Matthew White

Simulation 1

Belt Lengths: 36”

Belt widths: A – 12”, B– 24”, C – 36”

Box 1 arrives, it has dimensions 12x12x12. It will fit on conveyor belt A. Place it using 12 of space to minimize belt usage.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **A – 12** | Box# | 1 |  |  |  |  |  |  | 12 |
| Inches” | 12 |  |  |  |  |  |  |
| **B– 24** | Box# |  |  |  |  |  |  |  |  |
| Inches” |  |  |  |  |  |  |  |
| **C – 36** | Box# |  |  |  |  |  |  |  |  |
| Inches” |  |  |  |  |  |  |  |

Box 2 arrives, it has dimensions 24x24x24. It will fit on conveyor belt B. Place it using 24 of space to minimize belt usage.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **A – 12** | Box# | 1 |  |  |  |  |  |  | 12 |
| Inches” | 12 |  |  |  |  |  |  |
| **B– 24** | Box# | 2 |  |  |  |  |  |  | 24 |
| Inches” | 24 |  |  |  |  |  |  |
| **C – 36** | Box# |  |  |  |  |  |  |  |  |
| Inches” |  |  |  |  |  |  |  |

Box 3 arrives, it has dimensions 36x36x36. It will fit on conveyor belt C. Place it using 36 of space to minimize belt usage.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **A – 12** | Box# | 1 |  |  |  |  |  |  | 12 |
| Inches” | 12 |  |  |  |  |  |  |
| **B– 24** | Box# | 2 |  |  |  |  |  |  | 24 |
| Inches” | 24 |  |  |  |  |  |  |
| **C – 36** | Box# | 3 |  |  |  |  |  |  | 36 |
| Inches” | 36 |  |  |  |  |  |  |

Box 4 arrives, it has dimensions 6x6x6. It will fit on conveyor belt A. Place it using 6 of space to minimize belt usage.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **A – 12** | Box# | 1 | 4 |  |  |  |  |  | 18 |
| Inches” | 12 | 6 |  |  |  |  |  |
| **B– 24** | Box# | 2 |  |  |  |  |  |  | 24 |
| Inches” | 24 |  |  |  |  |  |  |
| **C – 36** | Box# | 3 |  |  |  |  |  |  | 36 |
| Inches” | 36 |  |  |  |  |  |  |

Box 5 arrives, it has dimensions 13x13x13. It will fit on conveyor belt B. Place it using 12 of space to minimize belt usage.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **A – 12** | Box# | 1 | 4 |  |  |  |  |  | 18 |
| Inches” | 12 | 6 |  |  |  |  |  |
| **B– 24** | Box# | 2 | 5 |  |  |  |  |  | 37 |
| Inches” | 24 | 13 |  |  |  |  |  |
| **C – 36** | Box# | 3 |  |  |  |  |  |  | 36 |
| Inches” | 36 |  |  |  |  |  |  |

Box 6 arrives, it has dimensions 36x35x36 . It will fit on conveyor belt C. Place it using 35 of space to minimize belt usage.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **A – 12** | Box# | 1 | 4 |  |  |  |  |  | 18 |
| Inches” | 12 | 6 |  |  |  |  |  |
| **B– 24** | Box# | 2 | 5 |  |  |  |  |  | 37 |
| Inches” | 24 | 13 |  |  |  |  |  |
| **C – 36** | Box# | 6 |  |  |  |  |  |  | 35 |
| Inches” | 35 |  |  |  |  |  |  |

Box 3 fell of Belt C.

Box 7 arrives, it has dimensions 10x23x23. It will fit on conveyor belt B. Place it using 10 of space to minimize belt usage.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **A – 12** | Box# | 1 | 4 |  |  |  |  |  | 18 |
| Inches” | 12 | 6 |  |  |  |  |  |
| **B– 24** | Box# | 2 | 5 | 7 |  |  |  |  | 47 |
| Inches” | 24 | 13 | 10 |  |  |  |  |
| **C – 36** | Box# | 6 |  |  |  |  |  |  | 35 |
| Inches” | 35 |  |  |  |  |  |  |

Box 8 arrives, it has dimensions 6x20x8. It will fit on conveyor belt A. Place it using 6 of space to minimize belt usage.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **A – 12** | Box# | 1 | 4 | 8 |  |  |  |  | 24 |
| Inches” | 12 | 6 | 6 |  |  |  |  |
| **B– 24** | Box# | 2 | 5 | 7 |  |  |  |  | 47 |
| Inches” | 24 | 13 | 10 |  |  |  |  |
| **C – 36** | Box# | 6 |  |  |  |  |  |  | 35 |
| Inches” | 35 |  |  |  |  |  |  |

