STANDARD 标准: ASTM G85
EQUIPMENT 设备: Ascott Corrosion Chambers & Accessories 腐蚀试验箱及配件

This is the modified Salt Spray Test
这是改进的盐雾试验

Introduction引言

The ASTM G85 standard consists of a set of 5 modifications to the ASTM B117 continuous salt spray test. These modifications are eferred to in ASTM G85 as annexes A1 to A5 and are applicable to ferrous and nonferrous metals, and also to organic and inorganic coatings.
ASTM G85标准由ASTM B117连续盐雾试验的5个修改组成。这些修改在ASTM G85中称为附件A1至A5，适用于黑色金属和有色金属，也适用于有机和无机涂层。

ASTM G85 annex A1 - Acetic acid salt spray test, continuous
连续乙酸盐雾试验

This was orginally published as ASTM B287
该标准最初发布为ASTM B287

ASTM G85 annex A2 – cyclic acidified salt spray test
循环酸化盐雾试验

This test was developed for exfoliation testing on certain aluminium alloys and was originally known as the MASTMAASIS test

ASTM G85 annex A3 – seawater acidified test, cyclic
海水酸化试验，循环

This test was originally published as ASTM G43, and is used to determine corrosion resistance in a severe marine atmosphere. It is widely referred to as the SWAAT test.
该测试最初发布为ASTM G43，用于确定在恶劣海洋大气中的耐腐蚀性。它被广泛称为SWAAT测试。

ASTM G85 annex A4 – Sulphur dioxide (SO2) salt spray test, cyclic
二氧化硫（SO2）盐雾试验，循环

The test was originally developed by the U S Navy to simulate exfoliation corrosion on aircraft carriers.
该测试最初由美国海军开发，用于模拟航空母舰上的剥落腐蚀。

ASTM G85 annex A5 – dilute electrolyte cyclic fog /dry test.
稀释电解质循环雾/干试验。
This test was developed by F.D. Timmins in conjunction with Mebon Paints, a UK manufacturer of surface coatings, during the 1970's and became widely known as the PROHESION.
该测试由F.D.Timmins与英国表面涂料制造商Mebon Paints在20世纪70年代共同开发，并被广泛称为PROHESION

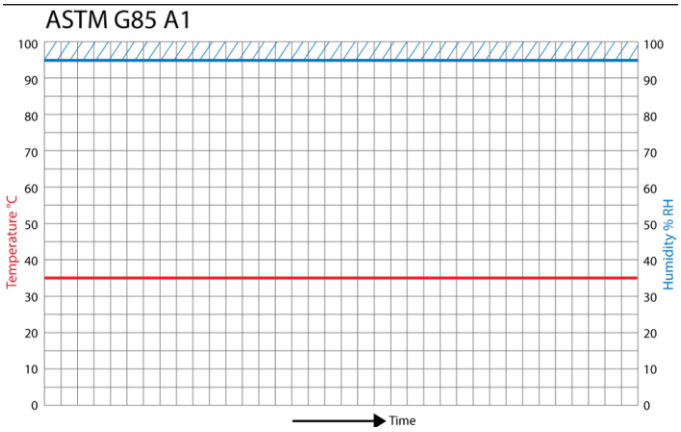
These tests have evolved to address the need for a corrosion test capable of replicating the effects of naturally occurring corrosion and accelerate these effects.
这些测试已经发展到满足对能够复制自然发生的腐蚀影响并加速这些影响的腐蚀测试的需求。

This acceleration arises through the use of chemically altered salt spray solutions, often combined with other test climates and in most cases, the relatively rapid cycling of these test climates over time.
这种加速是通过使用化学改变的盐雾溶液产生的，通常与其他测试气候相结合，在大多数情况下，这些测试气候会随着时间的推移而相对快速地循环。

The type of test chambers used for modified salt spray testing to ASTM G85 are generally similar to the chambers used for testing to ASTM B117, but will often have some additional features, such as an automatic climate cycling control system.
用于ASTM G85改良盐雾试验的试验箱类型通常与用于ASTM B117试验的试验箱相似，但通常具有一些附加功能，如自动气候循环控制系统。

