

**DIVISION 12 00 00      FURNISHINGS**  
**SECTION 12 93 00      SITE FURNISHINGS**  
**SECTION 12 93 43      SITE SEATING AND TABLES**  
**SECTION 12 93 43.13    SITE SEATING**  
**VECTOR SEATING SYSTEM**

**Part 1 General**

01. Summary

A. Section Includes:

1. 2 foot, FSC® 100% Cumaru hardwood slats, standalone, no seat backs
2. 2 foot, FSC 100% Cumaru hardwood slats, standalone, one seat back
3. 2 foot, FSC 100% Cumaru hardwood slats, one end leg, one intermediate leg, no seat backs
4. 2 foot, FSC 100% Cumaru hardwood slats, one intermediate leg, no seat backs
5. 2 foot, FSC 100% Cumaru hardwood slats, one end leg, no seat backs
6. 2 foot, FSC 100% Cumaru hardwood slats, wall-mounted, no seat backs
7. 2 foot, FSC 100% Cumaru hardwood slats, wall-mounted, one seat back
8. 2 foot, aluminum slats, standalone, no seat backs
9. 2 foot, aluminum slats, standalone, one seat back
10. 2 foot, aluminum slats, one intermediate leg, one end leg, no seat backs
11. 2 foot, aluminum slats, one intermediate leg, no seat backs
12. 2 foot, aluminum slats, one end leg, no seat backs
13. 2 foot, aluminum slats, wall-mounted, no seat backs
14. 2 foot, aluminum slats, wall-mounted, one seat back
15. 4 foot, FSC 100% Cumaru hardwood slats, standalone, no seat backs
16. 4 foot, FSC 100% Cumaru hardwood slats, standalone, two seat backs
17. 4 foot, FSC 100% Cumaru hardwood slats, one end leg, one intermediate leg, no seat backs
18. 4 foot, FSC 100% Cumaru hardwood slats, one intermediate leg, no seat backs
19. 4 foot, FSC 100% Cumaru hardwood slats, one end leg, no seat backs
20. 4 foot, FSC 100% Cumaru hardwood slats, wall-mounted, no seat backs
21. 4 foot, FSC 100% Cumaru hardwood slats, wall-mounted, two seat backs
22. 4 foot, aluminum slats, standalone, no seat backs
23. 4 foot, aluminum slats, standalone, two seat backs
24. 4 foot, aluminum slats, one intermediate leg, one end leg, no seat backs
25. 4 foot, aluminum slats, one intermediate leg, no seat backs
26. 4 foot, aluminum slats, one end leg, no seat backs
27. 4 foot, aluminum slats, wall-mounted, no seat backs
28. 4 foot, aluminum slats, wall-mounted, two seat backs
29. 6 foot, FSC 100% Cumaru hardwood slats, standalone, no seat backs
30. 6 foot, FSC 100% Cumaru hardwood slats, standalone, three seat backs
31. 6 foot, FSC 100% Cumaru hardwood slats, one end leg, one intermediate leg, no seat backs
32. 6 foot, FSC 100% Cumaru hardwood slats, one intermediate leg, no seat backs
33. 6 foot, FSC 100% Cumaru hardwood slats, one end leg, no seat backs
34. 6 foot, FSC 100% Cumaru hardwood slats, wall-mounted, no seat backs

