

## **TEST REPORT**

Manufacturer: Action Corrosion Pty Ltd. 3/18 Industry Drive, Tweed Heads South

**NSW 2486** 

Ph. 1300 731 311

Location: Sigma Aerospace Tweed Heads South Office

**NSW 2486** 

Test Date: 9 September 2016

SAMPLE DESCRIPTION

- 1) 3mm thick mild steel plate 65mm x 200mm. A third of the sample plate sprayed with two coats of Action Clear aerosol to achieve a (DFT) of 25 microns.
- 2) 3mm thick aluminium plate 50mm x 200mm. A third of the sample sprayed with two coats of Action Clear aerosol to achieve a (DFT) of 25 microns.

**SPECIFICATION** 

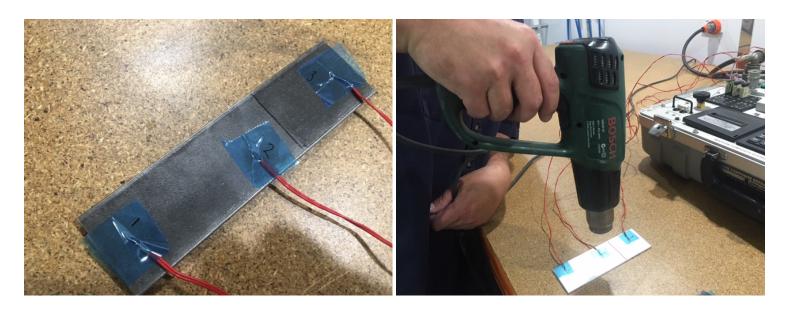
To test the temperature exchange efficiency of a metal surface coated in Action Clear using a temperature pressure composite monitor.

The image below indicates the aluminium plate on the left and mild steel on the right.

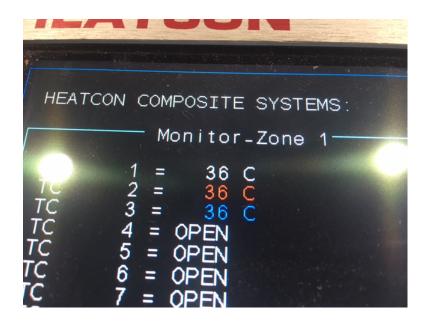




Three sensors were attached to the plate on the far left hand end (sensor 1), the centre (sensor 2) and the right hand section coated with the Action Clear Coat product (sensor 3). Heat was applied to the centre of each panel by way of heat gun. The sample was allowed to rest for a minute then the surface temperatures compared from the three locations.

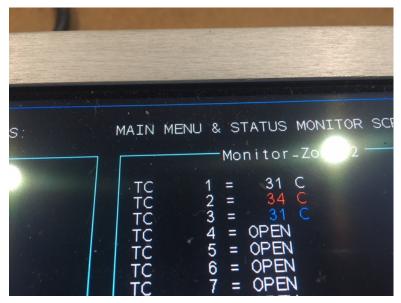


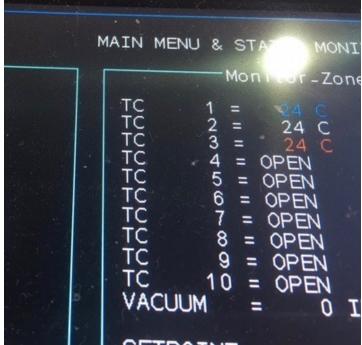
The two images below represent the variations in temperature collected by censors in the three locations on the aluminium panel a minute after heat was applied.





The image below represents the variations in temperature collected by censors in the three locations on the mild steel panel a minute after heat was applied.





Heat exchange was next monitored on cooler temperatures. Both panels were placed in a freezer and sensors attached in the same three locations.



The Aluminium panel when subjected to lower temperatures showed no noticeable temperature variation in any of the three censor locations.

The mild steel panel when subjected to lower temperatures showed no noticeable temperature variation between the three censor locations.

```
MAIN MENU & STATUS MONITOR SCREE

Monitor-Zone 2

TC 1 = 6 C
TC 2 = 6 C
TC 3 = 5 C
TC 4 = OPEN
TC 5 = OPEN
TC 6 = OPEN
TC 7 = OPEN
TC 9 = OPEN
TC 9 = OPEN
TC 10 = OPEN
VACUUM = 0 IN

SETPOINT =
```

## TEMPERATURE VARIABLES IN DEGREES CELSIUS

Sensor 1	Sensor 2	Sensor 3 (Action C/C)
36 (AL)	36	36
24 (AL)	24	23
16 (AL)	16	16
31 (FE)	34	31
24(FE)	24	24
6 (FE)	6	5

## **RESULTS**

Under higher temperatures, it was determined the most explanatory data would come from readings from sensor 1 and sensor 3, as they were at opposing ends of the sample plate and did not have heat directly applied to their area as per sensor 2. When the data from sensors 1 and 3 were compared on six temperature variables, on four occasions the readings were identical. On the other two occasions there was only a one degree celsius temperature difference.

The testing could not establish any difference in heat exchange efficiency between the samples coated in Action Clear and those areas that were not coated with the product. It would appear Action Clear at 25 microns does not inhibit heat exchange in the metals tested.

Richard Ferris
Manager
Sigma Aerospace
(Accredited TesterTemperature/Pressure Composite Monitor.)
26 November, 2015.