

ZINGA VS METALLISATION

ZINGA	Performance	Metallisation
Offers a cathodic protection throughout the layer, comparable to the cathodic protection of hot dip galvanising (<i>Prof. Defrancq - University of Ghent</i>).	Active Protection	Offers a cathodic protection throughout the layer.
A layer of zinc salts slowly builds up on the ZINGA surface. This creates a barrier protection for the metal substrate. Next to this, a supplementary barrier protection is provided by the binder in ZINGA. The binder reduces the disintegration of the zinc.	Passive Protection	The 100 % zinc in the thermal zinc spray system is a naked zinc, without the barrier protection of the zinc particles in ZINGA.
Does not need a topcoat. A single layer of ZINGA is in itself a Duplex system offering on one side an ACTIVE-CATHODIC protection, on the other side a PASSIVE-BARRIER protection.	Unique System	Has porosities and the zinc in a metallisation layer is a naked zinc, therefore it is necessary to apply a stabilisation coating before applying one or two topcoats.
ZINGA containing 96 % of zinc remains a flexible layer, and resists to mechanical shocks by being compressed. There is no risk of disbonding (not even around the impact) within a multiple layer of ZINGA. It will never show adhesion failures. Even on thin metal ZINGA remains always the same flexible layer.	Flexibility and Brittleness	The probability exists that abrasion and/or impact (e.g. road debris), due to the brittleness of thermal spray coatings, results in a high incidence chipping and crack propagation, thereby undermining the integrity of the coating surface. Excessive cracking, at any DFT, when applied to thin/flexible metal surfaces. As a result, the thermal zinc spray flakes off and/or cracks due to metal surface flexure, thereby undermining the integrity of the coating coverage.
ZINGA will not break down at sharp corners due to its flexibility.	Sharp corners	Thermal spray coatings tend to break down at sharp corners creating target corrosion sites.
A polymerised ZINGA layer will re-liquidise upon contact with ZINGA, even after 20 years.	Reloading	After application, the zinc will not re-liquidise upon contact with a new layer.
Application		
ZINGA is applied on a clean and rough surface to be obtained by a blasting Sa 2 ½, 12.5 µm with the right blasting material. A complete cleaning to the white metal is not required, a certain degree of adhering rust can be accepted, it will even increase the binding of the ZINGA to the metal surface.	Surface Preparation	The Thermal Spray process requires an extremely clean white blast metal surface (Sa 3) for a proper binding integrity. Extreme and absolute dry surface is required. Fully cleaned surfaces are critical to the Thermal Spray process. Moreover, white cleaning is difficult to obtain over large surface areas. The clean white metal grit blast process (to SSPC-SP-5) can also produce component distortion. Conventionally it is advised to use the Thermal Spray within 30 minutes in the open air and within 6 hours in covered areas.
A ZINGA-coating can be applied everywhere under normal conditions, regardless of temperature and humidity. It does not require highly qualified personnel.	Work Force	Thermal Spray coatings are very labour intensive and have to be performed by highly trained technicians in a workshop.