35. 6 foot, FSC 100% Cumaru hardwood slats, wall-mounted, three seat backs
36. 6 foot, aluminum slats, standalone, no seat backs
37. 6 foot, aluminum slats, standalone, three seat backs
38. 6 foot, aluminum slats, one intermediate leg, one end leg, no seat backs
39. 6 foot, aluminum slats, one intermediate leg, no seat backs
40. 6 foot, aluminum slats, one end leg, no seat backs
41. 6 foot, aluminum slats, wall-mounted, no seat backs
42. 6 foot, aluminum slats, wall-mounted, three seat backs
43. 8 foot, FSC 100% Cumaru hardwood slats, standalone, no seat backs
44. 8 foot, FSC 100% Cumaru hardwood slats, standalone, four seat backs
45. 8 foot, FSC 100% Cumaru hardwood slats, one end leg, one intermediate leg, no seat backs
46. 8 foot, FSC 100% Cumaru hardwood slats, one intermediate leg, no seat backs
47. 8 foot, FSC 100% Cumaru hardwood slats, one end leg, no seat backs
48. 8 foot, FSC 100% Cumaru hardwood slats, wall-mounted, no seat backs
49. 8 foot, FSC 100% Cumaru hardwood slats, wall-mounted, four seat backs
50. 8 foot, aluminum slats, standalone, no seat backs
51. 8 foot, aluminum slats, standalone, four seat backs
52. 8 foot, aluminum slats, one intermediate leg, one end leg, no seat backs
53. 8 foot, aluminum slats, one intermediate leg, no seat backs
54. 8 foot, aluminum slats, one end leg, no seat backs
55. 8 foot, aluminum slats, wall-mounted, no seat backs
56. 8 foot, aluminum slats, wall-mounted, four seat backs
57. 120° A, FSC 100% Cumaru hardwood slats, one end leg, no seat backs
58. 120° A, FSC 100% Cumaru hardwood slats, one intermediate leg, no seat backs
59. 120° A, aluminum slats, one end leg, no seat backs
60. 120° A, aluminum slats, one intermediate leg, no seat backs
61. 120° B, FSC 100% Cumaru hardwood slats, one end leg, no seat backs
62. 120° B, FSC 100% Cumaru hardwood slats, one intermediate leg, no seat backs
63. 120° B, aluminum slats, one end leg, no seat backs
64. 120° B, aluminum slats, one intermediate leg, no seat backs
65. Tri-hub, 120° A, FSC 100% Cumaru hardwood slats, three end legs, no seat backs
66. Tri-hub, 120° A, aluminum slats, three end legs, no seat backs
67. Tri-hub, 120° B, FSC 100% Cumaru hardwood slats, three end legs, no seat backs
68. Tri-hub, 120° B, aluminum slats, three end legs, no seat backs
69. Cross, FSC 100% Cumaru hardwood slats, four end legs, no seat backs
70. Cross, aluminum slats, four end legs, no seat backs
71. Oblique, FSC 100% Cumaru hardwood slats, four end legs, no seat backs
72. Oblique, aluminum slats, four end legs, no seat backs
73. Planter, 14 gallon, stainless steel side panels, standalone
74. Planter, 14 gallon, VividGlass side panels, standalone
75. Planter, 14 gallon, stainless steel side panels, one end leg, one intermediate leg
76. Planter, 14 gallon, VividGlass side panels, one end leg, one intermediate leg

77. Planter, 14 gallon, stainless steel side panels, two intermediate legs

78. Planter, 14 gallon, VividGlass side panels, two intermediate legs

01. Submittals

A. Provide submittals in accordance with Section 01 33 00 – Submittal Procedures.

B. Product data:

1. Manufacturer's standard product literature.

2. Shop drawings.

3. Installation instructions.

4. Maintenance instructions.

C. Submit powdercoat finish samples for approval.

02. Quality Assurance

A. Manufacturer Qualifications:

1. Minimum 15 years experience in the manufacture of site seating.

2. Forest Stewardship Council (FSC ) Certified Supplier. Provide manufacturer's FSC certification number.

3. Provide reference list of at least ten major transportation authorities, municipalities, universities, or

other high-use public environments currently using site seating fabricated by the manufacturer.

03. Delivery, Storage and Handling

A. Handle products in accordance with manufacturer's instructions.

B. Store products in manufacturer's original packaging until ready for installation.

C. Protect products from impacts and abrasion during storage.

04. Warranty

A. Provide manufacturer's standard warranty:

1. Warranty terms: one year from date of invoice against defects in materials and workmanship.

**Part 2 Products**

01. Manufacturer

A. Basis-of-design product: provide backed and/or backless benches based on the product named:

1. Vector Seating System by Forms+Surfaces.

2. Manufacturer Contact:

Forms+Surfaces

30 Pine Street

Pittsburgh, PA 15223

phone: 800-451-0410

fax: 412-781-7840

email: sales@forms-surfaces.com

website: www.forms-surfaces.com

B. Benches

1. Materials:

a. Bench frame: aluminum.

