

KERA-COAT TEST - ELEMENTAL SULFUR CORROSION

Due to non-existence of any Standard, Kera-Coat has designed a test to evaluate the behavior of the samples against Sulphur corrosion at Temperature.

We have made some test putting, in a little draw, an small quantity of Elemental Sulfur over the surface of the different coated and uncoated substrates at Temperature.

Substrate Quality

Coated Samples Substrate – Carbon Steel

Uncoated Samples Substrate – Carbon and Austenitic Steel.

Test conditions:

1 - 1 gr. Sulphur – 400°C – 24h

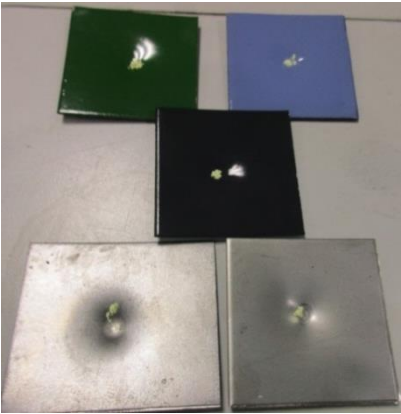
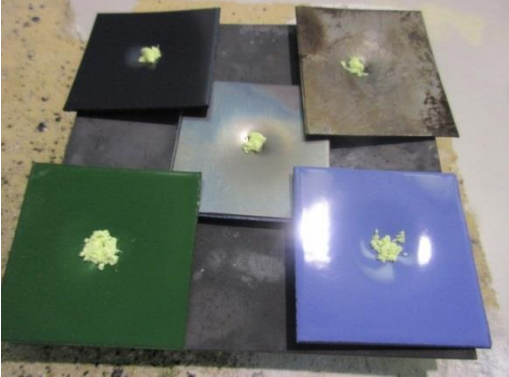

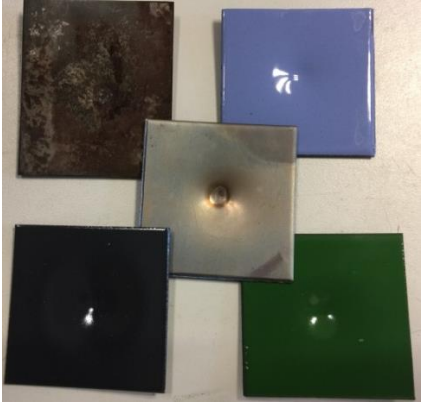
2 - 1 gr. Sulphur – 400°C – 48h

3 - 1 gr. Sulphur – 400°C – 124h

As you can see in the following photos, there was a real attack over the surface of Carbon and Austenitic Steel:



The situation with the coated substrate is completely different:

 <p>Samples Before Test</p>	 <p>1 - 1 gr. Sulphur – 400°C – 24h No Attack over Coating samples Attack over Uncoating samples</p>
 <p>2 - 1 gr. Sulphur – 400°C – 48h No Attack over Coating samples Attack over Uncoating samples</p>	 <p>3 - 1 gr. Sulphur – 400°C – 124h No Attack over Coating samples Attack over Uncoating samples</p>

CONCLUSION

1. There are a Significant Attack over Carbon Steel
2. There are a Slight Attack over Austenitic Steel
3. There aren't Attack over Ceramic Coatings

CERAMIC COATINGS tested constitute an important barrier against elemental Sulphur, and its corresponding acids, corrosion at Temperature.