



SECTION 03 11 16
ARCHITECTURAL FORMLINERS
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PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Material:
 - 1. Thermospec Single or Multi-Use Plastic
 - 2. Elastospec Lite Semi-Elastomeric Multi-Use Material
 - 3. Elastospec 100% Solid Urethane Bonded to 3/4 inch Plywood
- B. Pattern:
 - 1. Fractured Fins.
 - 2. Wood Grains.
 - 3. Brick Patterns.
 - 4. Block Patterns.
 - 5. Rock Patterns.
 - 6. Textured Patterns.
 - 7. Smooth Flutes
 - 8. Reveals
 - 9. Geometric Patterns

1.2 RELATED SECTIONS

- A. Section 03 11 19 - Insulating Concrete Forming.
- B. Section 03 11 16 - Architectural Cast-in Place Concrete Forming.
- C. Section 03 45 13 - Faced Architectural Precast Concrete.
- D. Section 03 45 00 - Precast Architectural Concrete.
- E. Section 03 47 13 - Tilt-Up Concrete.
- F. Section 09 97 23 - Concrete and Masonry Coatings.

1.3 REFERENCES

- A. ACI 117 - Tolerances for Concrete Construction and Materials.
- B. ASTM D 412 - Standard Test Method for Tear Strength of Conventional Vulcanized Rubber and Thermoplastic Elastomers.
- C. ASTM D 624 - Standard Test Method for Tear Strength of Conventional Vulcanized Rubber and Thermoplastic Elastomers.

- D. ASTM D 638 - Standard Test Method for Tensile Properties of Plastics.
- E. ASTM D 648 - Standard Test Method for Deflection Temperature of Plastics Under Flexural Load in the Edgewise Position.
- F. ASTM D 785 - Standard Test Method for Rockwell Hardness of Plastics and Electrical Insulating Materials.
- G. ASTM D 2240 - Standard Test Method for Rubber Property - Durometer Hardness.
- H. ASTM D 2370 - Standard Test Method for Tensile Properties of Organic Coatings.
- I. ASTM D 7905 - Standard Test Method for Determination of the Mode II Interlaminar Fracture Toughness of Unidirectional Fiber-Reinforced Polymer Matrix Composites

1.4 SUBMITTALS

- A. Submit under provisions of Section 01 30 00 - Administrative Requirements.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Product sheets showing formliner name and pattern number.
 - 2. Storage and handling requirements and recommendations.
 - 3. Preparation instructions and recommendations.
 - 4. Installation procedures.
 - 5. Maintenance procedures.
- C. Shop Drawings: Complete details of materials and installation, including but not limited to the following.
 - 1. Patterns.
 - 2. Formliner sheet sizes/accessory details.
 - 3. Joint locations.
 - 4. Installation sequence.
- D. Selection Samples: For a range of formliner types and patterns requested, submit two complete sets of samples representing manufacturer's textures and patterns.
- E. Verification Samples: For each formliner type and pattern specified, two samples, minimum size 24 inches (610 mm) square, representing actual product, pattern and texture.
- F. Manufacturer's Certificates: Certify products meet or exceed specified requirements.

1.5 QUALITY ASSURANCE

- A. Single Source Requirements: Formliners and accessories shall be supplied from a single manufacturer.
- B. Manufacturer Qualifications: Manufacturer shall have a minimum of ten years experience manufacturing formliners.
- C. Installer Qualifications: Precast fabricator or cast-in-place, installer shall have a minimum of three years documented experience working with formliners.
- D. Mock-Up: Construct a mock-up panel prior to the start of work to demonstrate the texture and pattern of formliners selected as well as the surface preparation techniques and craftsmanship of the installer and precast manufacturer.
 - 1. Mock-up shall accurately demonstrate the formliner textures, patterns, and conditions (corners, false joints, etc.) expected in the completed work.
 - 2. Install mock-up panel in area designated by Architect.

3. Construct mock-up using the exact procedures to be used in the full-scale construction.
4. Architect shall approve the texture, pattern, color, and workmanship of the mock-up panel prior to the beginning of concrete construction. Do not proceed with remaining work until workmanship, installation and operation are approved by Architect.
5. Mock-up panel shall remain on-site for comparison purposes during concrete construction or erection.
6. Installer or precast manufacturer shall remove and disposal of the mock-up panel following completion of the project.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store and handle materials and products in strict compliance with manufacturer's instructions and recommendations.
- B. Store products in manufacturer's unopened packaging indoors or in a cool dry place covered with black polyethylene sheeting until ready for installation.
- C. Cover form liners when not in use to protect from water, oil, dirt and UV exposure. If building storage is not available, formliners shall be raised from the ground and covered securely with non-transparent, non-translucent, waterproof covers.
- D. Store materials within absolute limits for temperature and humidity recommended by manufacturer. Liquid materials shall be stored in temperatures not exceeding 140 degrees F (60 degrees C) or falling below 32 degrees F (0 degrees C). Protect from damage.
- E. Formliners are combustible, so keep them away from open flame or welding sparks, especially if the liners have been coated with any type of form release.

1.7 SEQUENCING

- A. Ensure that locating templates and other information required for installation of products of this section are furnished to affected trades in time to prevent interruption of construction progress.
- B. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.

1.8 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Spec Formliners, Inc., which is located at: 1038 E. 4th St.; Santa Ana, CA 92701; Toll Free Tel: 888-429-9550; Tel: 714-429-9500; Fax: 714-429-1460; Email: [request info \(drewdeering@specformliners.com\)](mailto:request info (drewdeering@specformliners.com)); Web: <http://www.specformliners.com>
- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.

2.2 MATERIALS

- A. Thermospec Single or Multi-Use Plastic
 - 1. Properties
 - a. Tensile ASTM D 638; HIPS 3700, ABS 5300
 - b. IFlexural ASTM D 7905; HIPS - , ABS 9300
 - c. Hardness ASTM D 785; HIPS - , ABS 105
 - 2. Material Weights - lbs/ft²
 - a. 0.070 MIL, 0.393
 - b. 0.110 MIL, 0.621
 - c. 0.150 MIL, 0.843
 - 3. Thicknesses Available
 - a. 0.070
 - b. 0.090
 - c. 0.110
 - d. 0.145
 - e. 0.155
 - f. 0.180

- B. Elastospec Lite Semi-Elastomeric Multi-Use Material
 - 1. Properties
 - a. Shore D ASTM D 2240; 400/90A
 - b. Tensile ASTM D 412; 1900 psi
 - c. IFlexural ASTM D 412; 300 percent
 - d. Hardness ASTM D 2370; 23 MPa
 - 2. Material Weights - lbs/ft²
 - a. Varies by Pattern
 - 3. Maximum Thicknesses
 - a. 1/4 to 3/8 inch plus relief

- C. Elastospec 100% Solid Urethane Bonded to 3/4 inch Plywood
 - 1. Properties
 - a. Shore D ASTM D 2240; 55-65
 - b. Tensile ASTM D 412; 1400 psi
 - c. Elongation ASTM D 638; 600 percent
 - d. Tear Strength ASTM D 624; 200 pli
 - 2. Material Weights - lbs/ft²
 - a. Varies by Pattern
 - 3. Maximum Thicknesses
 - a. 1-1/8 inch plus relief

2.3 FRACTURED FIN FORMLINERS FOR ARCHITECTURAL CONCRETE

- A. Pattern Number: 1101 Standard Spec Rib
 - 1. Description:
 - a. 3/4 inch (19 mm) deep fractured fin.
 - b. 1-1/2 inch (38 mm) pattern repeat.

- B. Pattern Number: 1102 Corea Flute
 - 1. Description:
 - a. 1-3/4 inch (44 mm) deep fractured fin.
 - b. 3 inch (76 mm) pattern repeat.

- C. Pattern Number: 1103 Stanton Rib
 - 1. Description:
 - a. 1 inch (25 mm) deep fractured fin.
 - b. 2 inch (51 mm) pattern repeat.