- b. Bench slats (Choose one below):
  - 1) FSC 100% Cumaru hardwood (FSC License Code: FSC -C004453).
  - 2) Extruded aluminum.
- c. Intermediate and end seat dividers: cast aluminum (Optional)
- d. Seat backs: aluminum (Optional)
- e. Side panels (Optional)
  - 1) Stainless steel
  - 2) VividGlass

## 2. Finishes

- a. Bench frame: polyester powdercoat (Select one option below):
  - 1) Standard Texture from Forms+Surfaces Powdercoat Chart.
  - 2) Premium Texture from Forms+Surfaces Powdercoat Chart.
  - 3) Custom RAL powdercoat color.
- b. Bench slats: (Choose one below):
  - 1) Wood: Penofin® hardwood formula "Transparent Natural."
  - 2) Aluminum: Polyester powdercoat (Select one option below):
    - 1. Standard Texture from Forms+Surfaces Powdercoat Chart.
    - 2. Premium Texture from Forms+Surfaces Powdercoat Chart.
    - 3. Custom RAL powdercoat color.
- c. Seat dividers: (Optional)
  - 1) Polyester powdercoat to match bench frame.
- d. Seat backs: (Optional)
  - 1) Polyester powdercoat to match bench frame.
- e. Side Panels: (Optional)
  - 1) Polyester powdercoat (Select one option below):
    - 1. Standard Texture from F+S Powdercoat Chart
    - 2. Standard Gloss from F+S Powdercoat Chart
    - 3. Other color as specified.
  - 2) Stainless steel finish (Choose one below):
    - 1. Diamond, stainless steel.
    - 2. Sandstone, stainless steel.
    - 3. Satin, stainless steel.
  - 3) Stainless steel perforation (Choose one below):
    - 1. Code
    - 2. Data
    - 3. Rainfall
    - 4. Gust
  - 4) VividGlass patterns (Choose one below):
    - 1. Briar pattern in Mint

- 2. Briar pattern in White
- 3. Thicket pattern in Olive
- 3. Thicket pattern in White
- 3. Current pattern (horizontal) in White
- 4. Current pattern (vertical) in Spring

f. LED Accent Lighting (Choose one below):

- 1) 3000K
- 2) 4000K

3. Dimensions (Choose model below):

- a. 2 foot, standalone, no seat back
  - 1) Overall dimensions: 25.7" long, 16.9" deep, 17.5" high.
- b. 2 foot, standalone, one seat back
  - 1) Overall dimensions: 25.7" long, 16.9" deep, 29.5" high
- c. 2 foot, one end leg, one intermediate leg, no seat back
  - 1) Overall dimensions: 25.7" long, 16.9" deep, 17.5" high
- d. 2 foot, one intermediate leg, no seat back
  - 1) Overall dimensions: 23.4" long, 16.9" deep, 17.5" high
- e. 2 foot, one end leg, no seat back
  - 1) Overall dimensions: 23.4" long, 16.9" deep, 17.5" high
- f. 2 foot, wall-mounted, no seat back
  - 1) Overall dimensions: 25.8" long, 16.9" deep, 1.5" high.
- g. 2 foot, wall-mounted, one seat back
  - 1) Overall dimensions: 25.8" long, 16.9" deep, 13.5" high
- h. 4 foot, standalone, no seat backs
  - 1) Overall dimensions: 49.1" long, 16.9" deep, 17.5" high
- i. 4 foot, standalone, two seat backs
  - 1) Overall dimensions: 49.1" long, 16.9" deep, 29.5" high
- j. 4 foot, one end leg, one intermediate leg, no seat backs
  - 1) Overall dimensions: 49.1" long, 16.9" deep, 17.5" high
- k. 4 foot, one intermediate leg, no seat backs
  - 1) Overall dimensions: 46.8" long, 16.9" deep, 17.5" high
- l. 4 foot, one end leg, no seat backs
  - 1) Overall dimensions: 46.8" long, 16.9" deep, 17.5" high
- m. 4 foot, wall-mounted, no seat backs
  - 1) Overall dimensions: 49.2" long, 16.9" deep, 1.5" high
- n. 4 foot, wall-mounted, two seat backs
  - 1) Overall dimensions: 49.2" long, 16.9" deep, 13.5" high
- o. 6 foot, standalone, no seat backs
  - 1) Overall dimensions: 72.5" long, 16.9" deep, 17.5" high
- p. 6 foot, standalone, three seat backs
  - 1) Overall dimensions: 72.5" long, 16.9" deep, 29.5" high
- q. 6 foot, one end leg, one intermediate leg, no seat backs