Test Conditions测试条件

ASTM G85 annex A1 – acetic acid salt spray test, continuous
连续乙酸盐雾试验

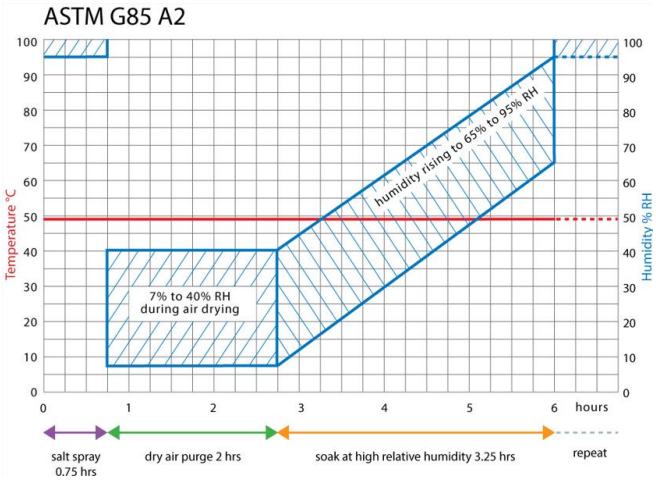


Test specimens are placed in an enclosed chamber and exposed to a continuous indirect spray of acidified (pH 3.1to 3.3) salt water solution, which falls-out on to the specimens at a rate of 1.0 to 2.0 ml/80cm²/hour, in a chamber temperature of +35 °C. This climate is maintained under constant steady state conditions. The test duration is variable.

将试样放置在封闭的试验箱内，并暴露于酸化（pH 3.1至3.3）盐水溶液的连续间接喷雾中，在+35 °C的室内温度下，盐水溶液以1.0至2.0 ml/80cm²/小时的速度滴落到试样上。这种气候在恒定的稳态条件下得以维持。测试持续时间是可变的。

ASTM G85 annex A2 – cyclic acidified salt spray test

循环酸化盐雾试验

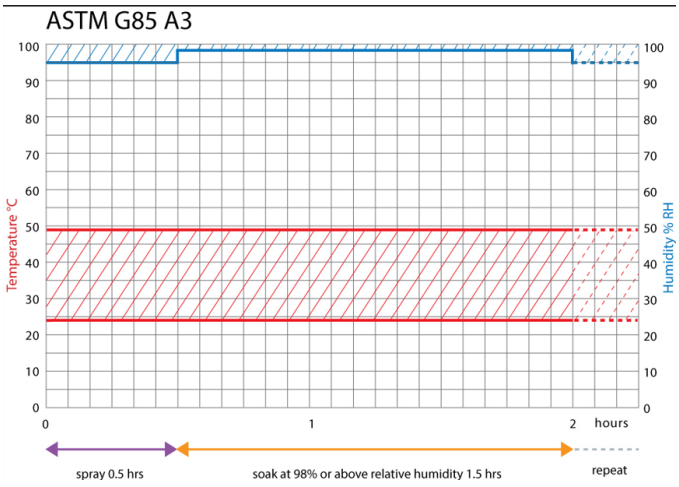


Test specimens are placed in an enclosed chamber, and exposed to a changing climate that comprises of the following 3 part repeating cycle. 0.75 hours exposure to a continuous indirect spray of acidified (pH 2.8 to 3.0) salt water solution, which falls-out on to the specimens at a rate of 1.0 to 2.0 ml/80cm²/hour. 2.0 hours exposure to an air drying (purge) climate. This is followed by 3.25 hours exposure to a high humidity climate of 95%RH. The entire test cycle is at a constant chamber temperature of +49 °C. The number of cycle repeats and therefore the test duration is variable.

将试样放置在封闭的试验箱内，并暴露在由以下3部分重复循环组成的气候变化中。暴露于酸化（pH 2.8至3.0）盐水溶液的连续间接喷雾中0.75小时，该盐水溶液以1.0至2.0 ml/80cm²/小时的速度滴落到试样上。随后，在空气干燥（净化）气候下暴露2.0小时。随后，在95%相对湿度的高湿度环境中暴露3.25小时。整个测试周期在+49°C的恒定室温下进行。循环重复次数和测试持续时间

ASTM G85 annex A3 – seawater acidified test, cyclic

海水酸化试验，循环

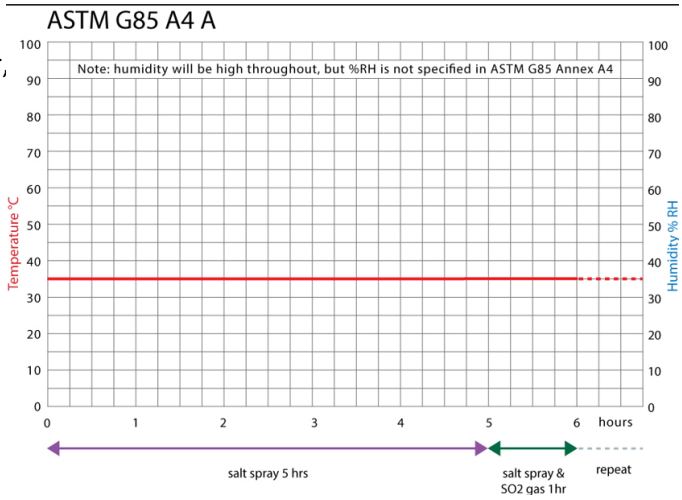


Test specimens are placed in an enclosed chamber, and exposed to a changing climate that comprises of the following 2 part repeating cycle. 30 minutes exposure to a continuous indirect spray of acidified (pH 2.8 to 3.0) synthetic seawater solution, which falls-out on to the specimens at a rate of 1.0 to 2.0 ml /80cm²/hour. This is followed by 90 minutes exposure to a high humidity climate of above 98%RH. The entire test cycle is at a constant chamber temperature of +49 °C (may be reduced to +24 to +35 °C for organically coated specimens). The number of cycle repeats and therefore the test duration is variable.

