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Letter Report No. 100861285MID-002  
Project No. G100861285

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Subject: Salt spray test UL 2703 section 19.1

Dear Jeremy,

The UL 2703 section 19.1 Salt spray test has been completed on your submitted Daetwyler Clean Energy 500402495 Samples. The Daetwyler Clean Energy 500402495 Samples were coated with ArmorGalv, which is a zinc thermal diffusion coating per ASTM A1059 – class 25. Samples were submitted to Intertek for analysis and consisted of the following: One Bolt and one zinc plated reference specimen.

Reference specimens, 4 in. by 12 in. (102 mm by 305 mm) of commercial zinc coated sheet steel were to be used for comparison. The selected specimens were representative of the minimum acceptable amount of zinc coating under requirements for G90 coating designation as determined in accordance with the Standard Test Method for Weight of Coating on Zinc-Coated (Galvanized) Iron or Steel Articles, ASTM A90-81(1991).

The purpose of this testing was to expose the sample to a Salt spray test environment.

The following instrumentation was used in the Salt spray test:

Industrial Filter & Pump MFG.  
*Corrosion Test Cabinet*  
*Type: 411.1ACD*  
*Last calibration: May 2012*  
*Next calibration: May 2013*  
*Asset No 901*

The corrosion test was run from October 18, 2012 through November 19, 2012 for a total of thirty two days. Each day a salt solution reservoir; a supply of conditioned compressed air; one dispersion tower constructed in accordance with ASTM designation B117-97 for producing a salt spray; specimen supports; provision for heating the chamber; and necessary means of control were monitored. The chamber was kept at 35C +/- 2C.

The sample and the control were both scribed to remove the coating. Both were placed into the chamber.

Observations noted during testing follow:

Salt spray test

Day 1: Start	Day 12: No changes	Day 23: No changes
Day 2: No changes	Day 13: No changes	Day 24: No changes
Day 3: No changes	Day 14: No changes	Day 25: No changes
Day 4: No changes	Day 15: No changes	Day 26: No changes
Day 5: No changes	Day 16: No changes	Day 27: No changes
Day 6: No changes	Day 17: No changes	Day 28: No changes
Day 7: No changes	Day 18: No changes	Day 29: No changes
Day 8: No changes	Day 19: No changes	Day 30: No changes
Day 9: No changes	Day 20: No changes	Day 31: No changes
Day 10: No changes	Day 21: No changes	Day 32: No changes
Day 11: No changes	Day 22: No changes	Day 33: No changes

Picture of the samples before the test.



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The sample bolt was compared to the control plate (both sides and scribed area).

The control had very little corrosion on the lower side. The upper side of the control had corrosion on approximately 25% of its surface. Both sides of the control together have approximately 12.5% corrosion.

The sample bolt had no corrosion on its head area.



The results of an evaluation of the coating system of sample bolt Daetwyler Clean Energy 500402495 demonstrated that it provided protection at least equivalent to that provided by the zinc coating as described (ASTM G90) in 10.2(a).

This specimen passed the criteria for UL 2703 section 19.1.

If there are any questions regarding the results contained in this report, or any of the other services offered by Intertek, please do not hesitate to contact the undersigned.

Please note, this Letter Report does not represent authorization for the use of any Intertek certification marks.

Completed by: Title:	Kathy Breunig Consumer Products-Retail	Reviewed by: Title:	Mark Crawford Chemist
Signature:		Signature	
Date	Feb 6, 2013	Date:	Feb 6, 2013

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