- 1) Overall dimensions: 72.5" long, 16.9" deep, 17.5" high
- r. 6 foot, one intermediate leg, no seat backs
  - 1) Overall dimensions: 70.3" long, 16.9" deep, 17.5" high
- s. 6 foot, one end leg, no seat backs
  - 1) Overall dimensions: 70.3" long, 16.9" deep, 17.5" high
- t. 6 foot, wall-mounted, no seat backs
  - 1) Overall dimensions: 72.6" long, 16.9" deep, 1.5" high
- u. 6 foot, wall-mounted, two seat backs
  - 1) Overall dimensions: 72.6" long, 16.9" deep, 13.5" high
- v. 8 foot, standalone, no seat backs
  - 1) Overall dimensions: 95.9" long, 16.9" deep, 17.5" high
- w. 8 foot, standalone, four seat backs
  - 1) Overall dimensions: 95.9" long, 16.9" deep, 29.5" high
- x. 8 foot, one end leg, one intermediate leg, no seat backs
  - 1) Overall dimensions: 95.9" long, 16.9" deep, 17.5" high
- y. 8 foot, one intermediate leg, no seat backs
  - 1) Overall dimensions: 93.7" long, 16.9" deep, 17.5" high
- z. 8 foot, one end leg, no seat backs
  - 1) Overall dimensions: 93.7" long, 16.9" deep, 17.5" high
- aa. 8 foot, wall-mounted, no seat backs
  - 1) Overall dimensions: 96" long, 16.9" deep, 1.5" high
- ab. 8 foot, wall-mounted, two seat backs
  - 1) Overall dimensions: 96" long, 16.9" deep, 13.5" high
- ac. 120° A, one end leg, no seat backs
  - 1) Overall dimensions: 43.2" long, 16.9" deep, 17.5" high
- ad. 120° A, one intermediate leg, no seat backs
  - 1) Overall dimensions: 43.2" long, 16.9" deep, 17.5" high
- ae. 120° B, one end leg, no seat backs
  - 1) Overall dimensions: 43.2" long, 16.9" deep, 17.5" high
- af. 120° B, one intermediate leg, no seat backs
  - 1) Overall dimensions: 43.2" long, 16.9" deep, 17.5" high
- ag. Tri-hub, 120° A, three end legs, no seat backs
  - 1) Overall dimensions: 64.5" long, 66" deep, 17.5" high
- ah. Tri-hub, 120° B, three end legs, no seat backs
  - 1) Overall dimensions: 64.5" long, 66" deep, 17.5" high
- ai. Cross, four end legs, no seat backs
  - 1) Overall dimensions: 72.5" long, 63.7" deep, 17.5" high
- aj. Oblique, four end legs, no seat backs
  - 1) Overall dimensions: 95.9" long, 91.5" deep, 17.5" high
- ak. Planter, 14 gallon, standalone
  - 1) Overall dimensions: 25.7" long, 16.9" deep, 17.5" high
- al. Planter, 14 gallon, one end leg, one intermediate leg

1) Overall dimensions: 25.7" long, 16.9" deep, 17.5" high  
am. Planter, 14 gallon, two intermediate legs

1) Overall dimensions: 25.7" long, 16.9" deep, 17.5" high

4. Mounting (Choose one below):

- a. Freestanding.
- b. Surface mount. Provide threaded anchors and stainless steel mounting screws. Required for benches with seat backs.
- c. Custom wall-top. Provide mounting hardware based on installation.

**Part 3 Execution**

01. Examination

- A. Verify that substrates are stable and capable of supporting the weight of items covered under this section.
- B. Verify that substrates have been adequately prepared to securely anchor those items that will be surface mounted.

02. Installation

- A. Install according to the manufacturer's installation instructions.
- B. Install in conformance to applicable ADA guidelines and End User's established Accessibility policies.

**END OF SECTION**