HISTORIC AND DESIGN REVIEW COMMISSION

September 16, 2020

HDRC CASE NO:	**2020-385**
ADDRESS:	233 LOVERA BLVD
LEGAL DESCRIPTION:	NCB 9004 BLK 2 LOT 71 THRU 73
ZONING:	R-4,H
CITY COUNCIL DIST.:	1
DISTRICT:	Olmos Park Terrace Historic District
APPLICANT:	Chase Thalman/SAConstruct LLC
OWNER:	ALBERT JOHN F & SHAWN N
TYPE OF WORK:	Replacement of asphalt shingles with standing seam metal roof
APPLICATION RECEIVED:	August 25, 2020
60-DAY REVIEW:	Not applicable due to City Council Emergency Orders
CASE MANAGER:	Stephanie Phillips

REQUEST:

The applicant is requesting a Certificate of Appropriateness for approval to replace the existing composition shingle roof with a new metal roof on the primary structure.

APPLICABLE CITATIONS:

Historic Design Guidelines, Chapter 2, Exterior Maintenance and Alterations

3. Materials: Roofs
A. MAINTENANCE (PRESERVATION)
i. *Regular maintenance and cleaning*—Avoid the build-up of accumulated dirt and retained moisture. This can lead to the growth of moss and other vegetation, which can lead to roof damage. Check roof surface for breaks or holes and flashing for open seams and repair as needed.
B. ALTERATIONS (REHABILITATION, RESTORATION, AND RECONSTRUCTION)
i. *Roof replacement*—Consider roof replacement when more than 25-30 percent of the roof area is damaged or 25-30 percent of the roof tiles (slate, clay tile, or cement) or shingles are missing or damaged.
ii. *Roof form*—Preserve the original shape, line, pitch, and overhang of historic roofs when replacement is necessary.
iii. *Roof features*—Preserve and repair distinctive roof features such as cornices, parapets, dormers, open eaves with exposed rafters and decorative or plain rafter tails, flared eaves or decorative purlins, and brackets with shaped ends.
iv. *Materials: sloped roofs*—Replace roofing materials in-kind whenever possible when the roof must be replaced. Retain and re-use historic materials when large-scale replacement of roof materials other than asphalt shingles is required (e.g., slate or clay tiles). Salvaged materials should be re-used on roof forms that are most visible from the public right-of-way. Match new roofing materials to the original materials in terms of their scale, color, texture, profile, and style, or select materials consistent with the building style, when in-kind replacement is not possible.
v. *Materials: flat roofs*—Allow use of contemporary roofing materials on flat or gently sloping roofs not visible from the public right-of-way.
vi. *Materials: metal roofs*—Use metal roofs on structures that historically had a metal roof or where a metal roof is appropriate for the style or construction period. Refer to Checklist for Metal Roofs on page 10 for desired metal roof specifications when considering a new metal roof. New metal roofs that adhere to these guidelines can be approved administratively as long as documentation can be provided that shows that the home has historically had a metal roof.
vii. *Roof vents*—Maintain existing historic roof vents. When deteriorated beyond repair, replace roof vents in-kind or with one similar in design and material to those historically used when in-kind replacement is not possible.

FINDINGS:

a. The property located at 233 Lovera Blvd is a 1-story single family home constructed circa 1935 in the Minimal Traditional style. The property first appears on the 1951 Sanborn Maps. The structure features a

limestone veneer façade, a side gable shingle roof, a central chimney, and ganged one over one wood windows. The structure is contributing to the Olmos Park Terrace Historic District.

