

## Overview :

Protective coatings allow the high-performance structures to be subjected to harsh environments with minimal degradation. The Metalizing process, also known as Hot metal spray, is an intermediate step in the coating process. The aluminum and zinc metal layer become the sacrificial anode instead of the structural steel components. The new metal coat will also act as a physical barrier between the elements and the steel components.

## Metalizing VS Galvanizing:

The most common hot coating solution is zinc dip or galvanizing. This coating is very durable and has an excellent track record. The coating process requires the structure to be designed with this process in mind. Air vents and drain holes must be incorporated into the structure to allow the molten metal to coat all surfaces and then drain properly. The hot application of this process will cause the metal to relax while in the molten bath. This relaxation will distort the structure and, in some cases, break some elements. The size of the bath imposes a hard constrain on the structure size as it needs to be made to be completely submerged.

Metalizing is a spray coating and it is applied much like paint. The relatively low temperature rise of the coated part is rarely causes distortion. Closed sections such as square tubing's or pipes cannot be coated on the interior as the applicator cannot reach the surfaces. This coating process greatly alleviates the design constraints that need to be respected.

The coating durability between metalizing and galvanizing are very comparable in nature. Both have a 10-15 year durability and offer anti-chipping characteristics. Metalizing does offer the advantage of having a uniform coating composition. This means that even if the coating has been worn, it remains just as effective. The galvanising coating effectiveness is non uniform across its depth.

## Coating application:

The application of the metal coating is performed much like a paint. The metal part is first prepped with an aggressive metal blast to create a rough surface.



A large electrical and air source atomizes the aluminum and zinc metal into a spray. This spray travels to the metal surface where it instantaneously solidifies when it contacts the cool metal. The two metals are now mechanically bonded together.