- D. Pattern Number: 1104 Denver Rib

1. Description:
 - a. 1-1/2 inch (38 mm) deep fractured fin.
 - b. 3-3/8 inch (86 mm) pattern repeat.
- E. Pattern Number: 1105 Las Vagas Rib
 1. Description:
 - a. 1 inch (25 mm) deep fractured fin.
 - b. 2 inch (51 mm) pattern repeat.
- F. Pattern Number: 1106 Dover Rib
 1. Description:
 - a. 1 inch (25 mm) deep fractured fin.
 - b. 2-1/2 inch (64 mm) pattern repeat.
- G. Pattern Number: 1106A Dover Flute
 1. Description:
 - a. 1-1/4 inch (31.75 mm) deep fractured fin.
 - b. 2-1/2 inch (64 mm) pattern repeat.
 - c. Two 43.5 inch squares of rib in a 4 foot by 8 foot tool.
- H. Pattern Number: 1106B Dover Flute
 1. Description:
 - a. 1 inch (25 mm) deep fractured fin.
 - b. 2-1/2 inch (64 mm) pattern repeat.
 - c. Two 47 inch squares of rib in a 4 foot by 8 foot tool.
- I. Pattern Number: 1106Wavy Dover Flute
 1. Description:
 - a. 1 inch (25 mm) deep fractured fin.
 - b. 2-1/2 inch (64 mm) pattern repeat.
- J. Pattern Number: 1107 Mission Flute
 1. Description:
 - a. 1-1/2 inch (38 mm) deep fractured fin.
 - b. 2 inch (51 mm) pattern repeat.
- K. Pattern Number: 1107 Custom
 1. Description:
 - a. 1-1/2 inch (38 mm) deep fractured fin.
 - b. 2 inch (51 mm) pattern repeat.
 - c. 13 inch (330 mm) right triangles
 2. Material:
 - a. Thermospec Single or Multi-Use Plastic
 - b. Elastospec Lite Semi-Elastomeric Multi-Use Material
 - c. Elastospec 100% Solid Urethane Bonded to 3/4 inch Plywood
- L. Pattern Number: 1108 Washington Rib
 1. Description:
 - a. 1-1/4 inch (32 mm) deep fractured fin.
 - b. 2 inch (51 mm) pattern repeat.
 2. Material:
 - a. Thermospec Single or Multi-Use Plastic
 - b. Elastospec Lite Semi-Elastomeric Multi-Use Material
 - c. Elastospec 100% Solid Urethane Bonded to 3/4 inch Plywood
- M. Pattern Number: 1109 Abilene Rope
 1. Description:

- a. 1-5/8 inch (41 mm) deep fractured fin.
 - b. 4 inch (102 mm) pattern repeat.
 - 2. Material:
 - a. Thermospec Single or Multi-Use Plastic
 - b. Elastospec Lite Semi-Elastomeric Multi-Use Material
 - c. Elastospec 100% Solid Urethane Bonded to 3/4 inch Plywood
- N. Pattern Number: 1110 Bush Rib
 - 1. Description:
 - a. 1-1/2 inch (38 mm) deep fractured fin.
 - b. 3 inch (76 mm) pattern repeat.
 - 2. Material:
 - a. Thermospec Single or Multi-Use Plastic
 - b. Elastospec Lite Semi-Elastomeric Multi-Use Material
 - c. Elastospec 100% Solid Urethane Bonded to 3/4 inch Plywood
- O. Pattern Number: 1111 Harbor Rib
 - 1. Description:
 - a. 1-1/2 inch (38 mm) deep fractured fin.
 - b. 6 inch (152 mm) pattern repeat.
 - 2. Material:
 - a. Thermospec Single or Multi-Use Plastic
 - b. Elastospec Lite Semi-Elastomeric Multi-Use Material
 - c. Elastospec 100% Solid Urethane Bonded to 3/4 inch Plywood
- P. Pattern Number: 1112 JLD Flute
 - 1. Description:
 - a. 5/8 inch (16 mm) deep fractured fin.
 - b. 1 inch (25 mm) pattern repeat.
 - 2. Material:
 - a. Thermospec Single or Multi-Use Plastic
 - b. Elastospec Lite Semi-Elastomeric Multi-Use Material
 - c. Elastospec 100% Solid Urethane Bonded to 3/4 inch Plywood
- Q. Pattern Number: 1113 RECO Rib
 - 1. Description:
 - a. 5/8 inch (16 mm) deep fractured fin.
 - b. 1-1/2 inch (38 mm) pattern repeat.
 - 2. Material:
 - a. Thermospec Single or Multi-Use Plastic
 - b. Elastospec Lite Semi-Elastomeric Multi-Use Material
 - c. Elastospec 100% Solid Urethane Bonded to 3/4 inch Plywood
- R. Pattern Number: 1114 Fractured Rope
 - 1. Description:
 - a. 1/2 inch (13 mm) deep fractured fin.
 - b. 2 inch (51 mm) pattern repeat.
- S. Pattern Number: 1115 Yumpa Rib
 - 1. Description:
 - a. 3/4 inch (19 mm) deep fractured fin.
 - b. 8 inch (203 mm) pattern repeat.
- T. Pattern Number: 1116 Jackson Rib
 - 1. Description:
 - a. 3/8 inch (10 mm) deep fractured fin.
 - b. 1-1/4 inch (32 mm) pattern repeat.

- U. Pattern Number: 1117 Split Face Rib
1. Description:
a. 1 inch (25 mm) deep fractured fin.
b. 4 inch (102 mm) pattern repeat.
- V. Pattern Number: 1118 Ribbed Rope Rib
1. Description:
a. 1 inch (25 mm) deep fractured fin.
b. 4 inch (102 mm) pattern repeat.
- W. Pattern Number: 1121 Rebar #6
1. Description:
a. 1-1/4 inch (32 mm) deep fractured fin.
b. 5.5 inch (138 mm) pattern repeat.
- X. Pattern Number: 1123 Veddere Flute
1. Description:
a. 1-1/2 inch (38 mm) deep fractured fin.
b. 2 inch (51 mm) pattern repeat.
- Y. Pattern Number: 1124A Zaha Rib
1. Description:
a. 1-1/2 inch (38 mm) deep fractured fin.
b. 3-1/2 inch (89 mm) pattern repeat.
- Z. Pattern Number: 1124B Zaha Rib
1. Description:
a. 1-1/2 inch (38 mm) deep fractured fin.
b. 3-1/2 inch (89 mm) pattern repeat.
c. 31 inches by 120 inches partial ribs in 31 inch direction.
- AA. Pattern Number: 1125 Galloway Rib
1. Description:
a. 1-1/4 inch (32 mm) deep fractured fin.
b. 2 inch (51 mm) pattern repeat.
- BB. Pattern Number: 1127 Extreme Fractured Rib
1. Description:
a. 3/4 inch (19 mm) to 1-1/2 inch (38 mm) deep fractured fin.
b. 2 inch (51 mm) pattern repeat.
- CC. Pattern Number: 1128 Utah Rib
1. Description:
a. 5/8 inch (16 mm) relief.
b. 1/2 inch (13 mm) peak and valley
c. 1-7/8 inch (48 mm) C-C pattern repeat.
d. Ribs run in 4 foot direction
- DD. Pattern Number: 1130 Concord Rib
1. Description:
a. 3/4 inch (19 mm) deep fractured fin.
b. 1-1/2 inch (38 mm) pattern repeat.
- EE. Pattern Number: 1131 Boise Rib
1. Description:
a. 3/4 inch (19 mm) deep fractured fin.
b. 4 inch (102 mm) pattern repeat.