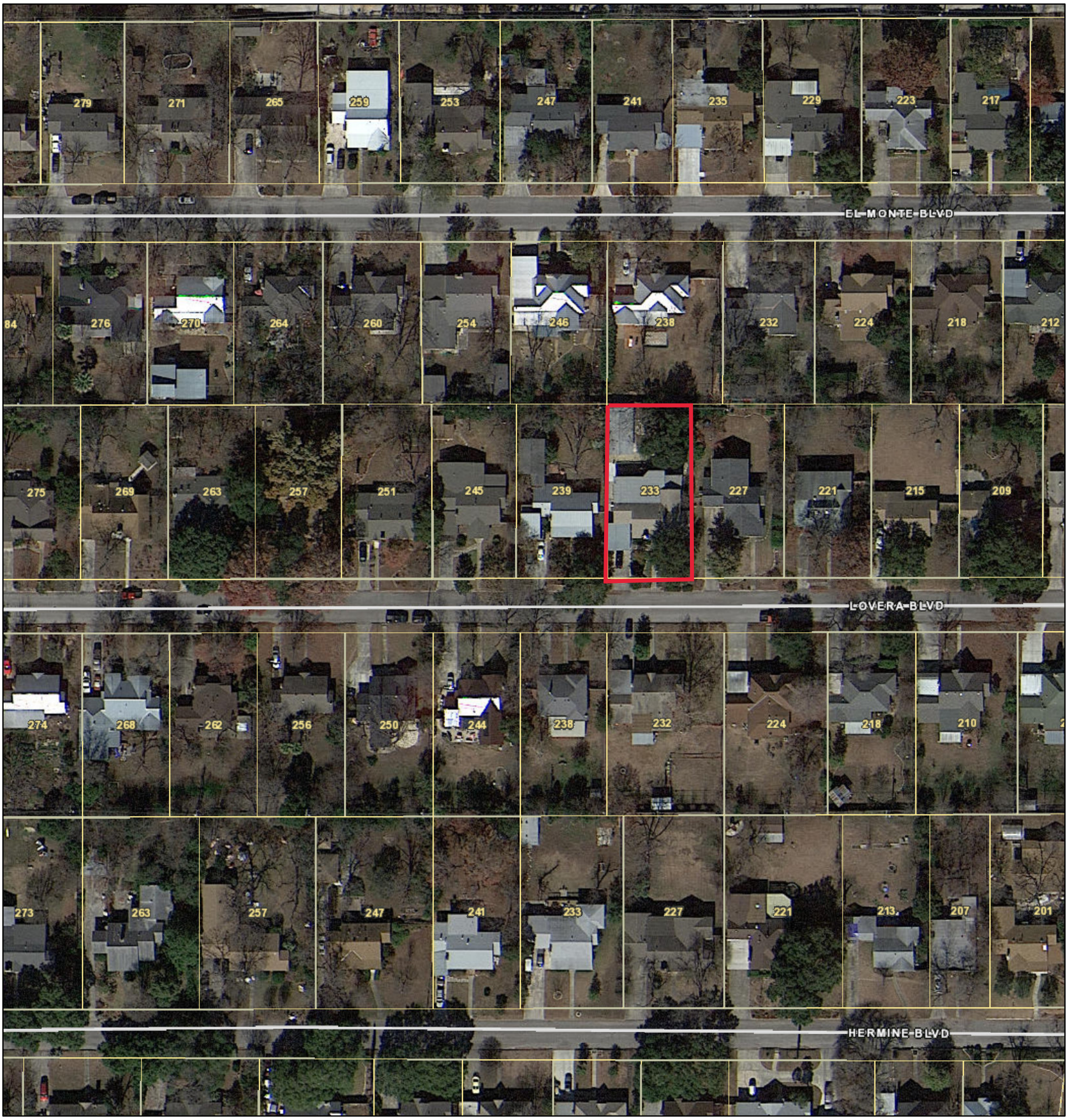
b. Site-formed metal and metal panels were a widely used roofing material in San Antonio in the late 19th century following the arrival of the railroad. Desired for its low maintenance and durability, it was often applied directly over cedar shake or other existing roofing materials. It continued to be a common roofing material for homes through the early part of the 20th century until factory-produced asphalt shingle products became widely available. By the 1920's, asphalt shingles were a popular roofing material due to its fire resistance, ability to be customized in regard to color and shape, and relatively low costs of manufacturing and transportation.
c. According to Sanborn Maps, most homes in the Olmos Park Terrace Historic District were originally constructed with composition shingle roofs. Over the years, the use of metal roofs as a replacement material has become popular within the district.
d. According to the Guidelines for Exterior Maintenance and Alterations 3.B.vi., metal roofs should only be installed on structures that historically had a metal roof or where a metal roof is appropriate for the style, construction period, or district. While staff finds that a metal roof is not a material rooted in the historic precedent of the development of the neighborhood, staff finds that the installation of a standing seam metal roof that meets staff's stipulations in the recommendation is appropriate for the Olmos Park Terrace Historic District specifically due to the prevalence of metal roofs used as appropriate replacement materials, including on the primary structure directly adjacent to 233 Lovera Blvd.

RECOMMENDATION:

Staff recommends approval of the roof replacement based on findings a through d with the following stipulations:

i. That the applicant installs a standing seam metal roof featuring panels that are 18 to 21 inches wide, seams that are 1 to 2 inches high, a crimped ridge seam, and a standard galvalume finish. Panels should be smooth without striation or corrugation. Ridges are to feature a double-munch or crimped ridge configuration; no vented ridge caps or end caps are allowed. An on-site inspection must be scheduled with OHP staff prior to the start of work to verify that the roofing material matches the approved specifications. All chimney, flue, and related existing roof details must be preserved.

