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REPORT CONCERNING THE RESEARCH INTO THE GALVANIC BEHAVIOUR OF ZINGA ON HOT DIP GALVANIZED STEEL.

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1. *Request :*

At the request of M. Willemot, Zingametall, Eke, the Laboratory of Technical Chemistry has performed an investigation into the galvanic behaviour between ZINGA and hot dip galvanized steel. More precisely the polarity of ZINGA coupled to hot dip galvanized steel was to be controlled.
This problem arises when hot dip galvanized steel is painted with ZINGA and when the coating would be damaged.

2. ***Experimental :***

Two electrodes (2,5 cm^2), one made of hot dip galvanized steel and one of steel covered with ZINGA (50 µm) were short circuited over a zero resistance ammeter in a solution which contained 3,5 % NaCl at 30° C. During the measurement, the current is continuously registrated.
The polarity of the current indicates which electrode represents the anode and which one the cathode.

3. ***Result :***

The steel plate covered with ZINGA remains the anode of the couple (and protects by those means the hot dip galvanized steel) during 164 hours, with an initial current density of 20 µA. The current density decreases after ± 20 h. to 13 µA and slowly falls to 0 after 141 h.
The polarity finally changes after 164 hours and the hot dip galvanized steel becomes the anode.

Zwijnaarde, 21st of October 1986

Dr. Ir. J. DEFRANCQ