



1. Product Name

- Series 1000 Architectural Snap-Lock Standing Seam
- Series 1100 Architectural Snap-Lock Standing Seam
- Series 1101 Architectural Snap-Lock Standing Seam
- Series 1200 Architectural Snap-Lock Standing Seam
- Series 1300 Architectural Mechanically Locked Standing Seam
- Englert Series 2000® Structural Architectural Snap-Lock Standing Seam
- Series 2100 Structural Architectural Mechanically Locked Standing Seam
- Series 2400 Structural Architectural Mechanically Locked Standing Seam
- Series 2500 Structural Architectural Mechanically Locked Standing Seam
- Series 3000 Structural Architectural Panel System
- Series 4000 Wall Panel & Soffit System

2. Manufacturer

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3. Product Description

BASIC USE

Englert Inc. manufactures a wide range of metal roof, soffit and wall panels suitable for use in residential, commercial, industrial and utility applications.

COMPOSITION & MATERIALS

Material Options

- Steel 22 gauge baked-on finish over Galvalume® ASTM A792, AZ50, 50 ksi yield point, 52 ksi tensile strength
- Steel 24 gauge baked-on finish over Galvalume ASTM A792, AZ50, 50 ksi yield point, 52 ksi tensile strength



Englert architectural metal roofing

- Steel 26 gauge baked-on finish over Galvalume ASTM A792, AZ50, 50 ksi yield point, 52 ksi tensile strength
- Steel 22 gauge baked-on finish, G90 Galvanized ASTM A653, 50 ksi yield point, 52 ksi tensile strength
- Steel 24 gauge baked-on finish, G90 Galvanized ASTM A653, 50 ksi yield point, 52 ksi tensile strength
- Steel 26 gauge baked-on finish, G90 Galvanized ASTM A653, 50 ksi yield point, 52 ksi tensile strength
- Steel 22 gauge bare over Galvalume Plus® ASTM A792, AZ55, 50 ksi yield point, 52 ksi tensile strength
- Steel 24 gauge bare over Galvalume Plus ASTM A792, AZ55, 50 ksi yield point, 52 ksi tensile strength
- Steel 26 gauge bare over Galvalume Plus ASTM A792, AZ55, 50 ksi yield point, 52 ksi tensile strength
- Aluminum Alloy 3105-H14 baked-on finish ASTM B209; thicknesses 0.032", 0.040" or 0.050" (0.81, 1.02 or 1.27 mm)
- Copper 16 oz (0.454 kg) bare, 1/2 hard and 3/4 hard
- Copper 20 oz (0.567 kg) bare, 1/2 hard and 3/4 hard

TYPES & SIZES

- A1000 Integral Snap-Lock, 16" (406 mm) wide, 1 1/2" (38 mm) high
- A1100 Integral Snap-Lock, 16" (406 mm) wide, 1 1/4" (32 mm) high
- A1101 Integral Snap-Lock, 16" (406 mm) wide, 1" (25.4 mm) high (nail fin profile)
- A1200 Integral Snap-Lock, width 12" - 22 3/4" (305 - 578 mm), 1 1/2" (38 mm) high

- A1300 Mechanically Seamed, 12" or 24" (305 or 610 mm) wide, 90 or 180 degree seam, 1 1/2" (38 mm) high
- S2000 Integral Snap-Lock, width 12" - 18" (305 - 457 mm), 1 3/4" (45 mm) high
- S2100 Mechanically Seamed, 12", 16", 20" or 24" (305, 406, 508 or 610 mm) wide, 90 or 180 degree seam, 1 1/2" (38 mm) high
- S2400 Mechanically Seamed, width 12" - 24" (305 - 610 mm), 2" (51 mm) high, 90 degree seam
- S2500 Mechanically Seamed, width 12" - 24" (305 - 610 mm), 2" (51 mm) high, 45, 90 or 180 degree seam
- S3000 Mechanically Seamed, 16" (406 mm) wide, 3" (76 mm) deep, "T" seam
- A4000 Flush Panel, 12", 14" or 18" (305, 356 or 457 mm) wide, 1 1/2" (38 mm) deep

Note - Panels are available with or without ribs, or striated to reduce oilcanning.