City of San Antonio One Stop



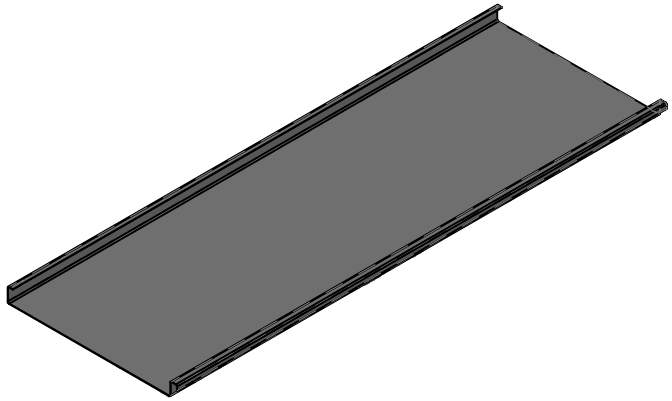
September 11, 2020

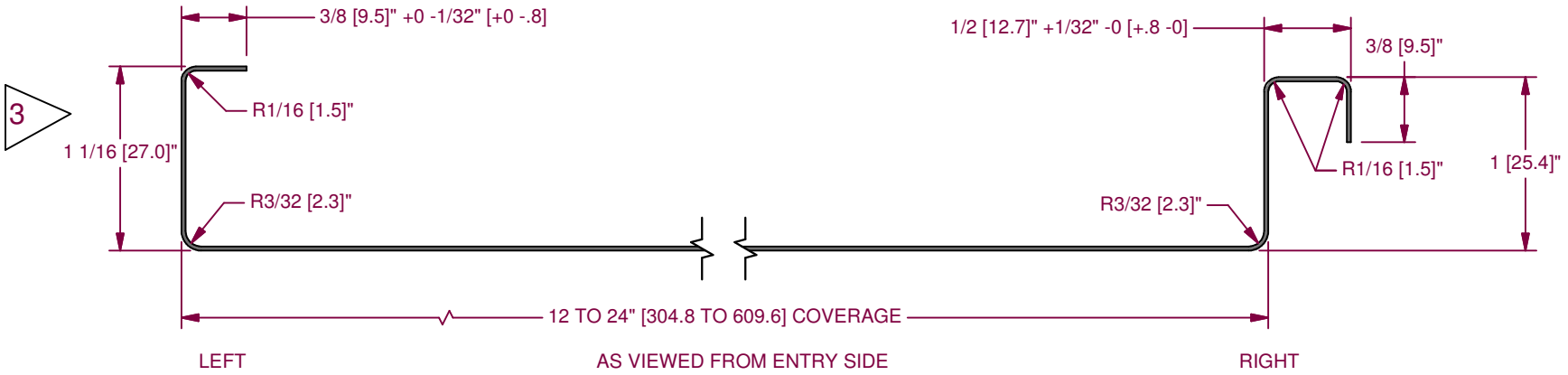
1:1,000

0 0.01 0.02 0.04 mi

0 0.0175 0.035 0.07 km


WILLIAMSON
ROOFING
METAL • TILE • SHINGLES • COMMERCIAL
830-249-7939





NOTES:
1. MATERIAL USAGE: APPROX. 3" [76.2]
2. DUAL DIMENSIONS: Inch [mm]

MATERIAL	PAINTED STEEL/PAINTED ALUMINUM/COPPER
FINISH	NONE

REVISION HISTORY

REV	ECR NO.	DATE	RELEASED BY
1	ADDED R DIM	07/01/2009	JD
2	ADDED TOL.	07/22/2011	JD
3	LEG WAS 1"	05/01/2012	JD

TOLERANCES
.XX = ± .01
.XXX = ± .005
FRACTION = ± 1/32"
ANGLE = ± 1/2°

NEW TECH MACHINERY CORP.

DRAWN BY	JD
DATE	04/24/2008
CHECK BY	RS
DATE	04/24/2008
PART NAME	SS100 PANEL PROFILE
PART NUMBER	SP1-100P
SHEET	1 OF 1
REVISION	3

ArcelorMittal

Unpainted Galvalume™ Steel Fact Sheet

A Superior Building Material

ArcelorMittal GalvalumeTM is a coated steel product that has proven its superior performance as a building material in extended field testing in a diverse range of corrosive environments. Its unique combination of durability, edge protection, and resistance to corrosion is at least twice that of galvanized steel.

ArcelorMittal produces Galvalume coated steel sheet in the US and Canada and is the exclusive producer in Canada. The Galvalume coating is an alloy composed of 55% aluminum and approximately 45% zinc by weight. It is applied on both sides of cold-rolled steel sheet using a precise continuous hot dip process. The result is a highly corrosion resistant coated steel that combines the barrier protection and extended durability of aluminum with the galvanic protection of zinc.

Galvalume also offers exceptional heat reflectivity properties, resulting in a lower energy load on buildings and improved interior comfort.

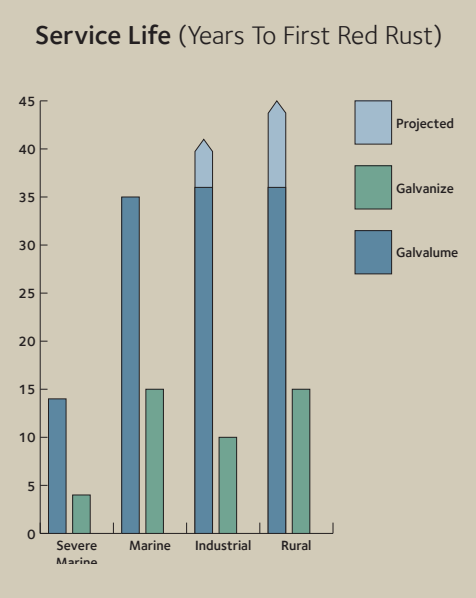
From an aesthetic perspective, the fine spangle and gentle sheen of unpainted Galvalume offers a very attractive appearance.

Product Characteristics

Proven Superior Corrosion Resistance

Galvalume steel sheet can be expected to provide at least twice the service life of traditional zinc-coatings of similar coating thickness under the same exposure conditions. This has been proven by actual exposure tests using flat coupon samples, conducted over 36 years in the U.S.A. and 15 years in Canada.

The tests covered a variety of environments ranging from rural to severe marine. The following chart, comparing the performance of Galvalume and galvanized of equal coating thickness, shows that Galvalume has at least twice the service life versus galvanized.