将试样放置在封闭的试验箱内，并暴露在由以下2部分重复循环组成的气候变化中。暴露于酸化（pH 2.8至3.0）合成海水溶液的连续间接喷雾中30分钟，该溶液以1.0至2.0 ml/80cm²/小时的速度滴落到试样上。随后，在相对湿度超过98%的高湿度环境中暴露90分钟。整个测试周期在+49 °C的恒定室温下进行（对于有机涂层试样，可以降低到+24至+35 °C ）。循环重复次数和测试持续时间是可变的。

ASTM G85 annex A4 – Sulphur dioxide (SO2) salt spray test, cyclic

二氧化硫（SO2）盐雾试验，循环



Test specimens are placed in an enclosed chamber, and exposed to 1 of 2 possible changing climate cycles. In either case, the exposure to salt spray may be salt water spray or synthetic sea water spray. The most appropriate test cycle and spray solutions are to be agreed between purchaser and seller.

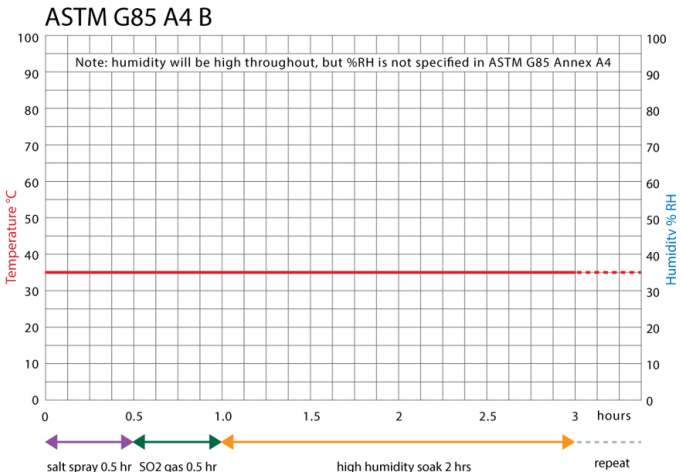
将试样放置在封闭的试验箱内，并暴露于2个可能变化的气候循环中的1个。在任何一种情况下，暴露于盐雾都可能是盐水喷雾或合成海水喷雾。最合适的测试周期和喷雾解决方案由买方和卖方商定。

The first climate cycle comprises of a continuous indirect spray of neutral (pH 6.5 to 7.2) salt water /synthetic seawater solution, which falls-out on to the specimens at a rate of 1.0 to 2.0 ml/80cm² /hour. During this spraying, the chamber is dosed with SO2 gas at a rate of 35cm³/minute/m³ of chamber volume, for 1 hour in every 6 hours of spraying. The entire test cycle is at a constant chamber temperature of +35 °C. The number of cycle repeats and therefore the test duration is variable.

第一个气候周期包括连续间接喷洒中性（pH 6.5至7.2）盐水/合成海水溶液，以1.0至2.0 ml /80cm²/小时的速度落到标本上。在此喷涂过程中，每6小时喷涂一次，以35cm³/分钟/m³的试验箱体积向试验箱中注入SO2气体1小时。整个测试循环在+35 °C的恒定室温下进行。循环重复次数和测试持续时间是可变的。

