



Tata BlueScope Steel's ZINCALUME® steel Jacketing of over 3.5 lakh sqm of piping and equipment at Jamnagar Refinery



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ZINCALUME® steel meets the growing demands of a changing built environment for durability, resilience, and sustainability. It is designed for a wide variety of uses - not only for the distinctive architectural applications such as roofing panels, wall panels, and metal tiles, etc, but also for special applications where corrosion resistance and longevity are of top priority.

The thermal insulation for piping especially in processing industry, plays a vital role. It is highly imperative to maintain the required temperatures of fluids or gases. In applications like hot / cold insulation (e.g. Turbines, Boilers, Pressure Vessels, chemical processes in Refineries / Petrochemicals, Pharma and Metallurgical industries for equipment, Piping & critical cryogenic processes)/ Properly designed Insulation System enables achieving targets set through energy conservation, implementing the designed insulation system, and best erection practices at work site.

Typically, the material used for jacketing are aluminum sheet, aluminized steel, stainless steel, zinc coated steel and 55% aluminum-zinc alloy coated steel such as ZINCALUME® steel. ZINCALUME® steel has excellent impact resistance, higher strength, flexibility and excellent corrosion resistance, and is

considered more economical in meeting some of the requirements in processing industries.

The 55% aluminum-zinc alloy coating provides both long-term corrosion resistance of aluminum, along with galvanic protection of zinc against scratches and cut edges. ZINCALUME® steel jacketing outlasts regular galvanized steel in marine salt spray and industrial atmospheres for a long lasting installation. It provides superior fire resistance and protection compared to aluminum. The special alloy coating of aluminum and zinc combines the best properties of both the metals; it has the corrosion resistance, high temperature oxidation resistance, and heat reflectivity of aluminum with the formability and galvanic protection of cut edges (typical characteristic of zinc).

ZINCALUME® steel roll jacketing is primarily used as a thermal insulation jacketing over piping and equipment



when the design considerations require greater fire resistance than that offered by aluminum, but at a cost that is less than stainless steel. However, it is not recommended for harsh acidic chemical environments. It is also recommended that it should not be allowed to come in contact with lead, copper or water run-off from any copper source. There should not be any contact with cement or concrete at any point.

The pipes are either insulated with Rockwool, or Polyurethane foam as per the process requirement. It is recommended that the density and thickness of insulation should be carefully calculated so that the temperature transmitted to external jacketing does not exceed more than 450°C to 50°C. Though ZINCALUME® steel can perform upto 350°C before alloy metallic coating, embitterment occurs but the resin will flash off by 200°C. Hence, it is recommended that in no case the temperature on external ZINCALUME® steel sheet should exceed 150°C for better performance of the product.

Prominent players in insulation jacketing business like Lloyd Insulations have comprehensive competence to execute industrial Thermal Insulation projects on turnkey basis that live up to international standards. With an

expertise in design, fabrication, supply and installation of advanced insulation, they cater to the special, individual requirements that the projects demand. They have consistently partnered with Tata BlueScope Steel for sourcing the best material for their special requirements. Here is what Suneet P. Munjal, Executive Director, Lloyd Insulations, had to share, "ZINCALUME® steel is one of the best products that provides excellent corrosion resistance, special surface treatment for anti-darkening property, and guaranteed mechanical property. Tata BlueScope always supplies product with brand marking to help clients to check the genuine material at site. Tata BlueScope has supplied material as per the specifications on time, which has enabled us to deliver as per client expectations to meet critical project schedules."

On talking about the project, CR Kulkarni, Chief of Sales & CQH - Tata BlueScope Steel, said, "Jamnagar Refinery has used ZINCALUME® steel G300 AZ185 in various thicknesses. It is expected to give a life ratio of around 1.25:1.50 to that of AZ150 coating in marine and industrial environment. At Jamnagar, till date, around 3.5 lakh square meters of piping and equipment has been jacketed with ZINCALUME® steel and we expect similar requirements in the future."◆