Superior Cut Edge Protection

The aluminum and zinc in the coating combine to prevent corrosion at exposed edges. The zinc component of the Galvalume coating provides galvanic cut edge protection, while the aluminum component remains as a continuing barrier to corrosion.

Heat Reflectivity and Solar Reflectance (Energy Efficiency)

Bare, unpainted Galvalume has undergone extensive testing by the Oak Ridge National Laboratory (ORNL), to determine its solar reflective performance. Test results have qualified Galvalume as an approved roof product by the U.S. EPA – ENERGY STAR Program, for both low-slope and high-slope applications.

On newly manufactured Galvalume, heat reflectivity was rated above the minimum U.S. EPA requirement of 0.65. For weathered roofs over three years of age, the overall solar reflectance also exceeded the minimum U.S. EPA requirement of 0.50 for maintenance reflectivity.

Enhanced Surface Treatment

ArcelorMittal offers a variety of surface treatments suited to specific manufacturing and application needs.

For unpainted applications, bare Galvalume Plus™ is available. Galvalume Plus has a clear, organic resin coating applied to both sides of Galvalume steel sheet, can be roll-formed without lubricants, and is delivered to the job site with an oil-free surface. See our Fact Sheet on Galvalume Plus for more information.

Unpainted Galvalume can also be passivated with a chemical treatment. With this treatment, Galvalume must be oiled with either vanishing or slushing oil.

If color is specified, Galvalume steel sheet can be ordered as prepainted coil. This option offers an additional layer of paint protection in a wide assortment of attractive colors and paint systems. See our Fact Sheet on Prepainted Galvalume Steel for more information.

Applications

Galvalume has many proven applications in Commercial, Industrial, Institutional, Agricultural, and Residential Construction.

- Low-slope structural roofing
- High-slope architectural roofing
- Cladding and siding
- Quonset Buildings
- Pre-engineered Steel Buildings
- Building Accessories
- Construction Tubular
- Structural Steel Framing
- Appliance Components
- Automotive Parts

Points to Remember

Compatibility with Dissimilar Metals

All materials that can be used in contact with galvanized steel sheet can be used with complete safety in contact with Galvalume. However, as with galvanized, contact of lead or copper with Galvalume steel must be avoided, as it can result in accelerated corrosion.

Galvalume and galvanized can be combined on the same building project, although it is not advisable because galvanized will likely exhibit corrosion before Galvalume. As a design practice, when both materials are in contact, always use Galvalume downstream from unpainted galvanized steel, otherwise accelerated corrosion of the galvanized can occur.

Handling and Storage

To preserve the surface, handling should only be carried out using clean, dry gloves. Do not slide sheets over rough surfaces or each other.

As with galvanized or painted steel products, bundles of Galvalume steel sheets or products made from Galvalume steel in all finishes must be kept dry in transit. After transit, material should then be covered and stored off the ground, at a slight angle, to prevent water or condensation from being trapped between adjacent sheet surfaces.

If the bundles become wet, sheets should be separated, wiped with a clean cloth without delay and then placed so that air circulation completes the drying process. These procedures are recommended to avoid possible deterioration of the coating, which could result in non-uniform appearance.

Joining and Sealing

Recommended fasteners to be used on Galvalume steel sheet should have washers made of Neoprene or a similar material. (See table below). Fasteners containing lead or copper should not be used. Lead headed nails and lead washers should also not be used on Galvalume.

For sealing, neutral cure silicone sealants should be used. Sealants containing acetic acid or amines should not be used on Galvalume steel. Check with your sealant supplier for brand name recommendations.

Guidelines for Selection of Fasteners for use with Prepainted Galvalume Steel Sheet

Rural Atmosphere	Moderate Industrial Atmostphere	Heavy Industrial or Marine Atmosphere
1. 300 Series stainless steel or 300 Series capped-stainless steel washer combination	1. 300 Series stainless steel or 300 Series capped-stainless steel washer combination	1. 300 Series stainless steel or 300 Series capped-stainless steel washer combination
2. Aluminum-zinc alloy cast or capped head used with neoprene-coated aluminum or Type 303 stainless washer	2. Aluminum-zinc alloy cast or capped head used with neoprene-coated aluminum or Type 303 stainless washer	2. Aluminum-zinc alloy cast or capped head used with neoprene-coated aluminum or Type 303 stainless washer
3. Nylon capped head over zinc coated carbon steel shank	3. Nylon capped head over zinc coated carbon steel shank	3. Nylon capped head over zinc coated carbon steel shank
4. 1.0 mil zinc coated steel, with additional organic or inorganic coating	4. 1.6 mil zinc coated steel, with additional organic or inorganic coating	4. 1.6 mil zinc coated steel, with additional organic or inorganic coating

Product Availability

Sizes Available

Thickness:
0.012" (0.30mm) to 0.090" (2.28mm)

Width: 49.5" (1257mm) maximum

Qualities

ASTM A792/792M
Commercial Steel
Structural Steel
Special Forming Steel
Helical Steel

Standard Coating Weights

(Minimum Triple Spot)

AZ30, AZ50, AZ55, AZ60, & AZ 70 (0.30, 0.50, 0.55, 0.60, & 0.70 oz/ft^2 respectively)

AZM100, AZM150, AZM165, AZM180, & AZM210 (100, 150, 165, 180, & 210 g/m^2 respectively)

Galvalume sheet steel can also be ordered as a prepainted coil. Prepainted Galvalume offers an additional layer of paint protection in a wide assortment of attractive colours and paint systems. See our Fact Sheet on Prepainted Galvalume steel for more information.

