

TEST METHOD AS PER STANDARDS

VDA 621-415

PURPOSE OF THE TEST

Coil coating products are generally tested both under accelerated and natural weathering conditions with respect to their corrosion properties at cut edges, their delamination at scribes, and with respect to their corrosion properties at open surfaces and at formed areas.

Although the tests Like ASTM B117 or ISO 9227 has been used for decades to evaluate the corrosion performance of coil coated products, it is well known that it fails in reproducing the type of degradation observed on coil coated products at natural weathering sites and consequently is not useful to predict the durability of the products

After many research work , , a new cyclic corrosion test alternating phases with salt spray , UV and sulphur dioxide (SO₂) with wet and dry transitions was proposed .

It is claimed that testing according to this procedure can generate results that correlate well with those seen by driven vehicles. This test is cyclic in nature, i.e.; test specimens are exposed to changing climates over time.

The standard specifies controlled conditions for equipment and procedures to allow the test to be performed with a high degree of repeatability and reproducibility. It is designed to be suitable to run in various climate chamber, either as a fully automated procedure or with partial manual operations.



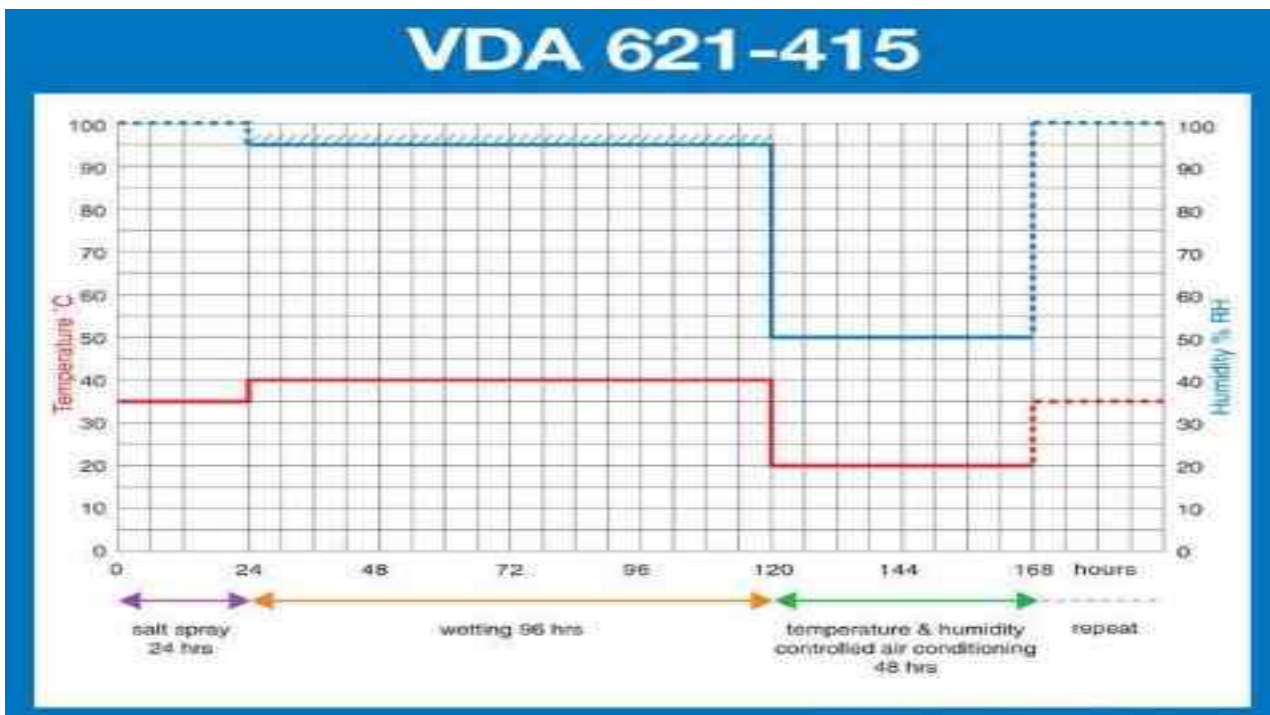
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TEST CONDITIONS

A natural salt spray test for 24 hours (at 35 degree c & 100 % rh)

A wet test cycle for next 96 hours (at 40 degree C & 95 % Rh)

Temperature and humidity controlled air conditioning for next 48 hours (at 20 degree C & 50 % Rh)



INSTRUMENTATION

The following elements are usually required to conduct the test procedure:

- 2.1 Compressed, clean air of 4-6 bars for cleaning salt solution from spray nozzles, as a source for the renewal of chamber air and for humidification, supplied by spray humidifiers.
- 2.2 A low conductivity water supply for humidification or evaporative spray humidifiers and for the preparation of salt solutions.
- 2.3 A tank for preparation and storage of salt solution or, alternatively, a system for direct on line mixing of water and saturated NaCl solution to the actual concentration (50 +/- 5 g/liter)
- 2.4 All measuring equipment must be calibrated. The recalibration renewal date must not fall within the test duration.



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2.5 The chamber will be loaded with test samples as required by the customer or in accordance VDA 621-415 (60° from horizontal).

2.6 A high quality device for independent control of temperature and relative humidity shall be accessible. This instrument shall on a stipulated regular interval be used for independent monitoring and calibration of the conditions in the very test plane of the exposure chamber. The total measurement error must not exceed 0.1 C.

2.7 fog collection rates are monitored manually using collection vessels placed at sample height. The collection rates are to be within the range of range of 2ml/hr/80cm².

2.8 All applicable safety guidelines and procedures must be followed