Box 9 arrives, it has dimensions 23x13x14. It will fit on conveyor belt B. Place it using 13 of space to minimize belt usage.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **A – 12** | Box# | 1 | 4 | 8 |  |  |  |  | 24 |
| Inches” | 12 | 6 | 6 |  |  |  |  |
| **B– 24** | Box# | 5 | 7 | 9 |  |  |  |  | 36 |
| Inches” | 13 | 10 | 13 |  |  |  |  |
| **C – 36** | Box# | 6 |  |  |  |  |  |  | 35 |
| Inches” | 35 |  |  |  |  |  |  |

Box 2 fell off Belt B.

Box 10 arrives, it has dimensions 3x4x3. It will fit on conveyor belt A. Place it using 3 of space to minimize belt usage.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **A – 12** | Box# | 1 | 4 | 8 | 10 |  |  |  | 27 |
| Inches” | 12 | 6 | 6 | 3 |  |  |  |
| **B– 24** | Box# | 7 | 9 |  |  |  |  |  | 36 |
| Inches” | 23 | 13 |  |  |  |  |  |
| **C – 36** | Box# | 6 |  |  |  |  |  |  | 35 |
| Inches” | 35 |  |  |  |  |  |  |

Box 11 arrives, it has dimensions 4x5x3. It will fit on conveyor belt A. Place it using 3 of space to minimize belt usage.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **A – 12** | Box# | 1 | 4 | 8 | 10 | 11 |  |  | 30 |
| Inches” | 12 | 6 | 6 | 3 | 3 |  |  |
| **B– 24** | Box# | 7 | 9 |  |  |  |  |  | 36 |
| Inches” | 23 | 13 |  |  |  |  |  |
| **C – 36** | Box# | 6 |  |  |  |  |  |  | 35 |
| Inches” | 35 |  |  |  |  |  |  |

Box 12 arrives, it has dimensions 12x11x3. It will fit on conveyor belt A. Place it using 3 of space to minimize belt usage.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **A – 12** | Box# | 1 | 4 | 8 | 10 | 11 | 12 |  | 33 |
| Inches” | 12 | 6 | 6 | 3 | 3 | 3 |  |
| **B– 24** | Box# | 7 | 9 |  |  |  |  |  | 36 |
| Inches” | 23 | 13 |  |  |  |  |  |
| **C – 36** | Box# | 6 |  |  |  |  |  |  | 35 |
| Inches” | 35 |  |  |  |  |  |  |

Box 13 arrives, it has dimensions 13x11x3. It will fit on conveyor belt A. Place it using 3 of space to minimize belt usage.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **A – 12** | Box# | 1 | 4 | 8 | 10 | 11 | 12 | 13 | 36 |
| Inches” | 12 | 6 | 6 | 3 | 3 | 3 | 3 |
| **B– 24** | Box# | 7 | 9 |  |  |  |  |  | 36 |
| Inches” | 23 | 13 |  |  |  |  |  |
| **C – 36** | Box# | 6 |  |  |  |  |  |  | 35 |
| Inches” | 35 |  |  |  |  |  |  |

Box 14 arrives, it has dimensions 33x25x25. It will fit on conveyor belt C. Place it using 25 of space to minimize belt usage.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **A – 12** | Box# | 1 | 4 | 8 | 10 | 11 | 12 | 13 | 36 |
| Inches” | 12 | 6 | 6 | 3 | 3 | 3 | 3 |
| **B– 24** | Box# | 7 | 9 |  |  |  |  |  | 36 |
| Inches” | 23 | 13 |  |  |  |  |  |
| **C – 36** | Box# | 14 |  |  |  |  |  |  | 25 |
| Inches” | 25 |  |  |  |  |  |  |

Box 6 fell off Belt C.

Box 15 arrives, it has dimensions 23 x19x18. It will fit on conveyor belt B. Place it using 18 of space to minimize belt usage.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **A – 12** | Box# | 1 | 4 | 8 | 10 | 11 | 12 | 13 | 36 |
| Inches” | 12 | 6 | 6 | 3 | 3 | 3 | 3 |
| **B– 24** | Box# | 9 | 15 |  |  |  |  |  | 31 |
| Inches” | 13 | 18 |  |  |  |  |  |
| **C – 36** | Box# | 14 |  |  |  |  |  |  | 25 |
| Inches” | 25 |  |  |  |  |  |  |

Box 7 fell off Belt B.