ASTM G85 annex A4 – Sulphur dioxide (SO2) salt spray test, cyclic

二氧化硫（SO2）盐雾试验，循环

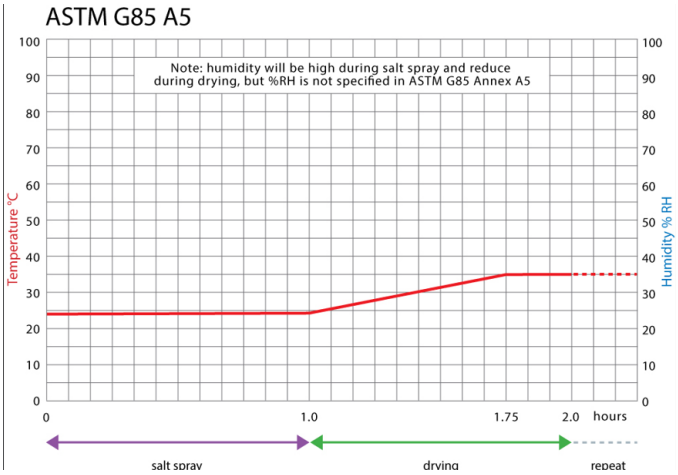


The second climate cycle comprises of 0.5 hours of continuous indirect spray of neutral (pH 6.5 to 7.2) salt water/synthetic seawater solution, which falls-out on to the specimens at a rate of 1.0 to 2.0 ml/80cm²/hour. This is followed by 0.5 hours of dosing with SO2 gas at a rate of 35cm³/minute/m³ of chamber volume. This is followed by 2.0 hours of high humidity soak. The entire test cycle is at a constant chamber temperature of +35 °C. The number of cycle repeats and therefore the test duration is variable.

第二个气候周期包括0.5小时的中性（pH 6.5至7.2）盐水/合成海水溶液的连续间接喷雾，以1.0至2.0 ml/80cm²/小时的速度落到标本上。随后，以35cm³/分钟/m³的试验箱体积的速率给注入0.5小时的SO2气体。随后进行2.0小时的高湿度浸泡。整个测试循环在+35 °C的恒定室温下进行。循环重复次数和测试持续时间是可变的。

ASTM G85 annex A5 – dilute electrolyte cyclic fog /dry test

稀电解质循环雾/干试验



Test specimens are placed in an enclosed chamber, and exposed to a changing climate that comprises of the following 2 part repeating cycle. 1.0 hours exposure to a continuous indirect spray of dilute acidified (pH 5.0 to 5.4) salt water solution, which falls-out on to the specimens at a rate of 1.0 to 2.0 ml/80cm²/hour, in an ambient chamber temperature (21 to 27 ℃). This is followed by 1.0 hours exposure to an air drying (purge) climate, in a chamber temperature of +35 ℃. The number of cycle repeats and therefore the test duration is variable.

将试样放置在封闭的试验箱内，并暴露在由以下2部分重复循环组成的气候变化中。在环境室温度（21至27℃）下，暴露于稀释酸化（pH 5.0至5.4）盐水溶液的连续间接喷雾中1.0小时，该盐水溶液以1.0至2.0 ml/80cm²/小时的速度滴落到试样上。随后在+35℃的室温下暴露于空气干燥（净化）气候1.0小时。循环重复次数和测试持续时间是可变的。

Typical Applications典型应用

ASTM G85 annex A1 - acetic acid salt spray test, continuous 连续乙酸盐雾试验

Can be used to test the relative resistance to corrosion of decorative chromium plating on steel and zinc based die castings, when exposed to an acetic acid salt spray climate at an elevated temperature.

可用于测试钢和锌基压铸件上装饰性镀铬在高温下暴露于乙酸盐雾气候时的相对耐腐蚀性。

ASTM G85 annex A2 - cyclic acidified salt spray test 循环酸化盐雾试验

Can be used to test the relative resistance to corrosion of aluminium alloys when exposed to a changing climate of acetic acid salt spray, followed by air drying, followed by high humidity, all at an elevated temperature. This test was developed for exfoliation testing on certain aluminum alloys. Exfoliation testing determines the rate at which corrosion products form and fall away from the body of the test sample.
可用于测试铝合金在高温下暴露于不断变化的醋酸盐雾气候下，然后进行空气干燥，然后进行高湿度处理时的相对耐腐蚀性。该测试是为某些铝合金的剥落测试而开发的。剥落测试决定了腐蚀产物从测试样品主体形成和脱落的速率。

ASTM G85 annex A3 - seawater acidified test, cyclic 海水酸化试验，循环

Can be used to test the relative resistance to corrosion of coated or uncoated aluminium alloys and other metals, when exposed to an changing climate of acidified synthetic seawater spray, followed by a high humidity, both at an elevated temperature.
可用于测试涂层或未涂层铝合金和其他金属在高温下暴露于酸化合成海水喷雾气候变化和高湿度下的相对耐腐蚀性。

ASTM G85 annex A4 - Sulphur dioxide (SO2) salt spray test, cyclic 二氧化硫（SO2）盐雾试验，循环

Can be used to test the relative resistance to corrosion of product samples that are likely to encounter a combined SO2/salt spray/acid rain environment during their usual service life.
可用于测试产品样品在正常使用寿命期间可能遇到SO2/盐雾/酸雨组合环境的相对耐腐蚀性。

ASTM G85-Annex 5– dilute electrolyte cyclic fog /dry test 二氧化硫（SO2）盐雾试验，循环

Can be used to test the relative resistance to corrosion of paints on steel, and is a useful tool for the evaluation of prefinished steel building products.
可用于测试钢上油漆的相对耐腐蚀性，是评估预加工钢建筑产品的有用工具。

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