Week 13 -- Case Study 3 -- **ANSWERS**

Bright Lighting Lamp Shade Company

1. How many style A shades can be loaded into an intermodal container?

The intermodal container holds 2,720 cubic feet, however, the top six inches is of no use. It will hold 2,560 style A shades.

1. How many style B shades can be loaded into an intermodal container?

Style B shades could be stacked two packages high with the square foot on the bottom. Each column would hold 12 shades. There would be 8 x 40, or 320 columns of 12, yielding 3,840 lamp shades, and would weigh less than 40,000 pounds.

1. How many style C shades can be loaded into an intermodal container?

Style C shades could be stacked the same way as style B and a container would hold 320 columns of 20, yielding 6,400 lamp shades. However, this would exceed the 44,000 pound weight limit. Each shade weighs 10.1 pounds; dividing that into 44,000 pounds yields approximately 4,350 lamp shades.

1. What are the total costs of delivering the style A shades to the port of importation?

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| --- | --- | --- |
| **ITEM** | **COST PARAMETERS** | **TOTAL COST** |
| Shade | $4 x 5,400 | $21,600 |
| Packaging | $0.60 x 5,400 | $3,240 |
| Intermodal containers (3) |  |  |
| Container drayage to Port | $1,000 x 3 | $3,000 |
| Insurance | $27,800 x 0.02 | $556 |
| Ocean freight rates (a) | $22 per 2,000 pounds | $594 |
| Ocean freight rates (b) | $22 per 40 cubic feet | $2,970 |
| Pick higher of (a) or (b) |  | $2,970 |
| **TOTAL** |  | **$31,366** |

1. What are the total costs of delivering the style B shades to the port of importation?

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| --- | --- | --- |
| **ITEM** | **COST PARAMETERS** | **TOTAL COST** |
| Shade | $5 x 5,400 | $27,000 |
| Packaging | $2 x 900 | $1,800 |
| Intermodal containers (3) |  |  |
| Container drayage to Port | $1,000 x 2 | $2,000 |
| Insurance | $30,800 x 0.02 | $616 |
| Ocean freight rates (a) | $22 per 2,000 pounds | $614 |
| Ocean freight rates (b) | $22 per 40 cubic feet | $1,960 |
| Pick higher of (a) or (b) |  | $21.960 |
| **TOTAL** |  | **$33,376** |

1. What are the total costs of delivering the style C shades to the port of importation?

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| **ITEM** | **COST PARAMETERS** | **TOTAL COST** |
| Shade | $6 x 5,400 | $32,400 |
| Packaging | $3 x 540 | $1,620 |
| Intermodal containers (3) |  |  |
| Container drayage to Port | $1,000 x 2 | $2,000 |
| Insurance | $36,020 x 0.02 | $720 |
| Ocean freight rates (a) | $22 per 2,000 pounds | $600 |
| Ocean freight rates (b) | $22 per 40 cubic feet | $1,238 |
| Pick higher of (a) or (b) |  | $1,238 |
| **TOTAL** |  | **$37,978** |

1. Which style would you recommend? Why?

From the relevant data, style A is least expensive.