END SIMULATION

Matthew White

Simulation 2

Belt Lengths: 36”

Belt widths: A – 40”, B– 30”, C – 35”

Box 1 arrives, it has dimensions 29x15x16. It will fit on conveyor belt B. Place it using 15 of space to minimize belt usage.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **A – 40** | Box# |  |  |  |  |  |  |  |  |
| Inches” |  |  |  |  |  |  |  |
| **B– 30** | Box# | 1 |  |  |  |  |  |  | 15 |
| Inches” | 15 |  |  |  |  |  |  |
| **C – 35** | Box# |  |  |  |  |  |  |  |  |
| Inches” |  |  |  |  |  |  |  |

Box 2 arrives, it has dimensions 5x4x4. It will fit on conveyor belt B. Place it using 4 of space to minimize belt usage.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **A – 40** | Box# |  |  |  |  |  |  |  |  |
| Inches” |  |  |  |  |  |  |  |
| **B– 30** | Box# | 1 | 2 |  |  |  |  |  | 19 |
| Inches” | 15 | 4 |  |  |  |  |  |
| **C – 35** | Box# |  |  |  |  |  |  |  |  |
| Inches” |  |  |  |  |  |  |  |

Box 3 arrives, it has dimensions 2x4x5. It will fit on conveyor belt B. Place it using 2 of space to minimize belt usage.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **A – 40** | Box# |  |  |  |  |  |  |  |  |
| Inches” |  |  |  |  |  |  |  |
| **B– 30** | Box# | 1 | 2 | 3 |  |  |  |  | 21 |
| Inches” | 15 | 4 | 2 |  |  |  |  |
| **C – 35** | Box# |  |  |  |  |  |  |  |  |
| Inches” |  |  |  |  |  |  |  |

Box 4 arrives, it has dimensions 6x4x2. It will fit on conveyor belt B. Place it using 2 of space to minimize belt usage.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **A – 40** | Box# |  |  |  |  |  |  |  |  |
| Inches” |  |  |  |  |  |  |  |
| **B– 30** | Box# | 1 | 2 | 3 | 4 |  |  |  | 23 |
| Inches” | 15 | 4 | 2 | 2 |  |  |  |
| **C – 35** | Box# |  |  |  |  |  |  |  |  |
| Inches” |  |  |  |  |  |  |  |

Box 5 arrives, it has dimensions 18x18x18. It will fit on conveyor belt B. Place it using 18 of space to minimize belt usage.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **A – 40** | Box# |  |  |  |  |  |  |  |  |
| Inches” |  |  |  |  |  |  |  |
| **B– 30** | Box# | 1 | 2 | 3 | 4 | 5 |  |  | 41 |
| Inches” | 15 | 4 | 2 | 2 | 18 |  |  |
| **C – 35** | Box# |  |  |  |  |  |  |  |  |
| Inches” |  |  |  |  |  |  |  |

Box 6 arrives, it has dimensions 2x2x2. It will fit on conveyor belt B. Place it using 1 of space to minimize belt usage.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **A – 40** | Box# |  |  |  |  |  |  |  |  |
| Inches” |  |  |  |  |  |  |  |
| **B– 30** | Box# | 1 | 2 | 3 | 4 | 5 | 6 |  | 43 |
| Inches” | 15 | 4 | 2 | 2 | 18 | 2 |  |
| **C – 35** | Box# |  |  |  |  |  |  |  |  |
| Inches” |  |  |  |  |  |  |  |

Box 7 arrives, it has dimensions 73x40x73. It will fit on conveyor belt A. Place it using 73 of space to minimize belt usage.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **A – 40** | Box# |  |  |  |  |  |  |  |  |
| Inches” |  |  |  |  |  |  |  |
| **B– 30** | Box# | 1 | 2 | 3 | 4 | 5 | 6 |  | 43 |
| Inches” | 15 | 4 | 2 | 2 | 18 | 2 |  |
| **C – 35** | Box# |  |  |  |  |  |  |  |  |
| Inches” |  |  |  |  |  |  |  |

Box 7 fell off Belt A.

