Durasteel® Durability Statement

Issue 2, 5th April 2017

Durasteel® is a robust, durable high impact fire protection board that can be used in external applications.

Standard galvanised Durasteel® sheet is produced with grade DX51D+Z275 galvanised sheet to BS EN 10327:2004.

The Z275 refers to the level of galvanising protection on the steel.

Grade Z275 has minimum 235g/m2 by single spot test method or typically 20 microns thickness (range 15-27 microns).

Durability of Durasteel® in external exposure needs to be considered in line with EN ISO 14713:1999 which provides guidance on environmental categories, corrosion risk and corrosion rates as follows:

Code C1 (Interior, dry)
Very low corrosion risk
Corrosion rate (micron/year) of ≤ 0.1

Code C2 (Interior, occasional condensation and exterior, exposed rural inland)
Low corrosion risk
Corrosion rate (micron/year) of 0.1 to 0.7

Code C3 (Interior: high humidity, some air pollution. Exterior: Urban inland or mild coastal)
Medium corrosion risk
Corrosion rate (micron/year) of 0.7 to 2

Code C4 (Interior: Swimming pools, chemical plants etc. Exterior: Industrial inland or urban coastal)
High corrosion risk
Corrosion rate (micron/year) of 2 to 4

Code C5 (Exterior: Industrial with high humidity or high salinity coastal)
Very high corrosion risk
Corrosion rate (micron/year) of 4 to 8

Code Im2 (sea water in temperate regions)
Very high corrosion risk
Corrosion rate (micron/year) of 10 to 20

Therefore consideration of the specific exposure conditions needs to be taken into account when specifying Durasteel® for external exposure. For the higher levels of exposure it may be necessary to specify Durasteel® with either a heavier grade galvanising ie Z450 or alternatively, with stainless steel.

In terms of the product, Durasteel® sheet will meet the following requirements:

BS EN 12467:2004 Clause 7.4.1 Freeze Thaw Test

When tested to the required 100 cycles of +20°C / -20°C, the RL ratio for 6mm Durasteel® was 1.82.
The requirement to pass this test is RL ratio > 0.75
Therefore Durasteel® will meet the requirements of BS EN 12467:2004 Clause 7.4.1

BS EN 12467:2004 Clause 7.4.2 Heat Rain Test

6mm Durasteel® was tested to the required 50 cycles, each cycle comprising of:

2hrs 50 mins Water Spray
10 minsPause
2hrs 50 mins Heat (60°C +/-5°C)
10 minsPause

At end of the required 50 cycles, the specimen was examined to observe evidence of cracking, delamination, warping or bowing.

There was no evidence cracking, delamination, warping or bowing and therefore Durasteel® is deemed to have passed this test.

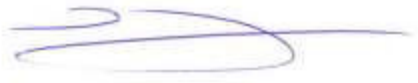
BS EN 12467:2004 Clause 7.3.3 Water Impermeability

Following testing to BS EN 12467:2004 Clause 7.4.2 Heat Rain Test, the tested samples were further tested to BS EN 12467:2004 Clause 7.3.3 Water Impermeability. The test (2 cm head of water on panel for 24 hours) did not penetrate the 6mm Durasteel® sheet and is therefore deemed to have passed.

The above tests further support the use of Durasteel® for external applications.

In terms of vermin-proof, there are no specific tests that have been conducted on Durasteel® as there are no BS or EN standards to prove performance.

Durasteel® has been used for in excess of 40 years in a range of environments in UK, Europe, Canada, Mexico and USA and the Far East, particularly Hong Kong and Singapore with no reported incidents of attack from vermin.



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