Special Customer Note:
The Information in this Fact Sheet is provided for the general guidance of customers and does not imply any warranty. Information provided is based on research conducted by ArcelorMittal and other organizations. Interpretation and/or use of this information is the sole responsibility of the user.

ArcelorMittal Dofasco
P.O. Box 2460
Hamilton, ON
L8N 3J5

t 1-800-363-2726
e customer_inquiries@dofasco.ca

ArcelorMittal USA
1 South Dearborn St.
Chicago, IL
60603

t 1-800-422-9422
e constructioninquiries@arcelormittal.ca

www.arcelormittal.com

GALVALUME™ STEEL

BERRIDGE FINISHES AND MATERIAL SPECIFICATIONS

All Berridge applied colors are premium fluoropolymer coatings produced with full strength Kynar 500® or Hylar 5000® resin. This coating affords maximum exterior durability due to its outstanding weatherability and resistance to ultraviolet radiation. The factory applied coating is fully warranted for 20 years against cracking, peeling and fading (not to exceed 5 N.B.S. units). These are the highest quality exterior finishes available among competitive products.

Berridge Metallic Finishes

Metallic colors are processed and finished on Berridge's continuous coil-coating line. These proprietary finishes are available for all factory products, flat sheet and coil. Flat sheets and coils in metallic finishes are available to sheet metal companies for fabrication of special profiles, shapes or flashing. Metallic colors are directional and paint lot sensitive. Large orders should be placed at the same time to avoid mixing paint lots. Berridge Metallic Finishes* include:

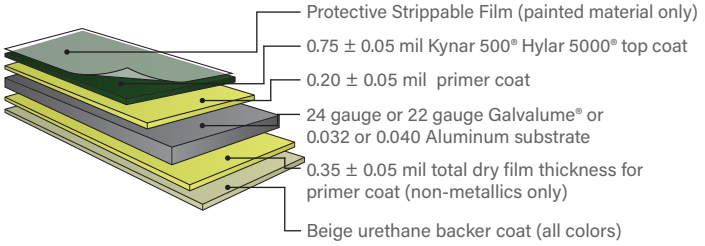
Copper-Cote™
Champagne
Preweathered Galvalume®
Antique Copper-Cote
Zinc-Cote™
Lead-Cote™

* Metallic and Premium Finishes require a nominal surcharge.

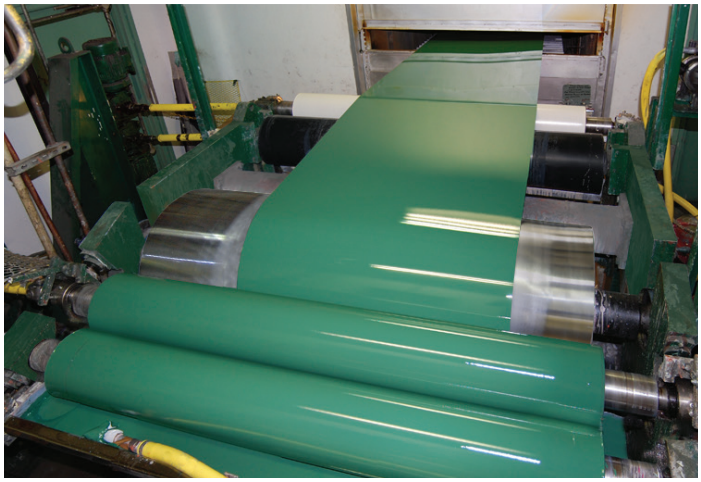
Acrylic-Coated Galvalume

Acrylic-Coated Galvalume® (ACG) is a coated sheet product that combines the corrosion resistance of Galvalume® steel sheet with a clear acrylic coating that is applied over Galvalume® substrate. The surface treatment is essentially invisible but it provides excellent characteristics to enhance the fabrication, performance and aesthetics of the installed Galvalume. These enhancements include: good roll-formability without the need for oils, excellent transit and field-storage performance without staining, dramatic decrease in finger printing or foot printing during installation and long term surface brightness when exposed to the environment. It is applied at the mill by roll-coating a uniform, thin film of a water-base acrylic solution onto both surfaces of the sheet.

Coating System



Notes:
1. Special colors and finishes are available. Please consult Berridge for pricing and delivery.
2. Berridge metallic and premium finishes require a nominal surcharge.
3. Galvalume® is a registered trademark of BIEC International, Inc.
4. Kynar 500® is a registered trademark of Arkema, Inc.
5. Hylar 5000® is a registered trademark of Solvay Solexis.



Berridge owns and operates its own modern continuous coil coating line in San Antonio, Texas, painting both 48" and 42" wide master coils.

Specifications for all 24 & 22 Gauge* Galvalume® & 0.032 & 0.040 Aluminum* Berridge Sheet Metal Products

A. Prefinished metal shall be Aluminum-Zinc Alloy Coated (AZ-50 Galvalume®) Steel Sheet, 24-Gauge or 22-Gauge*, ASTM 792, Grade 40, yield strength 40 ksi min. or 3105 Alloy Aluminum Sheet 0.032 or 0.040*, ASTM B209, H14 temper, yield strength 21 ksi min.