- FF. Pattern Number: 1132 Atlantic Rib
1. Description:
a. 1-1/4 inch (32 mm) deep fractured fin.
b. 4 inch (102 mm) pattern repeat.
- GG. Pattern Number: 1133 Pontiac Rib
1. Description:
a. 1 inch (25 mm) deep fractured fin.
b. 3-1/2 inch (88 mm) pattern repeat.
- HH. Pattern Number: 1140 Pontiac Rib
1. Description:
a. 1-1/4 inch (32 mm) deep fractured fin.
b. 3 inch (76 mm) pattern repeat.
- II. Pattern Number: 1142 Long Island Rib
1. Description:
a. 9/16 inch (15 mm) deep fractured fin.
b. 1-9/16 inch (40 mm) pattern repeat.
- JJ. Pattern Number: 1143 Florida Flute - Modified
1. Description:
a. 1 inch (25 mm) deep fractured fin.
b. 4 inch (102 mm) pattern repeat.
- KK. Pattern Number: 1146 Cimarron Rib
1. Description:
a. 5/8 inch (16 mm) deep fractured fin.
b. 3 inch (76 mm) pattern repeat.
- LL. Pattern Number: 1147 Napa Rib
1. Description:
a. 1 inch (25 mm) deep fractured fin.
b. 1-1/2 inch (38 mm) pattern repeat.
- MM. Pattern Number: 1149 Park Rib
1. Description:
a. 1 inch (25 mm) deep fractured fin.
b. 2-1/2 inch (63 mm) pattern repeat.
- NN. Pattern Number: 1153 Phoenix Rib
1. Description:
a. 1-1/8 inch (29 mm) maximum deep vertical fractured fin with various width and depth ribs.
- OO. Pattern Number: 1154 Park Rib
1. Description:
a. 3/8 inch (10 mm) relief.
b. 3/4 inch (19 mm) squared peaks.
c. 3/4 inch (19 mm) valleys.
d. 1-1/2 inch (38 mm) C-C
- PP. Pattern Number: 1155 T-Rex Rib
1. Description:
a. 7 inch (178 mm) wide fractured ribs.
b. 9-5/8 inch (244 mm) C-C.
c. 1-1/2 inch (38 mm) maximum relief.

QQ. Pattern Number: 1161 Honor Rib

1. Description:
 - a. 1 inch (25 mm) maximum depth.
 - b. 2 inch (51 mm) pattern repeat.

RR. Pattern Number: 5127 1 inch Extreme Fractured Rib

1. Description:
 - a. 1/2 (13 mm) to 1 inch (25 mm) extreme fractured fin.
 - b. 2 inch (51 mm) pattern repeat.

2.4 WOOD GRAIN FORM LINERS FOR ARCHITECTURAL CONCRETE

A. Pattern Number: 1201 Rough Sawn 8 inch Wood

1. Description:
 - a. 1 inch (25 mm) deep alternating high low wood grain pattern.

B. Pattern Number: 1202 Grape Stake

1. Description:
 - a. 3/4 inch (19 mm) average relief.
 - b. 2 inch (51 mm) heavy textured grape stake.

C. Pattern Number: 1203 Barnwood

1. Description:
 - a. Medium Wood Grain Texture with tight seams and butt joins.
 - b. Board Widths from 2-1/2 inch (64 mm) to 6-1/8 inch (156 mm).

D. Pattern Number: 1204 Random 3/8 inch Board

1. Description:
 - a. Board Widths from 5-1/4 inch (133 mm) to 9-1/4 inch (235 mm) with deep reveals.

E. Pattern Number: 1205 Smooth Ship Lap

1. Description:
 - a. 6 inch (152 mm) board widths with 1/2 inch (13 mm) lap.

F. Pattern Number: 1207 Cedar Plank

1. Description:
 - a. 4 inch (102 mm) cedar plank.
 - b. 3/8 inch (10 mm) reveal between planks.

G. Pattern Number: 1208 Rough Sawn Random Boards

1. Description:
 - a. Medium textured wood planks 1-5/8 inch (41 mm) to 8-3/4 inch (222 mm) widths.
 - b. 1/4 inch (6 mm) deep by 3/4 inch (19 mm) wide reveals.

H. Pattern Number: 1209 6 inch Pine Wood Grain

1. Description:
 - a. Board widths 5-3/4 inch (41 mm) with 1/4 inch (6 mm) deep by 3/4 inch (19 mm) wide reveals.
 - b. 1/4 inch (6 mm) deep by 3/4 inch (19 mm) wide reveals.

I. Pattern Number: 1210 Random Pine Wood Grain

1. Description:
 - a. Medium textured wood planks 1-5/8 inch (41 mm) to 8-3/4 inch (222 mm) widths.
 - b. 5/8 inch (16 mm) deep by 3/4 inch (19 mm) wide reveals.

- J. Pattern Number: 1212 Light Wood Grain 581
1. Description:
 - a. 3-1/2 inch (89 mm) widths.
 - b. 1/4 inch (6 mm) protruding reveals.
 2. Material:
- K. Pattern Number: 1213 Weathered Tongue and Groove
1. Description:
 - a. 7-1/2 inch (191 mm) widths.
 - b. 1/2 inch (13 mm) by 1/4 (6 mm) reveal.
- L. Pattern Number: 1214 Board and Batten
1. Description:
 - a. 10 inch (191 mm) Weathered Barnboard Texture.
 - b. 2 inch (51 mm) batten, 12 inch (305 mm) C-C 3/4 inch depth.
- M. Pattern Number: 1215, 6 inch Woodgrain Shiplap
1. Description:
 - a. 6 inch (152 mm) plank medium woodgrain texture with 3/4 inch (19 mm) relief.
- N. Pattern Number: 1216 Weathered Woodgrain
1. Description:
 - a. 4 inch (102 mm) wide plank
 - b. 1/2 inch (13 mm) relief.
 - c. 3/16 inch (5 mm), 1/4 inch (6 mm), to 1/2 inch (13 mm) high-low steps.
- O. Pattern Number: 1217 Alternating Random Wood Plank
1. Description:
 - a. 3/4 inch (19 mm) maximum depth.
 - b. 1-3/4 inch (44 mm) to 7-1/2 inch 190 mm) wide wood planks.
- P. Pattern Number: 1218 Rough Cut Board
1. Description:
 - a. 1/8 inch (3 mm) maximum relief.
 - b. 3 inch (76 mm) wide light wood grain planks.
- Q. Pattern Number: 1221 Stepped Wood Planks
1. Description:
 - a. 1-1/2 inch (38 mm) wide planks.
 - b. 1/4 inch (6 mm) to 3/4 inch (19 mm) maximum relief.
- R. Pattern Number: 1222 Heavy Sawn Wood
1. Description:
 - a. 1-3/4 inch (44 mm) to 5 inch (127 mm) planks with medium woodgrain surface texture.
 - b. 1/4 inch (6 mm) maximum relief.
- S. Pattern Number: 1224 Historic Wood Grain
1. Description:
 - a. 5-1/2 inch (140 mm) pattern repeat with woodgrain texture and grout leakage.
 - b. 1/8 inch (3 mm) to 3/16 inch (5 mm) relief.
- T. Pattern Number: 1224_Plastic Historic Wood Grain
1. Description:
 - a. 5-1/2 inch (140 mm) pattern repeat with woodgrain texture and grout leakage.
 - b. 1/8 inch (3 mm) to 3/16 inch (5 mm) relief.

- U. Pattern Number: 1226 Random Cedar Board Form
 - 1. Description:
 - a. Hi-Lo Random board widths of 2-78 inch (73 mm) to 10-3/4 inch (273 mm) 1/2 inch (6 mm) depth in two steps.
- V. Pattern Number: 1227 Spec Wood
 - 1. Description:
 - a. 3/4 inch (19 mm) maximum relief.
 - b. 2-1/2 inch (64 mm) width squared ribs 12 inches (305 mm) C-C.
- W. Pattern Number: 1231 Split Cedar Shingle
 - 1. Description:
 - a. 4 inch (102 mm) to 6 inch (152 mm) lap with 4 inch (102 mm) to 8 inch (204 mm) random shingles
 - b. 1/2 inch (6 mm) depth.
- X. Pattern Number: 1235 Wire Brush Grooved Textured Wood
 - 1. Description:
 - a. Tongue and groove random plank lengths
- Y. Pattern Number: 1236 Native Wood
 - 1. Description:
 - a. Medium grain texture, 7-1/2 inch (190 mm) planks protruding reveal, 45 inch (1143 mm) non-standard width.
- Z. Pattern Number: 1240, 6 inch Woodgrain Shiplap
 - 1. Description:
 - a. 6 inch (152 mm) plank medium woodgrain texture with 1 inch (25 mm) relief.
- AA. Pattern Number: 1242, Barnwood with Reveal
 - 1. Description:
 - a. Random size barnwood board texture with 2-1/2 inch to 9? board widths.
 - b. Reveal depth from 1/4? to 9/16?
- BB. Pattern Number: 1244, Pirate Plank
 - 1. Description:
 - a. 1/4 inch (6mm) maximum relief
 - b. 3 inch (76mm) wide planks
- CC. Pattern Number: 1245, California Board
 - 1. Description:
 - a. 0.25 inch depth
 - b. 9 inch C-C
 - c. 1 inch mortar joints
 - d. 8 inch boards
- DD. Pattern Number: 1248, Wood Grain Reveal
 - 1. Description:
 - 2. Description:
 - a. 1.50 inch depth
 - b. 12 inch C-C
 - c. 6 inch peaks
 - d. 6 inch valleys
- EE. Pattern Number: 1249, Mendota Redwood
 - 1. Description:
 - a. 3.5 inch to 5.5 inch board width