FINISHES

Permacolor 3500 Finish, Metallic Copper, Preweathered Galvalume

These 3 finish options include standard color coating comprised of a 0.8 - 0.9 mil full strength, 70% Kynar 500®/Hylar 5000® fluorocarbon (Polyvinylidene Fluoride PVF2) coating over urethane primer of 0.2 - 0.3 mil on finish side, on steel, primer and wash coat on reverse, on aluminum wash coat only. Face film thickness: 1.0 mil + 0.2 mil. See manufacturer's color card for more information.

Galvalume Plus

High performance clear organic coating applied over Galvalume.

COLORS

Coated products are available in a wide variety of colors. See manufacturer's color selection chart or specify custom color.

LIMITATIONS

Some products are recommended for wall and soffit applications only. Do not specify these products for roof publications. Consult manufacturer for more information.

4. Technical Data

APPLICABLE STANDARDS

ASTM International

- ASTM A653 Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process
- ASTM A792 Standard Specification for Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process
- ASTM B117 Standard Practice for Operating Salt Spray (Fog) Apparatus
- ASTM B209 Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate
- ASTM D523 Standard Test Method for Specular Gloss
- ASTM D822 Standard Practice for Filtered Open-Flame Carbon-Arc Exposures of Paint and Related Coatings
- ASTM D968 Standard Test Methods for Abrasion Resistance of Organic Coatings by Falling Abrasive
- ASTM D1005 Standard Test Method for Measurement of Dry-Film Thickness of Organic Coatings Using Micrometers
- ASTM D1308 Standard Test Method for Effect of Household Chemicals on Clear and Pigmented Organic Finishes
- ASTM D2244 Standard Test Method for Calculation of Color Differences From Instrumentally Measured Color Coordinates
- ASTM D2247 Standard Practice for Testing Water Resistance of Coatings in 100% Relative Humidity
- ASTM D4214 Standard Test Methods for Evaluating the Degree of Chalking of Exterior Paint Films
- ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials
- ASTM E1646 Standard Test Method for Water Penetration of Exterior Metal Roof Panel Systems by Uniform Static Air Pressure Difference
- ASTM E1680 Standard Test Method for Rate of Air Leakage Through Exterior Metal Roof Panel Systems

- ASTM G23 Standard Practice for Operating Light-Exposure Apparatus (Carbon-Arc Type) With and Without Water for Exposure of Nonmetallic Materials

Underwriters Laboratories, Inc. (UL) - UL 580 Tests for Uplift Resistance of Roof Assemblies

Sheet Metal and Air Conditioning Contractors' National Association, Inc. (SMACNA) - Architectural Sheet Metal Manual

The National Roofing Contractors Association (NRCA) - Roofing and Waterproofing Manual (including Construction Details) and Handbook of Accepted Roofing Knowledge

Englert Inc. - Manufacturer's Construction Details Handbook

American Institute of Steel Construction (AISC) - Steel Construction Manual

American Iron and Steel Institute (AISI) - Cold Formed Steel Design Manual

ENVIRONMENTAL CONSIDERATIONS

Metal building components are usually presumed to be recyclable upon final building demolition.

PHYSICAL/CHEMICAL PROPERTIES

Wind uplift resistance (UL 580) - Class 90

Permacolor 2000 Physical Properties

- Specular gloss (ASTM D523) - 35% + 5 reflectance specular at a glossmeter angle of 60 degrees
- Humidity resistance (ASTM D2247) - No blistering, cracking, peeling, loss of gloss or softening of finish after 3000 hours aluminum, 1000 hours coated steel of exposure at 100% humidity at 95 degrees F (35 degrees C)
- Salt spray resistance (ASTM B117) - Samples diagonally scored and subjected to 5% - at 95 degrees F (35 degrees C), neutral salt spray, then taped with Scotch #610 cellophane tape: 3000 hours aluminum, 1000 hours coated steel, no blistering and no loss of adhesion greater than 1/8 from score line
- Chemical resistance (ASTM D1308) - No effect after 24 hour exposure of a 10% solution of hydrochloric acid, and 18-hour exposure to 20% sulfuric acid including exposure to 10% muriatic acid and nitric acid fumes
- Chalking resistance (ASTM D659) - No chalking greater than #8 rating test procedure after a 3000 hour weatherometer test
- Color change (ASTM D822, ASTM G23, ASTM D2244 South Florida 10 years) - Finish coat color change shall not exceed 5 NBS units after 3000 hour weatherometer test