B. Finish shall be full strength Kynar 500® or Hylar 5000® fluoropolymer coating applied by the manufacturer on a continuous coil coating line, with a top side dry film thickness of 0.75 ± 0.05 mil over 0.20 ± 0.05 mil prime coat, to provide a total top side dry film thickness of 0.95 ± 0.10 mil. Bottom side shall be coated with a primer (non-metallics only) and beige urethane coating with a total dry film thickness of 0.35 ± 0.05 mil. Finish shall conform to all tests for adhesion, flexibility and longevity as specified by the Kynar 500® or Hylar 5000® finish supplier.

C. Strippable film shall be applied to the top side of all prefinished metal to protect the finish during fabrication, shipping and field handling. This strippable film MUST be removed immediately before installation.

D. Unpainted metal shall be Aluminum-Zinc Alloy Coated (AZ-55 Acrylic Coated Galvalume®) Steel Sheet, 24-Gauge or 22-Gauge*, ASTM 792, Grade 40, yield strength 40 ksi min., with clear acrylic coating on both sides of material.

E. Field protection must be provided by the contractor at the job site so stacked or coiled material is not exposed to weather and moisture.

F. Flashing may be factory fabricated or field fabricated. Unless otherwise specified, all exposed adjacent flashing shall be of the same material and finish as panel system.

Note: The rolling process of sheet metal results in inherent surface unevenness referred to as "oil-canning". This condition is also caused by several factors including thermal expansion and contraction, dark colors, both medium and high-gloss finishes and uneven substrate. "Oil-canning" in itself is not sufficient cause for material rejection.

* Not all products and colors are available in 22-Gauge or Aluminum substrate. Consult Berridge for product and color availability.

For complete specifications visit www.berridge.com

BERRIDGE MANUFACTURING COMPANY
KYNAR 500® HYLAR 5000® COLOR FINISHES

(210) 650-3050
www.berridge.com

Standard Colors

Shasta White | Parchment | Almond | Sierra Tan | Buckskin

Medium Bronze | Aged Bronze | Copper Brown | Dark Bronze | Terra-Cotta

Deep Red | Colonial Red | Burgundy | Bristol Blue | Royal Blue

Patina Green | Hemlock Green | Teal Green | Forest Green | Evergreen

Hartford Green | Cityscape | Zinc Grey | Charcoal Grey | Matte Black

Premium Colors

Berridge premium colors require a nominal surcharge.

Natural White | Award Blue

Natural Metal Finish

Berridge Acrylic-Coated Galvalume® is a coated sheet product that combines the corrosion resistance of Galvalume® steel sheet with a clear, organic resin applied to the top side and bottom side of Galvalume® substrate.

Acrylic-Coated Galvalume®

Metallic Colors

Berridge metallic colors are premium finishes which require a nominal surcharge.

Champagne | Copper-Cote™ | Antique Copper-Cote

Zinc-Cote™ | Lead-Cote™ | Preweathered Galvalume®

Please consult the BMC Technical department at Technical@Berridge.com for LEED and Energy Star compliance information.
Due to limitations in the printing process, please request actual color chips for accurate color viewing.

ENERGY STAR PARTNER

Energy Star is only valid in the United States.

Berridge Stock Availability and Color Details

S - Stock Color N - Non-Stocking Color N/A - Not Available

Standard Colors	24 Gauge		22 Gauge*		0.032 Aluminum*		0.040 Aluminum*		SR	EM	SRI
	48″	42″	48″	42″	48″	42″	48″	42″			
Aged Bronze	S	S	S	N	S	N	S	N/A	0.30	0.86	30
Almond	S	S	S	N	S	N	S	N/A	0.65	0.83	77
Bristol Blue	S	S	N	N	N	N	N	N/A	0.33	0.85	33
Buckskin	S	S	S	N	N	N	N	N/A	0.32	0.83	32
Burgundy	S	S	N	N	N	N	N	N/A	0.29	0.85	29
Charcoal Grey	S	S	S	N	N	N	N	N/A	0.31	0.84	30
Cityscape	S	S	N	N	N	N	N	N/A	0.48	0.85	54
Colonial Red	S	S	N	N	N	N	N	N/A	0.33	0.85	34
Copper Brown	S	S	N	N	N	N	N	N/A	0.30	0.85	29
Dark Bronze	S	S	S	N	S	N	S	N/A	0.28	0.85	27
Deep Red	S	S	N	N	N	N	N	N/A	0.39	0.84	41
Evergreen	S	S	N	N	N	N	N	N/A	0.30	0.83	29
Forest Green	S	S	S	N	N	N	N	N/A	0.25	0.83	22
Hartford Green	S	S	N	N	N	N	N	N/A	0.28	0.83	26
Hemlock Green	S	S	N	N	N	N	N	N/A	0.31	0.83	30
Matte Black	S	S	N	N	N	N	N	N/A	0.26	0.89	26
Medium Bronze	S	S	S	N	S	N	S	N/A	0.31	0.85	31
Parchment	S	S	S	N	S	N	S	N/A	0.52	0.83	58
Patina Green	S	S	N	N	N	N	N	N/A	0.34	0.86	36
Royal Blue	S	S	N	N	N	N	N	N/A	0.26	0.85	25
Shasta White	S	S	S	N	S	N	S	N/A	0.60	0.84	70
Sierra Tan	S	S	S	N	S	N	S	N/A	0.39	0.85	42
Teal Green	S	S	N	N	N	N	N	N/A	0.27	0.87	27
Terra - Cotta	S	S	N	N	N	N	N	N/A	0.32	0.83	31
Zinc Grey	S	S	S	N	S	N	S	N/A	0.39	0.85	42
Acrylic-Coated Galvalume®	S	S	S	S	N/A	N/A	N/A	N/A	0.67	0.20	59
Premium Colors*											
Award Blue	S	S	N	N	N	N	N	N/A	0.17	0.83	11
Natural White	S	S	N	N	N	N	N	N/A	0.76	0.84	93
Metallic Colors*											
Antique Copper-Cote	S	S	N	N	N	N	N	N/A	0.33	0.84	34
Champagne	S	S	N	N	N	N	N	N/A	0.40	0.85	43
Copper-Cote™	S	S	N	N	N	N	N	N/A	0.51	0.85	59
Lead-Cote™	S	S	N	N	N	N	N	N/A	0.46	0.84	50
Preweathered Galvalume®	S	S	N	N	N	N	N	N/A	0.40	0.85	43
Zinc-Cote™	S	S	N	N	N	N	N	N/A	0.53	0.83	59