Box 8 arrives, it has dimensions 34x73x75. It will fit on conveyor belt C. Place it using 73 of space to minimize belt usage.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **A – 40** | Box# |  |  |  |  |  |  |  |  |
| Inches” |  |  |  |  |  |  |  |
| **B– 30** | Box# | 1 | 2 | 3 | 4 | 5 | 6 |  | 43 |
| Inches” | 15 | 4 | 2 | 2 | 18 | 2 |  |
| **C – 35** | Box# |  |  |  |  |  |  |  |  |
| Inches” |  |  |  |  |  |  |  |

Box 8 fell off Belt C

Box 9 arrives, it has dimensions 31x10x31. It will fit on conveyor belt C. Place it using 10 of space to minimize belt usage.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **A – 40** | Box# |  |  |  |  |  |  |  |  |
| Inches” |  |  |  |  |  |  |  |
| **B– 30** | Box# | 1 | 2 | 3 | 4 | 5 | 6 |  | 43 |
| Inches” | 15 | 4 | 2 | 2 | 18 | 2 |  |
| **C – 35** | Box# | 9 |  |  |  |  |  |  |  |
| Inches” | 10 |  |  |  |  |  |  |

Box 10 arrives, it has dimensions 35x41x42. It will fit on conveyor belt C. Place it using 41 of space to minimize belt usage.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **A – 40** | Box# |  |  |  |  |  |  |  |  |
| Inches” |  |  |  |  |  |  |  |
| **B– 30** | Box# | 1 | 2 | 3 | 4 | 5 | 6 |  | 43 |
| Inches” | 15 | 4 | 2 | 2 | 18 | 2 |  |
| **C – 35** | Box# | 10 |  |  |  |  |  |  | 41 |
| Inches” | 41 |  |  |  |  |  |  |

Box 9 fell off Belt C.

Box 11 arrives, it has dimensions 39x39x37. It will fit on conveyor belt A. Place it using 37 of space to minimize belt usage.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **A – 40** | Box# | 11 |  |  |  |  |  |  | 37 |
| Inches” | 37 |  |  |  |  |  |  |
| **B– 30** | Box# | 1 | 2 | 3 | 4 | 5 | 6 |  | 43 |
| Inches” | 15 | 4 | 2 | 2 | 18 | 2 |  |
| **C – 35** | Box# | 10 |  |  |  |  |  |  | 41 |
| Inches” | 41 |  |  |  |  |  |  |

Box 12 arrives, it has dimensions 38x37x34. It will fit on conveyor belt C. Place it using 37 of space to minimize belt usage.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **A – 40** | Box# | 11 |  |  |  |  |  |  | 37 |
| Inches” | 37 |  |  |  |  |  |  |
| **B– 30** | Box# | 1 | 2 | 3 | 4 | 5 | 6 |  | 33 |
| Inches” | 15 | 4 | 2 | 2 | 18 | 2 |  |
| **C – 35** | Box# | 12 |  |  |  |  |  |  | 37 |
| Inches” | 37 |  |  |  |  |  |  |

Box 10 fell off Belt C.

Box 13 arrives, it has dimensions 11x39x15. It will fit on conveyor belt B. Place it using 11 of space to minimize belt usage.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **A – 40** | Box# | 11 |  |  |  |  |  |  | 42 |
| Inches” | 37 |  |  |  |  |  |  |
| **B– 30** | Box# | 3 | 4 | 5 | 6 | 13 |  |  | 35 |
| Inches” | 2 | 2 | 18 | 2 | 11 |  |  |
| **C – 35** | Box# | 12 |  |  |  |  |  |  | 37 |
| Inches” | 37 |  |  |  |  |  |  |

Box 1 and Box 2 fell off Belt B.

Box 14 arrives, it has dimensions 2x1x1. It will fit on conveyor belt B. Place it using 1 of space to minimize belt usage.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **A – 40** | Box# | 11 |  |  |  |  |  |  | 37 |
| Inches” | 37 |  |  |  |  |  |  |
| **B– 30** | Box# | 3 | 4 | 5 | 6 | 13 | 14 |  | 36 |
| Inches” | 2 | 2 | 18 | 2 | 11 | 1 |  |
| **C – 35** | Box# | 12 |  |  |  |  |  |  | 37 |
| Inches” | 37 |  |  |  |  |  |  |

Box 15 arrives, it has dimensions 20x15x16. It will fit on conveyor belt B. Place it using 15 of space to minimize belt usage.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **A – 40** | Box# | 11 |  |  |  |  |  |  | 37 |
| Inches” | 37 |  |  |  |  |  |  |
| **B– 30** | Box# | 5 | 6 | 13 | 14 | 15 |  |  | 47 |
| Inches” | 18 | 2 | 11 | 1 | 15 |  |  |
| **C – 35** | Box# | 12 |  |  |  |  |  |  | 37 |
| Inches” | 37 |  |  |  |  |  |  |

Box 3 and Box 4 and Box 5 fell off Belt B.

END OF SIMULATION