The metallic coated steel substrate

The trade name, Galvalume, is used to identify cold-rolled steel sheet products to which a corrosion-resistant aluminum-zinc alloy coating has been applied. It is produced by a process developed by Bethlehem. The Galvalume sheet coating consists of an alloy of 55% aluminum, 43.4% zinc and 1.6% silicon, nominal percentages by weight, as listed in ASTM Designation A792. On a volume basis, the coating is approximately 80% aluminum. The metallic coating is applied by a continuous coating process whereby properly cleaned low-carbon, cold-rolled sheet steel is dipped into a molten aluminum-zinc bath. The result is a highly corrosion-resistant sheet steel that delivers the best protective features characteristic of aluminum and zinc: the barrier protection and long life of aluminum *plus* the sacrificial or galvanic protection of zinc at cut or sheared edges. More than two decades of actual outdoor exposure have demonstrated that Galvalume sheet exhibits this excellent combination of properties.

Premium-quality paint systems

A broad range of paint systems can be applied to this highly corrosion-resistant base to enhance durability, add color and beauty, and provide creative options for design professionals. Bethlehem's well-regarded reputation for premium quality is maintained throughout. Bethlehem has instituted a process control pro-

ram to insure that prepainted Galvalume sheet produced to prescribed standards. The program specifies the methods and materials to be used in each phase of the painting process. Stringent product performance requirements are specified, as well.

Chromate pretreatment: The chromate pretreatment provides a superior combination of flexibility and corrosion resistance compared to other types of pretreatments, like zinc phosphate or complex oxide typically used for prepainted galvanized sheet. Pretreatment coating weights are monitored using X-ray fluorescence measurements to assure optimum quality.

High-performance primers: Rigorous laboratory and atmospheric exposure tests are conducted to insure that primers used on prepainted Galvalume sheet will provide excellent sheared-edge corrosion resistance and paint adhesion in addition to superior long-term performance at flat, formed, and paint-damaged areas. With the use of these Bethlehem-approved primers, edge creep performance along sheared edges of prepainted Galvalume sheet is comparable to that exhibited by conventional prepainted galvanized sheet.

Approved paint systems: Many paint systems have successfully passed Bethlehem's performance requirements and earned their place on the "Approved List." New systems are continually being evaluated to provide the widest choice of advanced paint technologies. Paint suppliers who have developed these high-performance systems include Akzo, Dexter, Glidden, Morton, PPG, Sherwin Williams and Valspar.

Long-lasting beauty and durability: Prepainted Galvalume sheet from Bethlehem, processed according to stringent specifications, is far ahead of competitive materials for architectural applications. Tough laboratory and atmospheric evaluations attest to prepainted Galvalume sheet's excellent long-term performance. With the availability of polyesters, silicone polyesters, fluorocarbons and plastisols, there is a paint system to match your performance and budget needs.

Durable, beautiful finishes – polyesters, silicone polyesters, fluorocarbons, plastisols – in almost any color desired.

High-performance primers are key to long-term corrosion resistance of the paint system.

Chromate pretreatments provide excellent corrosion resistance and adhesion.

An aluminum-zinc alloy coating, 55% aluminum, 43.4% zinc and 1.6% silicon, nominal composition by weight. By volume – 80% aluminum.