Testing results for Kynar 500®/Hylar 5000® coil coating applications:

- Specular Gloss: (ASTM D-523) Low and medium gloss only
- Color Uniformity: (ASTM D-2244) Color controlled both instrumentally and visually
- Dry Film Thickness: (ASTM D-7091, ASTM D-1005, NCCA 11-13, 11-14, 11-15) Primer 0.20 ± 0.05 mil, Topcoat 0.75 ± 0.05 mil
- Hardness: (ASTM D-3363, NCCA 11-12, Eagle Turquoise Pencils) HB Minimum
- Adhesion (X-Cut): (ASTM D-3359) No adhesion loss
- Adhesion (Crosshatch): (ASTM D-3359) No adhesion loss
- Abrasion Coefficient: (ASTM D-968) 100 liters/mil topcoat
- Direct Impact Flexibility: (ASTM D-2794, Gardner Impact Tester, 1/10″ Distortion) Excellent, no removal
- Reverse Impact Flexibility: (NCCA Spec. 11, ASTM D-2794, Gardner Impact Tester, 5/8″ ball Impact force in inch pounds equal to metal thickness) Excellent, no cracking or loss of adhesion
- Formability: (ASTM D-4145, 180° T-Bend on 1/8 Mandrel) No cracks or loss of adhesion
- Erosion: (20 years, 45° South Florida) Maximum 15% loss
- Humidity Resistance: (ASTM D-2247) Passes 2000 hours on Galvalume® and 4000 hours on Aluminum
- Acid Resistance: (ASTM D-1308, Proc. 3.1.1, 10% Sulfuric Acid spot test, 24 hour exposure) Excellent, no effect
- Salt Spray Resistance: (ASTM B-117) Passes 2000 hours on Galvalume® and 4000 hours on Aluminum
- Alkali Resistance: (ASTM D-1308, Proc. 5.2, 10% Sodium Hydroxide, 24 hour exposure) Excellent, no effect
- Detergent Resistance: (ASTM D-2248, 72 hours immersion in 3% solution at 100°F) Excellent, no effect
- Resistance to Acid Pollutants: (ASTM D 1308 Proc. 3.1.1, 24 hour exposure 10% HNO^3 vapors) Excellent, no effect
- Weathering - Color Retention: (ASTM D-2244, 20 years, 45° South Florida) Maximum 5 NBS units color change
- Weathering - Chalk Resistance: (ASTM D-4214, 20 years, 45° South Florida) Not worse than No. 8 rating

Notes:
1. ASTM - American Society for Testing Materials
2. NCCA - National Coil Coaters Association
3. Galvalume® is 55% Aluminum-Zinc alloy coated sheet steel and is a registered trademark of BIEC International Inc.

S Stock Color; Not subject to a minimum order
N Non-Stock Color; Subject to inventory on hand; 4,500 sf minimum order for 22 Gauge and 0.032 & 0.040 Aluminum
N/A Not Available
* Consult BMC on product availability for 22 Gauge and 0.032 and 0.040 Aluminum. Premium and Metallic colors are subject to a surcharge, contact BMC for additional information

BMC SAN ANTONIO BRANCH FACILITY
6515 Fratt Rd.
San Antonio, TX 78218
210-650-3050
Fax: 210-650-0379

BMC HOUSTON BRANCH FACILITY
1720 Maury St.
Houston, TX 77026
713-223-4971
Fax: 713-236-9422

BMC DALLAS BRANCH FACILITY
2015 California Crossing
Dallas, TX 75220
972-506-8496
Fax: 972-506-8478

BMC DENVER BRANCH FACILITY
7505 E. 41st Ave.
Denver, CO 80216
303-322-3703
Fax: 303-322-3810