- b. 0.25 inch depth
- FF. Pattern Number: 1250, 6 inch Rough Sawn Plank,
 - 1. Description:
 - a. 5.5 inch board width
 - b. 0.75 inch depth
- GG. Pattern Number: 1251, 6 inch Tongue & Groove
 - 1. Description:
 - a. 0.25 inch depth
 - b. 6 inch C-C
 - c. 5.50 inch plank widths
 - d. 0.50 inch mortar joints
- HH. Pattern Number: 1252, Weathered Barnwood
 - 1. Description:
 - a. 0.25 inch depth
- II. Pattern Number: 1253, 6 inch Wood Plank with Reveal
 - 1. Description:
 - a. 6 inch board width
 - b. 0.375 inch depth
- JJ. Pattern Number: 1254, Rough Cedar Plank
 - 1. Description:
 - a. 4.36 inch width
 - b. 0.125 inch depth
- KK. Pattern Number: 1255, Coyote Wood
 - 1. Description:
 - a. 6 inch board width
 - b. 0.375 inch depth
- LL. Pattern Number: 1259, Cabin Board
 - 1. Description:
 - a. 0.1875 inch depth
 - b. 6 inch C-C
 - c. 0.125 inch mortar joints
- MM. Pattern Number: 1264, Seattle Ship Lap
 - 1. Description:
 - a. 0.50 inch depth
 - b. 4 inch C-C
- NN. Pattern Number: 1265, Rockwood
 - 1. Description:
 - a. 0.50 inch depth
 - b. random curved flutes
- OO. Pattern Number: 1267, 8 inch Woodgrain Plank Ship Lap
 - 1. Description:
 - a. 0.50 inch depth
 - b. 8 inch C-C
- PP. Pattern Number: 1268, LA Plank
 - 1. Description:
 - a. 3.25 inch pattern repeat

- b. 0.1875 inch max depth

QQ. Pattern Number: 1269, Knotty Plank

- 1. Description:
 - a. 0.1875 inch depth
 - b. 5.50 inch planks
 - c. 0.0625 inch to 0.125 inch mortar joint

RR. Pattern Number: 1272, Wood with Reveals

- 1. Description:
 - a. 6 inch pattern repeat
 - b. 0.25 inch max depth

2.5 BRICK FORMLINERS FOR ARCHITECTURAL CONCRETE

A. Pattern Number: 1301, Slump Block

- 1. Description:
 - a. 4 inch by 16 inch brick size
 - b. 0.375 inch depth

B. Pattern Number: 1302, Old Brick

- 1. Description:
 - a. 3 inch by 8 inch brick size
 - b. 0.1875 inch depth

C. Pattern Number: 1303, Standard Spec Smooth Brick

- 1. Description:
 - a. 2.25 inch by 7.75 inch brick size
 - b. 0.375 inch max depth

D. Pattern Number: 1305, Random Size Split Face Block

- 1. Description:
 - a. 4 inch to 16 inch block sizes
 - b. 1.125 inch depth
 - c. 1.50 inch mortar joints

E. Pattern Number: 1306, 8 inch by 2-1/2 inch Smooth Brick

- 1. Description:
 - a. 8 inch by 2.5 inch brick size
 - b. 0.25 inch depth

F. Pattern Number: 1309, Richtex

- 1. Description:
 - a. 3.6875 inch by 11.6875 inch brick size
 - b. 0.125 inch depth

G. Pattern Number: 1311, 12 inch Used Brick Running Bond

- 1. Description:
 - a. 2.5 inch by 11.5 inch brick size
 - b. 0.375 inch depth

H. Pattern Number: 1314, Paraloam Brick

- 1. Description:
 - a. Running Bond with 2.50 inch by 9.50 inch brick sizes
 - b. 0.3125 inch depth
 - c. 0.50 inch mortar joints

- I. Pattern Number: 1315, LIE Brick
 - 1. Description:
 - a. 11.625 inch by 3.625 inch brick sizes
 - b. 0.50 inch depth
 - c. 0.375 inch mortar joints
 - d. 6 running bond coursings and 1 soldier coursing
- J. Pattern Number: 1316, LIE Sawtooth Brick
 - 1. Description:
 - a. 5.60 inch C-C width
 - b. 3 inch C-C height
- K. Pattern Number: 1317, 3 inch by 10 inch Rough Wire Brick Running Bond
 - 1. Description:
 - a. 3 inch by 10 inch brick size
 - b. 0.375 inch depth
- L. Pattern Number: 1319, Weathered Brick
 - 1. Description:
 - a. 3.625 inch by 11.625 inch brick sizes
 - b. 0.25 inch depth
 - c. 0.375 inch mortar joints
- M. Pattern Number: 1321, Vertical Stacked Brick
 - 1. Description:
 - a. 3.625 inch by 11.625 inch brick sizes
 - b. 0.25 inch depth
 - c. 0.375 inch mortar joints
- N. Pattern Number: 1323, 4 inch by 12 inch Rough Wire Brick Running Bond
 - 1. Description:
 - a. 4 inch by 12 inch brick size
 - b. 0.25 inch depth
- O. Pattern Number: 1325, 3 inch by 8 inch Rough Brick Running Bond
 - 1. Description:
 - a. 2.5 inch by 7.625 inch brick size
 - b. 0.1875 inch depth
- P. Pattern Number: 1326, Aggrebrick
 - 1. Description:
 - a. 2.25 inch by 7.625 inch brick sizes
 - b. 0.375 inch depth
 - c. 0.375 inch vertical mortar joints
 - d. 0.417 inch horizontal mortar joints

2.6 BLOCK PATTERN FORMLINERS FOR ARCHITECTURAL CONCRETE

- A. Pattern Number: 1402, 12 inch by 12 inch Split Face Block
 - 1. Description:
 - a. 12 inch by 12 inch C-C split face block sizes - stacked bond
 - b. 0.625 inch depth
 - c. 0.375 inch mortar joints
- B. Pattern Number: 1403, 8 inch by 8 inch Split Face Block
 - 1. Description:
 - a. 8 inch by 8 inch block size

- b. 0.75 inch depth
- C. Pattern Number: 1404, 8 inch by 16 inch Standard CMU Block
 - 1. Description:
 - a. 8 inch by 16 inch block size
 - b. 0.375 inch depth
- D. Pattern Number: 1407, 8 inch by 16 inch Split Face Block
 - 1. Description:
 - a. 8 inch by 16 inch block size
 - b. 0.375 inch depth
- E. Pattern Number: 1408, CMU Sand Block
 - 1. Description:
 - a. 7.50 inch by 15.50 inch block sizes
 - b. 0.375 inch depth
 - c. 0.50 inch mortar joints
- F. Pattern Number: 1409, 8 inch by 16 inch Split Face Stackend Bond
 - 1. Description:
 - a. 8 inch by 16 inch block size
 - b. 0.375 inch depth
- G. Pattern Number: 1413, 8 inch by 8 inch Standard CMU Block
 - 1. Description:
 - a. 8 inch by 8 inch block size
 - b. 0.375 inch depth
- H. Pattern Number: 1425, Canon Bond Block
 - 1. Description:
 - a. random block size
 - b. 1.5 inch depth
- I. Pattern Number: 1426, American Smooth Face Block
 - 1. Description:
 - a. 15.50 inch by 3.50 inch smooth running block bond sizes
 - b. 0.125 inch depth
 - c. 0.50 inch mortar joints
- J. Pattern Number: 1427, Custom Canon Bond Block
 - 1. Description:
 - a. 21 inch by 45 inch running block bond sizes
 - b. 1.50 inch depth
 - c. 3 inch mortar joints
- K. Pattern Number: 1429, Split Rib Block
 - 1. Description:
 - a. 8 inch by 2.75 inch block size
 - b. 0.75 inch depth
- L. Pattern Number: 1430, Cranston Split Block
 - 1. Description:
 - a. 11.5 inch to 24 inch block size
 - b. 1.5 inch depth
- M. Pattern Number: 1431, LS Block
 - 1. Description:

- a. 23.625 inch W by 15.625 inch H block sizes
 - b. 0.375 inch depth
 - c. 0.4375 inch mortar joints
- N. Pattern Number: 1433, Mountain Creek Block
 - 1. Description:
 - a. 15.50 inch by 39.50 inch block sizes
 - b. 1.50 inch depth
 - c. 0.50 inch mortar joints
- O. Pattern Number: 1439, 12 inch by 24 inch Smooth Face Block
 - 1. Description:
 - a. 23.625 inch W by 11.625 inch H block
 - b. 0.375 inch max depth
 - c. 24 inch horizontal C-C
 - d. 12 inch vertical C-C

2.7 ROCK PATTERN FORMLINERS FOR ARCHITECTURAL CONCRETE

- A. Pattern Number: 1501, Dry Stack Fieldstone
 - 1. Description:
 - a. Rock width varies 3 inches to 18 inches.
 - b. 1.5 inch depth
- B. Pattern Number: 1502, Ashlar Stone
 - 1. Description:
 - a. 2.5 inch to 11 inch rock height
 - b. 2.5 inch to 17 inch rock width
 - c. 1.25 inch depth
- C. Pattern Number: 1503, Red E Cobblestone
 - 1. Description:
 - a. 9 inch rock height
 - b. 11 inch to 18 inch rock width
 - c. 1.5 inch depth
- D. Pattern Number: 1505, Madera Flagstone
 - 1. Description:
 - a. 7 inch to 24.5 inch rock height
 - b. 7.5 inch to 24 inch rock width
 - c. 1.75 inch depth
- E. Pattern Number: 1506, Random Block Ashlar Stone
 - 1. Description:
 - a. 4 inch to 42 inch rock width
 - b. 1.5 inch depth
- F. 1508, Large Dry Stack Fieldstone
 - 1. Description:
 - a. 2 inch to 6 inch rock height
 - b. 5 inch to 23 inch rock width
 - c. 1.25 inch depth
- G. Pattern Number: 1510, Rocky Mountain Flagstone
 - 1. Description:
 - a. 4 inch to 40 inch rock width
 - b. 2 inch depth

- H. Pattern Number: 1511, Devil's Slide Strata
1. Description:
a. rock height varies
b. rock width varies
c. 3 inch depth
- I. Pattern Number: 1513, SC Fractured Granite
1. Description:
a. 1 inch depth
- J. Pattern Number: 1515, SC Ashlar
1. Description:
a. 8.25 inch to 26 inch rock height
b. 3.75 inch to 14 inch rock width
c. 1.5 inch depth
d. 0.75 inch mortar joint
- K. Pattern Number: 1517, St. Mary's Ashlar
1. Description:
a. 8.25 inch to 26 inch rock height
b. 3.75 inch to 14 inch rock width
c. 1.5 inch depth
- L. Pattern Number: 1519, Tallahassee Ashlar
1. Description:
a. 7 inch to 28 inch rock width
b. 1 inch rock depth
- M. Pattern Number: 1520, Batavia Random Fieldstone
1. Description:
a. 3 inch to 26 inch rock width
b. 2.5 inch depth
- N. Pattern Number: 1521, Tahoka Stone
1. Description:
a. 6.5 inch to 13 inch rock height
b. 9 inch to 30 inch rock width
c. 2 inch depth
- O. Pattern Number: 1523, RE Ashlar
1. Description:
a. 8 inch to 25.5 inch rock height
b. 5 inch to 12 inch rock width
c. 1.5 inch depth
- P. Pattern Number: 1524, San Diego Dry Stack
1. Description:
a. 3 inch to 7.50 inch rock heights
b. 7.50 inch to 28 inch rock widths
c. 1 inch depth
d. 0.50 inch to 0.5625 inch mortar joints
- Q. Pattern Number: 1526, La Sierra Fieldstone
1. Description:
a. 5 inch to 11 inch rock heights
b. 6 inch to 29 inch rock widths
c. 2 inch depth

- d. 0.50 inch to 0.75 inch mortar joints
- R. Pattern Number: 1534, Large Running Bond Stone
 - 1. Description:
 - a. 7.25 inch to 22 inch rock width
 - b. 1.5 inch depth
- S. Pattern Number: 1535, Amboy Cut Stone
 - 1. Description:
 - a. 2 inch depth
- T. Pattern Number: 1536, Mammoth Cobblestone
 - 1. Description:
 - a. 3 inch to 6 inch rock width
 - b. 1.25 inch depth
- U. 1 Pattern Number: 537, Colorado Red Flagstone
 - 1. Description:
 - a. 5 inch to 30 inch rock height
 - b. 2.5 inch to 13 inch rock width
 - c. 1.5 inch depth
- V. Pattern Number: 1538, Cut Textured Stone
 - 1. 1 Description:
 - a. 6.5 inch to 56 inch rock height
 - b. 13 inch rock width
 - c. 1.5 inch depth
- W. Pattern Number: 1541, Rush Creek Ashlar
 - 1. Description:
 - a. up to 30 inch rock width
 - b. 2 inch depth
- X. Pattern Number: 1542, Portland Dry Stack
 - a. 4 inch to 8 inch rock heights
 - b. 5 inch to 24 inch rock widths
 - c. 1.50 inch depth
 - d. 0.75 inch mortar joints
- Y. Pattern Number: 1544, Ashlar Dry Stack
 - 1. Description:
 - a. 5 inch to 26 inch rock width
 - b. 0.75 inch depth
- Z. 1545, Kona Rock
 - 1. Description:
 - a. 5.25 inch to 18.5 inch rock height
 - b. 5.5 inch by 17.25 inch rock width
 - c. 0.75 inch depth
- AA. Pattern Number: 1546, American Cut Stone
 - 1. Description:
 - a. 14 inch rock heights
 - b. 14 inch to 47 inch rock widths
 - c. 3 inch depth
 - d. 0.75 inch mortar joints

- BB. Pattern Number: 1547, Colorado Flagstone
1. Description:
a. 8 inch to 14 inch rock width
b. 2.5 inch depth
- CC. Pattern Number: 1548, Chester Dry Stack
1. Description:
a. 5 inch to 26 inch rock width
b. 1.75 inch to 2.5 inch depth
- DD. Pattern Number: 1549, Chiseled Limestone
1. Description:
a. 12 inch rock height
b. 24 inch rock width
c. 1.5 inch depth
- EE. Pattern Number: 1550, Fractured Basalt
1. Description:
a. 2 inch depth
b. Pattern matched edges
- FF. Pattern Number: 1553, Cut Ashlar
1. Description:
a. 3.25 inch to 12 inch rock height
b. 6 inch to 32 inch rock width
c. 0.75 inch depth
- GG. Pattern Number: 1555, Navasota Ashlar Stone
1. Description:
a. 1.65 depth
b. Varies to 30 inches
- HH. Pattern Number: 1556, Franklin Aged Ashlar
1. Description:
a. 3 inch to 25.375 inch rock height
b. 1 inch to 9.5 inch rock width
c. 0.75 inch depth
- II. Pattern Number: 1558, Liberty Dry Stack
1. Description:
a. 3.5 inch to 25.25 inch rock height
b. 1.5 inch to 10.5 inch rock width
c. 1.375 inch depth
- JJ. Pattern Number: 1570, Klamath Dry Stack
1. Description:
a. 2 inch to 23.5 inch rock height
b. 1.5 inch to 13.5 inch rock width
c. 1 inch depth
- KK. Pattern Number: 1572, Ashlar Cobblestone
1. Description:
a. 3 inch to 7.25 inch rock height
b. 5.75 inch to 6 inch rock width
c. 0.5 inch depth
- LL. Pattern Number: 1573, Independence Ashlar

