

The following Test Report was received from the good folks at

Twistdraai Colliery (SASOL): -

At the Twistdraai Colliery, the vehicles operate at a depth of 1,2Km to 1,6Km. The mine has high levels of Methane gas, where coal can ignite at 204 degC.

The test vehicle was a Toyota Dyna 2 ton truck, and the objective of the test, was to ascertain if the exhaust manifold temperatures, could be reduced, when coated with the appropriate CERAMIC product.

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13 March 2001

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TEST ON TOYOTA DYNA 2 – TON TRUCK (5-104)

OBJECTIVE

Temperatures on ceramic lined exhaust manifold under normal operating conditions in the mine.

TEST CONDITIONS

1. 25 microns ceramic coated exhaust manifold (5-104)
(Sprayed application and one hour cure time)
2. OPTEX THERMO HUNTER Temperature Scanner

3. Bin Load = 1950 Kg (Dead weight) + 400 Kg (5 persons)
4. Trailer Load = 1950 Kg (Dead weight)
5. The maximum vehicle speeds were between 30 and 40 km/hr.

The test was conducted at Twistdraai Central Colliery on 13 March 2001 with the following personnel:-

Pieter Harmse; Frikkie Brits; Marshall Stonehouse; Nick Roux; Rajan Chetty

TEST RESULTS

The maximum temperature of the manifold (at the exhaust flange) was **238° C** (after Ceramic lining **166° C**). This was at the steepest incline of the mine. The highest temperature on Level ground was 142°C. The highest exhaust branch outlet temperature was 129°C

On switching off the engine at the bottom of the shaft the highest temperature recorded after 5 minutes was 89°C.

CONCLUSION

Ceramic coating of the exhaust manifold has decreased the surface temperatures by **72deg C**.