BMC CHICAGO BRANCH FACILITY
1175 Carolina Dr.
W. Chicago, IL 60185
630-231-7495
Fax: 630-231-7520

BMC RALEIGH BRANCH FACILITY
1100 Corporation Pkwy #129
Raleigh, NC 27610
919-537-5705
Fax: 210-650-0379

BMC PHOENIX BRANCH FACILITY
5717 W. Washington St.
Phoenix, AZ 85043
602-385-1237
Fax: 210-650-0379

BMC ATLANTA BRANCH FACILITY
319 Lee Industrial Blvd.
Austell, GA 30168
770-941-5141
Fax: 770-941-7344

BMC OKLAHOMA CITY BRANCH FACILITY
1400 Exchange Ave.
Oklahoma City, OK 73108
405-248-7404
Fax: 210-650-0379

BMC KANSAS CITY BRANCH FACILITY
1235 Southwest Blvd.
Kansas City, KS 66103
913-227-0855
Fax: 210-650-0379

BERRIDGE CALIFORNIA SALES CORPORATION**
8442 Sultana Ave.
Fontana, CA 92335
562-402-2081
Fax: 562-865-7878

BERRIDGE FLORIDA SALES CORPORATION**
8802 Venture Cove
Tampa, FL 33637
813-335-4505
Fax: 210-650-0379

**Berridge California and Florida Sales Corporations are separate entities from Berridge Manufacturing Company

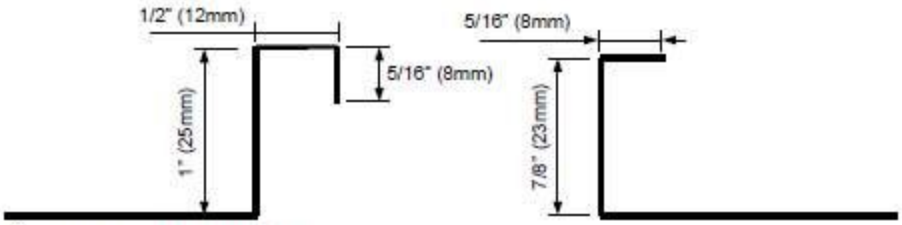
BERRIDGE MANUFACTURING COMPANY
Corporate & Sales Headquarters
2610 Harry Wurzbach San Antonio, TX 78209
210-650-3050 • Fax 210-650-0379

Manufacturing Facility
2201 Rudeloff Rd. Seguin, TX 78155
830-401-5200 • Fax: 830-303-0530

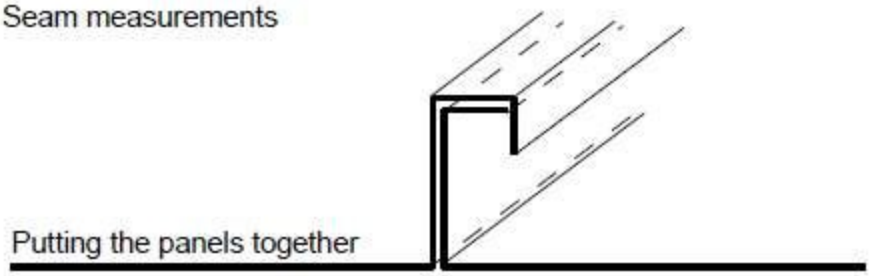
Roofs of Distinction

www.berridge.com

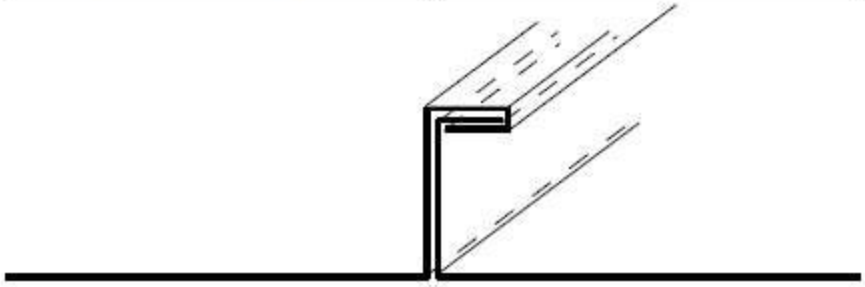
Spring 2018 - Berridge Color Chart - 15M Printed in the U.S.A.



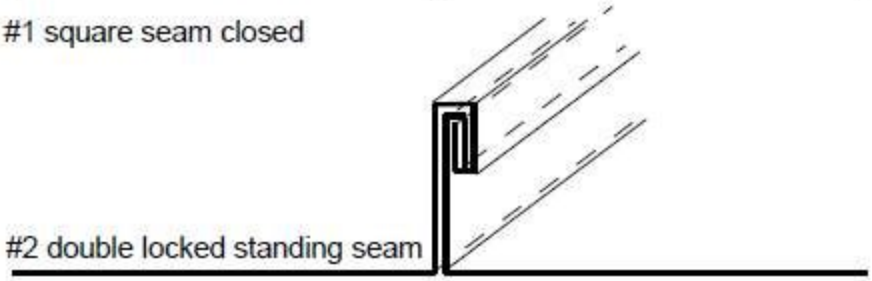
Seam measurements



Putting the panels together



#1 square seam closed



#2 double locked standing seam

Roll formed standing seam panels