1. Description:
 - a. 10 inch to 33.5 inch rock width
 - b. 1.5 inch depth
- MM. Pattern Number: 1577, Random Cobblestone
 1. Description:
 - a. 1-1/2 inch depth
 - b. 0.75 inch mortar joint
 - c. 3 inch to 8 inch rocks
- NN. Pattern Number: 1579, Summit Rock
 1. Description:
 - a. 3 inch to 18.25 inch rock height
 - b. 2.75 inch to 9.5 inch rock width
 - c. 1.25 inch depth
- OO. Pattern Number: 1580, Lincoln Dry Stack
 1. Description:
 - a. 1-3/8 inch depth
 - b. 4 inch to 30 inch stones
- PP. Pattern Number: 1581, Washington Dry Stack
 1. Description:
 - a. 1.5 inch to 7 inch rock height
 - b. 4 inch to 24 inch rock width
 - c. 1 inch depth
- QQ. Pattern Number: 1582, Stone Ground Granite
 1. Description:
 - a. 0.5 inch maximum relief
- RR. Pattern Number: 1585, Oneida Rectangular Stone
 1. Description:
 - a. 24 inch to 72 inch rock height
 - b. 23 inch rock width
 - c. 1.5 inch depth
- SS. Pattern Number: 1587, California Dry Stack
 1. Description:
 - a. 3 inch to 24 inch rock width
 - b. 1.25 inch depth
- TT. Pattern Number: 1587A, California Dry Stack
 1. Description:
 - a. 3 inch to 24 inch rock width
 - b. 1.25 inch depth
- UU. Pattern Number: 1587A / B California Dry Stack
 1. Description:
 - a. 3 inch to 24 inch rock width
 - b. 1.25 inch depth
- VV. Pattern Number: 1587B California Dry Stack
 1. Description:
 - a. 3 inch to 24 inch rock width
 - b. 1.25 inch depth

WW. Pattern Number: 5501, American 12 inch by 24 inch Stone

1. Description:
 - a. 11 inch rock heights
 - b. 23 inch rock widths
 - c. 1.625 inch depth
 - d. 1 inch mortar joints

XX. Pattern Number: 5502, American 24 inch by 48 inch Stone

1. Description:
 - a. 23 inch rock heights
 - b. 47 inch rock widths
 - c. 1.625 inch depth
 - d. 1 inch mortar joints

YY. Pattern Number: 5503, American Stone

1. Description:
 - a. 15/8 inch (41mm) deep rib
 - b. 10 inch to 30 inch stones
 - c. 6 inch coursing

ZZ. Pattern Number: 5527, Cut Random Stone

1. Description:
 - a. 2 inch (50mm) deep cut stone
 - b. 3/4 inch mortar joint
 - c. 14 inch coursing

AAA. Pattern Number: 5533, Keystone Ashlar

1. Description:
 - a. 7 inch to 23 inch W x 3 inch to 14.4 inch H stones
 - b. 1.25 inch depth
 - c. 0.50 inch to 0.75 inch mortar joints

BBB. Pattern Number: 5535, Fall River Cut Stone

1. Description:
 - a. 2 inch depth
 - b. 1 inch mortar joints

CCC. Pattern Number: 5536, Cracked Limestone

1. Description:
 - a. 1.50 inch depth
 - b. 0.50 inch to 0.75 inch mortar joints

DDD. Pattern Number: 5537, Custom Random Fieldstone

1. Description:
 - a. 8 inch to 24 inch rock sizes
 - b. 0.75 inch depth
 - c. 0.50 inch to 1 inch mortar joint
 - d. Pattern 1505 modified to 0.75 inch depth

EEE. Pattern Number: 5538, Arizona River Rock

1. Description:
 - a. 4 inch to 12 inch rock heights
 - b. 4 inch to 12 inch rock widths
 - c. 1.50 inch depth
 - d. 0.50 inch to 1 inch mortar joints

FFF. Pattern Number: 5550, Kane Long Stone

1. Description:
 - a. 3.61 inch to 17.54 inch W by 3.61 inch to 7.61 inch H stones
 - b. 0.50 inch maximum depth
 - c. 0.25 inch maximum texture relief
 - d. 0.39 inch mortar joint

GGG. Pattern Number: 5552, Colorado Granite

1. Description:
 - a. 7 inch to 28 inch rock heights
 - b. 5.50 inch to 18.50 inch rock widths
 - c. 3.50 inch depth
 - d. 0.50 inch to 0.75 inch mortar joints

HHH. Pattern Number: 5554A, Coastal Fieldstone A

1. Description:
 - a. 1.60 inch to 20 inch W by 1.50 inch to 10.60 inch H rocks
 - b. Individual rock shapes may vary
 - c. 1.50 inch maximum depth

III. Pattern Number: 5554B, Coastal Fieldstone B

1. Description:
 - a. 1.60 inch to 20 inch W by 1.50 inch to 10.60 inch H rocks
 - b. Individual rock shapes may vary
 - c. 1.50 inch maximum depth

JJJ. Pattern Number: 5558, Custom Cobblestone

1. Description:
 - a. 12 inch maximum stone size
 - b. 2 inch maximum depth

KKK. Pattern Number: 5561, CG American Stone

1. Description:
 - a. 1 inch relief.
 - b. 7 inch vertical C-C
 - c. 10 inch to 30 inch W stones

LLL. Pattern Number: 5563, Coastal Basalt

- a. 2 inch maximum relief

MMM. Pattern Number: 5566, Virginia Rock 2"

1. Description:
 - a. 1/8 inch to 1 inch mortar joint
 - b. 2 inch depth
 - c. 6 inch to 30 inch width rocks
 - d. 3-7/8 inch to 17-1/4 inch height rocks

NNN. Pattern Number: 5567, Virginia Rock 1"

- a. 1/8 inch to 1 inch mortar joint
- b. 1 inch depth
- c. 6 inch to 30 inch width rocks
- d. 3-7/8 inch to 17-1/4 inch height rocks

2.8 TEXTURED PATTERNS FORMLINERS FOR ARCHITECTURAL CONCRETE

A. Pattern Number: 1601, Light to Medium Sandblast

1. Description:
 - a. 0.125 inch to .062 inch relief

- B. Pattern Number: 1602, Heavy Sandblast
 - 1. Description:
 - a. 0.25 inch relief
- C. Pattern Number: 1603, Bush Hammer
 - 1. Description:
 - a. 1 inch maximum depth, 25 percent smooth
- D. Pattern Number: 1605, Broom/Rake Texture
 - 1. Description:
 - a. 0.0625 inch relief
- E. Pattern Number: 1606, Random Large Aggregate
 - 1. Description:
 - a. 0.25 inch depth
 - b. 0.75 inch rock size
- F. Pattern Number: 1607, Riverbed Aggregate
 - 1. Description:
 - a. 0.1875 inch relief
- G. Pattern Number: 1608, Split Slate
 - 1. Description:
 - a. 0.25 inch deep split slate
- H. Pattern Number: 1609, 1 inch Round Stone
 - 1. Description:
 - a. 0.5 inch to 1.5 inch depth
 - b. 0.5 inch rock size
- I. Pattern Number: 1613, Fractured Concrete
 - 1. Description:
 - a. 0.75 inch relief
- J. Pattern Number: 1614, Smooth Sheet
 - 1. Description:
 - a. .0313 maximum relief
- K. Pattern Number: 1615, Medium Bush Hammer
 - 1. Description:
 - a. 0.25 inch to 0.5 inch depth
 - b. 0.375 inch plus or minus effect
- L. Pattern Number: 1616, Stucco Texture
 - 1. Description:
 - a. Trowelled stucco texture.
- M. Pattern Number: 1617, Crushed Stone
 - 1. Description:
 - a. Exposed aggregate crushed stone texture
- N. Pattern Number: 1621, Tasman Slate
 - 1. Description:
 - a. 0.125 inch depth with V-Groove reveal
- O. Pattern Number: 1626, Kleen Slate
 - 1. Description:
 - a. 0.75 inch relief

- P. Pattern Number: 1628, Colorado Tile
 - 1. Description:
 - a. 0.375 inch relief
 - b. 16 inch C-C tiles
 - c. 0.375 inch mortar joint
- Q. Pattern Number: 1630,
 - 1. Description:
 - a. 0.125 inch relief
- R. Pattern Number: 1632, Contee Granite
 - 1. Description:
 - a. 0.3125 inch relief
- S. Pattern Number: 1634, KL Medium Sandblast
 - 1. Description:
 - a. 0.1875 inch relief
- T. Pattern Number: 1636, Texas Sandblast
 - 1. Description:
 - a. 0.125 inch to 0.1875 inch relief
- U. Pattern Number: 1637, Split Face Granite
 - 1. Description:
 - a. 0.50 inch average relief to 0.75 inch maximum relief
- V. Pattern Number: 1651, Light Sandblast
 - 1. Description:
 - a. 0.0625 inch relief
- W. Pattern Number: 1655, Striated Drag
 - 1. Description:
 - a. 1/8 inch (3mm) relief

