

Sustainable Design: Materials

Winter 2007

ethical / viable / beautiful

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Bridge/Bench Project

Introduction: This project is an opportunity for you to make a usable piece of furniture - a bench, and to explore spanning structures - beams, trusses, arches, box beams, folded plates, tensile elements, post-tensioned elements, etc. The goal is to create a bench that is functional and comfortable, structurally sound, and engagingly designed, while making effective use of recycled materials.

Task: Build a bench that spans from a support at either end, using primarily recycled materials.

Requirements:

- The bench must span at least 36 inches and not more than 48 inches.
- The bench must present a top surface for sitting at 16 inches above the ground.
- The sitting surface must be at least 12 inches wide and not more than 18 inches wide.
- The bench should make effective use of recycled materials wherever possible.
- The bench structure must effectively carry the load of two adults.
- Provide a brief typed statement (with your name) characterizing the problem you were trying to solve, your working process, your design and your completed shelter.

Suggestions, Considerations and Questions:

- Consider how structure and seat relate in your bridge/bench. Separate systems or all one?
- Is the bench flexible or rigid? Is the structure monolithic or a system of elements?
- Is the structure exposed, or does the structure have a skin? Is the skin part of the structure?
- This is a clear span problem. (No intermediate supports!)
- How does the structure meet the ground? Does it cover the ground?
- Consider the meaning of the materials. Apart from their functions, what associations do they come with?

- Did we say it should make effective, maybe even really inventive use of recycled materials?

Dates:

Tuesday, January 9, 2007

Project Assigned

Tuesday, January 23, 2006 @ 1:30 PM

Due for Review

Criteria:

Degree of Challenge in your Response

Structural Logic and Integrity

``Sit-ability``

``Recycled-ness``

Invention and Elegance

Detail and Workmanship

Spirit