

Abstract:

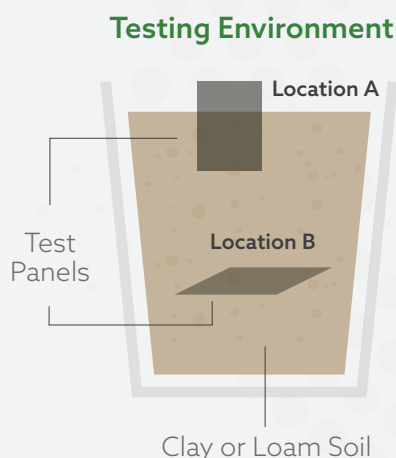
In accordance with ASTM G162, Chemcoaters is executing on-going in-ground testing to determine if InterCoat® ChemGuard offers a performance improvement over traditional, widely utilized, hexavalent chromate passivations.

Testing is being carried out in both clay and loam type soils. Test variables are HDG G40 coated with ① hexavalent chemtreat, ② InterCoat® ChemGuard 315L, and ③ InterCoat® ChemGuard-AG.

Sample retrieval and evaluations were performed at 6 months and one year in-test. At this point in time, all corrosion evaluations are based on visual assessment only. The ChemGuard-coated variables continue to outperform the control through visual evaluation, but there are no signs of perforation in any variable.

Testing will be continued with evaluations in 6 month increments until panels reach perforation. Mass loss calculations will be taken upon final termination of test.

Experimental Design:



2 soil types, clay and loam

Lab-generated utilizing different ratios of sand, garden soil, and clay. Testing is being performed in inert, plastic buckets.

3 variables:

- ① HDG G40 + Hexavalent Chemtreat- Control
- ② HDG G40 + InterCoat® ChemGuard 315L
- ③ HDG G40 + InterCoat® ChemGuard AG

All test panels are 4x6" in size, flat, HDG G40 with all four edges exposed.

Test panels are being tested in two locations within testing media. Location A panels are only half buried in a vertical orientation. Location B panels are completely buried in a horizontal orientation.

Exposure conditions:

- ✓ Compacted clay or loam soil types
- ✓ Testing completed under ambient temperature
- ✓ Routine electrolyte additions consisting of tap water, ensuring level of saturation is at the same height as the soil level.

Sample Retrieval:

Every 6 months

Samples are photographed before and after exposure, prior to cleaning, and post-cleaning. Post-exposure cleaning methods include water rinse and non-abrasive, manual removal of build-up. Samples are dried, photographed, assessed visually for corrosion, and then placed back in-test.

One Year Exposure Results- testing ongoing

In both clay & loam soil types, InterCoat® ChemGuard exhibits less than half the corrosion observed on the same substrate with a hexavalent passivation.*

Panels shown left are in testing Location A as shown in Experimental Design.

Panels shown right are in testing Location B as shown in Experimental Design.

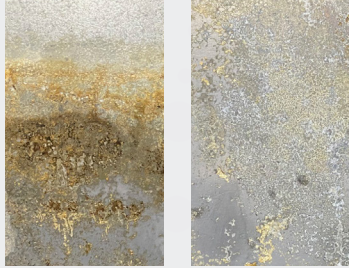
Clay

Standard Hexavalent Chemtreat
HDG G40

InterCoat® ChemGuard 315L
HDG G40

InterCoat® ChemGuard-AG
HDG G40

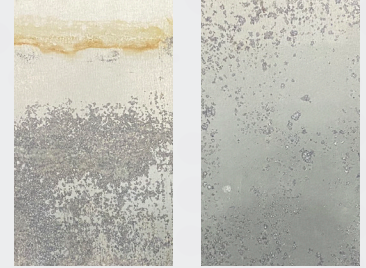
6 Months



6 Months



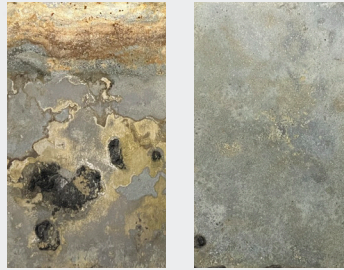
6 Months



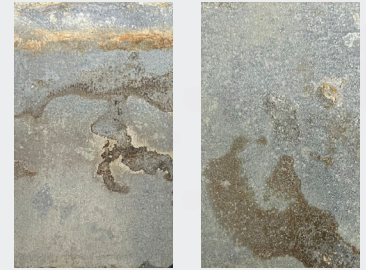
12 Months



12 Months



12 Months



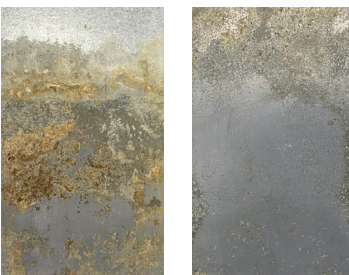
Loam

Standard Hexavalent Chemtreat
HDG G40

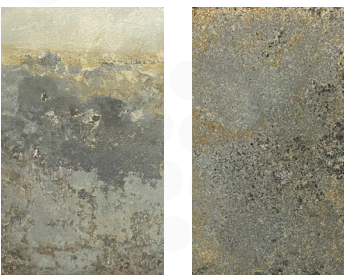
InterCoat® ChemGuard 315L
HDG G40

InterCoat® ChemGuard-AG
HDG G40

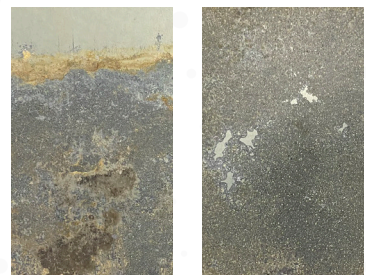
6 Months



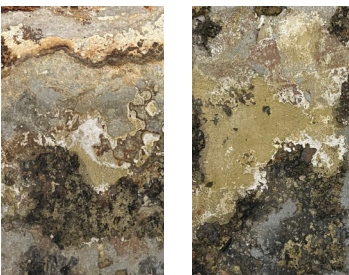
6 Months



6 Months



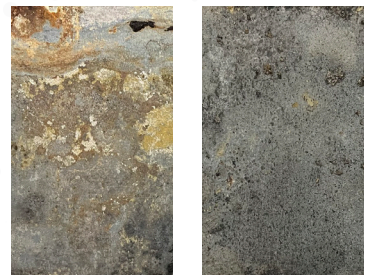
12 Months



12 Months



12 Months



*As determined by visual assessment

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