- Abrasion resistance (ASTM D968) - Shall pass 60 liters/mil minimum of falling sand, Method A Test reports and additional product information are available from manufacturer upon request.

FIRE PERFORMANCE

Surface burning characteristics (ASTM E84) - Flamespread index of 25 or less (Class 1 or Class A depending on code).

5. Installation

PREPARATORY WORK

Handle and store product according to Englert recommendations. Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact. Store materials protected from exposure to harmful environmental conditions and at temperature and humidity conditions recommended by the manufacturer. Store materials above ground, on skids. Protect material with waterproof covering and allow sufficient ventilation to prevent condensation buildup or moisture entrapment on the materials.

METHODS

Comply with the following:

- SMACNA Architectural Sheet Metal Manual
- NRCA Roofing and Waterproofing Manual and Handbook of Accepted Roofing Knowledge
- Manufacturer's Construction Details Handbook
- AISC Steel Construction Manual
- AISI Cold Formed Steel Design Manual

Install metal panel system plumb, level and straight over a layer of 30 lb felt, (dry) with a minimum 6" (152 mm) horizontal lap and 12" (305 mm) end lap. Install standing or batten seam equidistant and aligned for corners, hips, valleys, mullions and columns in accordance with architectural design parameters indicated on drawings. Install panel system in accordance with approved shop drawings.

Make no face penetrations or perforations in metal panels by fasteners except as indicated or with specific approval by Architect. Install all panels continuous from ridge to eaves with no horizontal end laps. End lap all flashing and trim at least 3" (76 mm).

Miter and solder all gutters, and seal with a lining of ice and water shield membrane applied at the laps to provide watertight condition. Apply sealant at all butt joints. Counter-flash or paint to match all soldered areas.

Treat all valleys with a layer of ice and water shield spread out at least 24" (610 mm)



each side from the center of the valley, on both sides, before applying valley flashing. End lap at least 6" (152 mm) at joints.

Peel off any strippable film on flashing components as they are installed. Touch up all minor scratches and spots. Remove and legally dispose of all debris resulting from installation.

Complete installation recommendations are available from the manufacturer.

PRECAUTIONS

Do not proceed with metal panel installation until adjoining areas scheduled for stucco treatment have been stuccoed and washed down. Do not wash down acid residues from stucco directly over the metal panels.

Exercise care during installation to avoid damage or scratching of the panels. Avoid walking on metal roof panels after installation is completed.

Protect installed work from damage due to subsequent construction activity on the site.

BUILDING CODES

Current data on building code requirements and product compliance may be obtained from Englert technical support specialists. Installation must comply with the requirements of all applicable local, state and national code jurisdictions.

6. Availability & Cost

AVAILABILITY

Contact manufacturer.

COST

Budget installed cost information may be obtained from the manufacturer.

7. Warranty

Standard Warranty Periods

- Finish warranty, Permacolor 3500 - 35 years
- Finish warranty, Permametallc 2000 - 20 years
- Galvalume (AZ50) - 20 years
- Galvalume (AZ55) - 25 years
- Galvanized (G90) - No warranty
- Aluminum (all alloys) - No warranty

Specify desired period and coordinate warranty with material and finish selection.

8. Maintenance

Periodic inspection to ensure building system integrity is always advisable. Occasional pressure washing with a mild soap or detergent solution may be desirable depending on local service environment.

9. Technical Services

A staff of factory trained service personnel offers design assistance and technical support. For technical assistance, contact Englert Inc.

10. Filing Systems

- SmartBuilding Index (SBI)
- MANU-SPEC®
- Sweet's Catalog Files
- Additional product information is available from the manufacturer upon request.