2.9 SMOOTH FLUTES FORMLINERS FOR ARCHITECTURAL CONCRETE

- A. Pattern Number: 1702, 302 Standard Spec Flute
 - 1. Description:
 - a. 1.5 inch depth
 - b. 4 inch C-C
 - c. 1.5 inch peak and valley
- B. Pattern Number: 1703, Filmore Flute
 - 1. Description:
 - a. 1.5 inch depth
 - b. 6 inch C-C
 - c. 2 inch peak
 - d. 3 inch valley
- C. Pattern Number: 1704, 304 Standard Spec Flute
 - 1. Description:
 - a. 0.75 inch depth
 - b. 2 inch C-C
 - c. 0.75 inch peak and valley
- D. Pattern Number: 1705, 305 Standard Spec Flute
 - 1. Description:

- a. 0.5 inch depth
 - b. 1.5 inch C-C
 - c. 0.5 inch peak and valley
- E. Pattern Number: 1706, 303 Standard Spec Flute
 - 1. Description:
 - a. 1.5 inch depth
 - b. 2 inch C-C
 - c. 0.5 inch peak and valley
- F. Pattern Number: 1707, Lincoln Flute
 - 1. Description:
 - a. 0.75 inch depth
 - b. 6 inch C-C
 - c. 2.5 inch peak and valley
- G. Pattern Number: 1708, 1/2 inch Sine Wave
 - 1. Description:
 - 2. Description:
 - a. 0.5 inch depth
 - b. 1 inch C-C
 - c. 0.5 inch peak and valley
- H. Pattern Number: 1709, Houston Flute
 - 1. Description:
 - a. 0.75 inch depth
 - b. 1.5 inch C-C
 - c. 0.5 inch peak and valley
- I. Pattern Number: 1710, Connecticut Flute
 - 1. Description:
 - a. 0.5 inch depth
 - b. 2 inch C-C
 - c. 0.875 inch peak and valley
- J. Pattern Number: 1712, Utah Flute
 - 1. Description:
 - a. 1.375 inch depth
 - b. 6 inch C-C
 - c. 2.5 inch peak and valley
- K. Pattern Number: 1713, Colorado Flute
 - 1. Description:
 - a. 1.5 inch depth
 - b. 3 inch C-C
 - c. 1 inch peak and valley
- L. Pattern Number: 1714, Wilson Flute
 - 1. Description:
 - a. 1 inch depth
 - b. 2 inch C-C
 - c. 0.75 inch peak and valley
- M. Pattern Number: 1715, San Diego Flute
 - 1. Description:
 - a. 0.25 inch depth
 - b. 0.594 inch C-C

- c. 0.25 inch peak and valley
- N. Pattern Number: 1716, Waimea Flute
 - 1. Description:
 - a. 0.50 inch depth
 - b. 8 inch C-C
 - c. 7 inch peak
 - d. 1 inch V-Groove valley
- O. Pattern Number: 1717, Santa Fe Flute
 - 1. Description:
 - a. 1.5 inch depth
 - b. 6 inch C-C
 - c. 1.125 inch peak
 - d. 3.875 inch valley
- P. Pattern Number: 1718, Arizona DOT Random Flute
 - 1. Description:
 - a. 1.5 inch depth
 - b. random C-C
 - c. random peak and valley
- Q. Pattern Number: 1720, Taft Flute
 - 1. Description:
 - a. 1.5 inch depth
 - b. 5 inch C-C
 - c. 2.5 inch peak
 - d. 1.5 inch valley
- R. Pattern Number: 1721, 307 Standard Spec Flute
 - 1. Description:
 - a. 0.75 inch depth
 - b. 4 inch C-C
 - c. 2.5 inch peak
 - d. 1.5 inch valley
- S. Pattern Number: 1722, 1/4 inch Sine Wave
 - 1. Description:
 - a. 0.25 inch depth
 - b. 0.5 inch C-C
- T. Pattern Number: 1723, Wyoming Flute
 - 1. Description:
 - a. 0.5 inch depth
 - b. 6 inch C-C
 - c. 4.5 inch peak
 - d. 0.5 inch valley
- U. Pattern Number: 1724, Mesa Flute
 - 1. Description:
 - a. 1.5 inch depth
 - b. 4.5 inch C-C
 - c. 1 inch peak
 - d. 2.5 inch valley
- V. Pattern Number: 1725 Walters Flute
 - 1. Description:

- a. 0.375 inch depth
 - b. 1.50 inch C-C
 - c. 0.75 inch squared peaks
 - d. 0.75 inch valleys
- W. Pattern Number: 1726, Orlando Flute
 - 1. Description:
 - a. 0.75 inch depth
 - b. 3 inch C-C
 - c. 1 inch peak
 - d. 1.5 inch valley
- X. Pattern Number: 1730, Colfax Flute
 - 1. Description:
 - a. 0.75 inch depth
 - b. 3 inch C-C
 - c. 1.5 inch peak
 - d. 1 inch valley
- Y. Pattern Number: 1731, Random 3/16 inch Striation
 - 1. Description:
 - a. 0.1875 inch depth
 - b. random C-C
 - c. random peak and valley
- Z. Pattern Number: 1732, Random Reveal
 - 1. Description:
 - a. 1 inch depth
 - b. random C-C
 - c. random peak and valley
- AA. Pattern Number: 1734, Adrian Flute
 - 1. Description:
 - a. 0.75 inch depth
 - b. 4 inch C-C
 - c. 1.75 inch peak and valley
- BB. Pattern Number: 1738, 3/8 inch Flute
 - 1. Description:
 - a. 0.5 inch depth
 - b. 1 inch C-C
 - c. 0.375 inch peak and valley
- CC. Pattern Number: 1739, Gila Flute
 - 1. Description:
 - a. 1.25 inch depth
 - b. 6 inch C-C
 - c. 3.5 inch peak
 - d. 1 inch valley
- DD. Pattern Number: 1740, See9
 - 1. Description:
 - a. 0.875 inch depth
 - b. 2.667 inch C-C
- EE. Pattern Number: 1741, Perris Flute
 - 1. Description:

- a. 0.75 inch depth
 - b. 3 inch C-C
 - c. 1 inch peak and valley
- FF. Pattern Number: 1744, Varying Striations
 - 1. Description:
 - a. 0.25 inch depth
 - b. C-C varies
 - c. peak and valley varies
- GG. Pattern Number: 1745, Standard Spec 309
 - 1. Description:
 - a. 0.75 inch depth
 - b. 3 inch C-C
 - c. 0.75 inch peak
 - d. 1.75 inch valley
- HH. Pattern Number: 1751, MTU Flute
 - 1. Description:
 - a. 1 inch depth
 - b. 2 inch C-C
 - c. 0.5 inch peak and valley
- II. Pattern Number: 1752, Long Ripple Rib Flute
 - 1. Description:
 - a. 0.0625 inch depth
 - b. 0.375 inch C-C
- JJ. Pattern Number: 1753, Narrow Rippled Rib
 - 1. Description:
 - a. 0.0625 inch depth
 - b. 0.125 inch C-C
- KK. Pattern Number: 1760, Maui Flute
 - 1. Description:
 - a. 0.25 inch depth
 - b. 1.5 inch C-C
 - c. 0.625 inch peak
 - d. 0.75 inch valley
- LL. Pattern Number: 1761, 1 inch Sine Wave
 - 1. Description:
 - a. 0.5 inch depth
 - b. 2 inch C-C
- MM. Pattern Number: 1765, Franklin Flute
 - 1. Description:
 - a. 0.5 inch depth
 - b. 1.25 inch C-C
 - c. 0.375 inch peak
 - d. 0.375 inch valley
- NN. Pattern Number: 1766, 6 inch Sine Wave
 - 1. Description:
 - a. 1 inch depth
 - b. 6 inch C-C

