 5@4443_1B | 4443 | 4 | 4 | 9_4 |
| 6 | 16943 | 2 | 2 | |
| 6@12500_1A | 12500 | 2 | 2 | 2_2 |
| 6@4443_1B | 4443 | 2 | 2 | 10_2 |

Layout 1 of 10

| Stock:2 | Length:12500 | Qty:4 | Utl %:100.00 |
|----------------------|--------------|-------|--------------|
| [5@12500_1A] 12500x1 | | | |
| 12500x1 | | | |



Cut Details

| Cut No | Cut Position | Angle | Part No | Flipped | Rotated (180) |
|--------|--------------|-------|----------------|---------|---------------|
| 1 | 12500 | 0 | 5@12500_1 A | 0 | 0 |

Layout 2 of 10

| Stock:2 | Length:12500 | Qty:2 | Utl %:100.00 |
|----------------------|--------------|-------|--------------|
| [6@12500_1A] 12500x1 | | | |
| 12500x1 | | | |

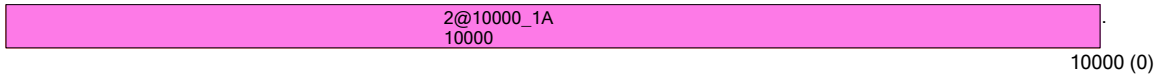


Cut Details

| Cut No | Cut Position | Angle | Part No | Flipped | Rotated (180) |
|--------|--------------|-------|----------------|---------|---------------|
| 1 | 12500 | 0 | 6@12500_1 A | 0 | 0 |

Layout 3 of 10

| Stock:1 | Length:10000 | Qty:2 | Utl %:100.00 |
|----------------------|--------------|-------|--------------|
| [2@10000_1A] 10000x1 | | | |
| 10000x1 | | | |

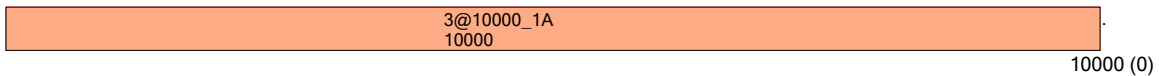


Cut Details

| Cut No | Cut Position | Angle | Part No | Flipped | Rotated (180) |
|--------|--------------|-------|----------------|---------|---------------|
| 1 | 10000 | 0 | 2@10000_1 A | 0 | 0 |

Layout 4 of 10

| Stock:1 | Length:10000 | Qty:4 | Utl %:100.00 |
|----------------------|--------------|-------|--------------|
| [3@10000_1A] 10000x1 | | | |
| 10000x1 | | | |



Cut Details

| Cut No | Cut Position | Angle | Part No | Flipped | Rotated (180) |
|--------|--------------|-------|----------------|---------|---------------|
| 1 | 10000 | 0 | 3@10000_1 A | 0 | 0 |

Layout 5 of 10

| | | | |
|--------------------|---------------------|--------------|--------------------|
| Stock:2 | Length:12500 | Qty:1 | Utl %:99.01 |
| [4@8722_1A] 8722x1 | [2@3655_1B] 3655x1 | | |
| 8722x1 | 3655x1 | | |



Cut Details

| Cut No | Cut Position | Angle | Part No | Flipped | Rotated (180) |
|--------|--------------|-------|-----------|---------|---------------|
| 1 | 8722 | 0 | 4@8722_1A | 0 | 0 |
| 2 | 12377 | 0 | 2@3655_1B | 0 | 0 |

Layout 6 of 10

| | | | |
|--------------------|---------------------|--------------|---------------------|
| Stock:1 | Length:10000 | Qty:1 | Utl %:100.00 |
| [1@7064_1A] 7064x1 | [3@2936_1B] 2936x1 | | |
| 7064x1 | 2936x1 | | |



Cut Details

| Cut No | Cut Position | Angle | Part No | Flipped | Rotated (180) |
|--------|--------------|-------|-----------|---------|---------------|
| 1 | 7064 | 0 | 1@7064_1A | 0 | 0 |
| 2 | 10000 | 0 | 3@2936_1B | 0 | 0 |

Layout 7 of 10

| | | | |
|--------------------|---------------------|--------------|--------------------|
| Stock:2 | Length:12500 | Qty:1 | Utl %:95.01 |
| [4@8222_1B] 8222x1 | [2@3655_1B] 3655x1 | | |
| 8222x1 | 3655x1 | | |



Cut Details

| Cut No | Cut Position | Angle | Part No | Flipped | Rotated (180) |
|--------|--------------|-------|-----------|---------|---------------|
| 1 | 8222 | 0 | 4@8222_1B | 0 | 0 |
| 2 | 11877 | 0 | 2@3655_1B | 0 | 0 |

Layout 8 of 10

| | | | |
|--------------------|---------------------|--------------|--------------------|
| Stock:1 | Length:10000 | Qty:1 | Utl %:95.27 |
| [1@6591_1B] 6591x1 | [3@2936_1B] 2936x1 | | |
| 6591x1 | 2936x1 | | |

| | | |
|-------------------|-------------------|--|
| 1@6591_1B 6591 | 3@2936_1B 2936 | |
| 6591 (0) | 9527 (0) | |

Cut Details

| Cut No | Cut Position | Angle | Part No | Flipped | Rotated (180) |
|--------|--------------|-------|-----------|---------|---------------|
| 1 | 6591 | 0 | 1@6591_1B | 0 | 0 |
| 2 | 9527 | 0 | 3@2936_1B | 0 | 0 |

Layout 9 of 10

| | | | |
|---------------------------------------|---------------------|--------------|--------------------|
| Stock:2 | Length:12500 | Qty:2 | Utl %:94.58 |
| [5@4443_1B] 4443x2 [3@2936_1B] 2936x1 | | | |
| 4443x2 2936x1 | | | |

| | | | |
|-------------------|-------------------|-------------------|--|
| 5@4443_1B 4443 | 5@4443_1B 4443 | 3@2936_1B 2936 | |
| 4443 (0) | 8886 (0) | 11822 (0) | |

Cut Details

| Cut No | Cut Position | Angle | Part No | Flipped | Rotated (180) |
|--------|--------------|-------|-----------|---------|---------------|
| 1 | 4443 | 0 | 5@4443_1B | 0 | 0 |
| 2 | 8886 | 0 | 5@4443_1B | 0 | 0 |
| 3 | 11822 | 0 | 3@2936_1B | 0 | 0 |

Layout 10 of 10

| | | | |
|--------------------|---------------------|--------------|--------------------|
| Stock:1 | Length:10000 | Qty:1 | Utl %:88.86 |
| [6@4443_1B] 4443x2 | | | |
| 4443x2 | | | |

| | | |
|-------------------|-------------------|--|
| 6@4443_1B 4443 | 6@4443_1B 4443 | |
| 4443 (0) | 8886 (0) | |

Cut Details

| Cut No | Cut Position | Angle | Part No | Flipped | Rotated (180) |
|--------|--------------|-------|-----------|---------|---------------|
| 1 | 4443 | 0 | 6@4443_1B | 0 | 0 |
| 2 | 8886 | 0 | 6@4443_1B | 0 | 0 |

Offcut/Drops List

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

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

| Section | Used Len | Used Wt | Scrap Len | Total Scrap Weight | Off Len | Total Offcut Weight |
|---------|----------|---------|-----------|--------------------|---------|---------------------|
| Default | 215 | 215 | 3.69 | 3.69 | 0 | 0 |