- OO. Pattern Number: 1767, Chestnut Flute
1. Description:
 - a. 0.875 inch depth
 - b. 6 inch C-C
 - c. 4 inch peak
 - d. 1 inch valley
- PP. Pattern Number: 1771, Sawtooth
1. Description:
 - a. 0.75 inch depth
 - b. 1.50 inch C-C
 - c. 1.50 inch wide triangles
- QQ. Pattern Number: 1774, Bryan Flute
1. Description:
 - a. 5 inch C-C
 - b. 1-1/2 inch depth
- RR. Pattern Number: 1775, Spare Rib Flute
1. Description:
 - a. 1 inch depth
 - b. 4 inch C-C
 - c. 1.25 inch peak
 - d. 2.25 inch valley
- SS. Pattern Number: 1777, Textured Grave Stake
1. Description:
 - a. 0.75 inch depth
 - b. random boards
- TT. Pattern Number: 1781, Arizona DOT Random Flute Modified
1. Description:
 - a. 1 inch depth
 - b. 1 inch to 5.5 inch peak
 - c. 2 inch to 7 inch valley
- UU. Pattern Number: 1784, Pinnacle Flute
1. Description:
 - a. 1 inch depth
 - b. 1.5 inch C-C
- VV. Pattern Number: 1786, 3/4 inch Sine Wave
1. Description:
 - a. 0.75 inch depth
 - b. 2 inch C-C
- WW. Pattern Number: 1789, WTP Flute
1. Description:
 - a. .5 inch depth
 - b. 4.5 inch C-C
 - c. 3 inch peak
 - d. 0.5 inch valley
- XX. Pattern Number: 1791, Boat Ramp Flute
1. Description:
 - a. 0.6875 inch depth
 - b. 1.45 inch C-C

- c. 0.0 inch peak
 - d. 0.0 inch valley
- YY. Pattern Number: 5732, 6/2 Swell
 - 1. Description:
 - a. 2 inch depth sine wave
 - b. 6 inch C-C
- ZZ. Pattern Number: 5733, Machado Flute
 - 1. Description:
 - a. 0.75 inch depth
 - b. 5-1/2 inch C-C
 - c. 4 inch peak
 - d. 1 inch valley
- AAA. Pattern Number: 5754 Carlsbad Flute
 - 1. Description:
 - a. 1.5 inch depth
 - b. 4 inch pattern repeat
- BBB. Pattern Number: 5939, MBTA Pyramid (Custom)
 - 1. Description:
 - a. 1 inch depth
 - b. All endpoints to middle of square 4"

2.10 REVEAL FORMLINERS FOR ARCHITECTURAL CONCRETE

- A. Pattern Number: 20002
 - 1. Description:
 - a. 1-1/4 inch base
 - b. 3/4 inch top
 - c. 3/4 inch height
- B. Pattern Number: 20003
 - 1. Description:
 - a. 2 inch base
 - b. 1 inch top
 - c. 3/4 inch height
- C. Pattern Number: 20005
 - 1. Description:
 - a. 2 inch base
 - b. 1 inch top
 - c. 1-1/2 inch height
- D. Pattern Number: 20008
 - 1. Description:
 - a. 1-1/4 inch base
 - b. 1 inch top
 - c. 3/4 inch height
- E. Pattern Number: 20011
 - 1. Description:
 - a. 1-1/4 inch base
 - b. 1 inch top
 - c. 1 inch height

- F. Pattern Number: 20014
 - 1. Description:
 - a. 2-1/4 inch base
 - b. 1-1/2 inch top
 - c. 3/4 inch height
- G. Pattern Number: 20019
 - 1. Description:
 - a. 3 inch base
 - b. 3 inch height
- H. Pattern Number: 20024
 - 1. Description:
 - a. 3/4 inch base
 - b. 3/4 inch height
- I. Pattern Number: 20029
 - 1. Description:
 - a. 3 inch base
 - b. 1-1/2 inch top
 - c. 3/4 inch height
- J. Pattern Number: 20078
 - 1. Description:
 - a. 1 inch base
 - b. 0.88 inch top
 - c. 1 inch height

2.11 GEOMETRIC PATTERN FORMLINERS FOR ARCHITECTURAL CONCRETE

- A. Pattern Number: 1806, Honeycomb
 - 1. Description:
 - a. Random 0.25 inch, 0.50 inch 0.75 inch and 1 inch depths
 - b. Matching hexagon shapes
- B. Pattern Number: 1807Cracked Earth
 - 1. Description:
 - a. 0.50 inch maximum depth
- C. Pattern Number: 1808, Curtains
 - 1. Description:
 - a. Random curtain like-striations with 2.25 inch to 5 inch widths
 - b. 1 inch maximum depth
 - c. Requires backing
- D. Pattern Number: 1810, Big Bubble
 - 1. Description:
 - a. 1 inch (25 mm) bubble height/depth
 - b. 4 foot by 4 foot (1.2 m by 1.2 m) pattern repeat
- E. Pattern Number: 1811, Circu-llusions
 - 1. Description:
 - a. 0.5 inch (12 mm) oval depth
 - b. 4 foot by 4 foot (1.2 m by 1.2 m) pattern repeat
- F. Pattern Number: 1812, Dou-Bulbs (In)
 - 1. Description:

- a. 0.75 inch (19 mm) Feature Depth
 - b. 18 inch Feature length
- G. Pattern Number: 1813, Dou-Bulbs (Out)
 - 1. Description:
 - a. 0.75 inch (19 mm) Feature Depth
 - b. 18 inch Feature length
- H. Pattern Number: 1830, Gardens Chevron 1
 - 1. Description:
 - a. 30 inch by 30 inch repeating motif
 - b. 1.5 inch maximum depth
- I. Pattern Number: 1831, Gardens Chevron 2
 - 1. Description:
 - a. 36 inch by 36 inch repeating motif
 - b. 1.5 inch maximum depth

2.12 CUSTOM PATTERNS AND ARTWORK FORM LINERS FOR ARCHITECTURAL CONCRETE

- A. Pattern Number: Custom as indicated on the Drawings
 - 1. Description:
 - a. _____

2.13 ACCESSORIES

- A. SpecRelease: Petroleum-based release agent for use with our ElastoSpec, ElastoSpec Lite, and SpecVac products.
- B. SpecSeal: High Quality one-part moisture cure silicone sealant to be used with any Spec Formliners product
- C. Driver Bit: 3-1/2 inch Driver Bit
- D. Formliner Screws: Coarse thread drywall screws for use with all Spec Formliners form liners

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. Verify that field measurements, surfaces, substrates and conditions are as required, and ready to receive Work.
- C. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare substrates using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions. Refer to manufacturer's Application Guide for proper procedures for preparing formliners.
- C. Form Liner Preparation:
 - 1. Verify lines and levels of formwork and form liner patterns are within allowable

- tolerances.
 - 2. Clean liner before each use. Do not use damaged liner when continued use or repair would diminish the aesthetics of the work.
 - 3. Spray form liners with Spec Release brand form release before each use and within the same day that concrete is placed. Take care that all sections, angles of the pattern are covered with the release agent.
- D. Do not proceed with installation until substrates have been properly prepared and deviations from manufacturer's recommended tolerances are corrected. Commencement of installation constitutes acceptance of conditions.
- E. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

- A. Comply with manufacturer's installation instructions. Refer to manufacturer's Application Guide for proper procedures for installing formliners.
- B. Install formliners within manufacturer's recommended tolerances.
- C. For applications where concrete temperatures will exceed 140 degrees F (60 degrees C) at the formliner face, reduce the temperature with methods as recommended by manufacturer.
- D. For applications involving multiple formliners butted together in a horizontal fashion, press the edges of the formliner together tightly to stop concrete bleeding between the formliners.

3.4 MAINTENANCE OF REUSABLE FORMLINERS

- A. For applications with reusable formliners, comply with requirements of paragraph Delivery Storage and Handling when handling and storing units between uses. Prevent matrix build-up on the formliner surface. Excess release agent shall be removed before the form and liner is put back into service.

3.5 CLEANING AND PROTECTION

- A. Clean exposed surfaces. Touch up, refinish, or replace damaged components in a manner acceptable to Architect.
- B. Protect installed products until completion of project.
- C. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION