Defining the Industry Slate Standards - BS EN 12326

BS EN 12326:2004

This standard is designed to enable the Specifier/Purchaser to compare the key physical properties of natural slates to ensure the best fit for the project in mind. A broad range of attributes are tested, but the three most critical areas are:

- Thermal cycle
- Sulphur Dioxide Exposure
- Water Absorption

BS EN 12326 replaced the previous slate standard, BS 680 in 2004.

Thermal Cycle

Essentially, this process assesses the levels of rust or oxidisation within the slate. The test involves repeatedly soaking six pieces of slate in water and then drying them out over a period of up to three weeks. The samples are then inspected for corrosion. The results are classified as follows:

T1: No apparent change or some surface rust or other changes that neither effect the structure, nor form runs of discolouration.
T2: Oxidation or appearance changes of the metallic inclusions with runs of discolouration but without structural changes.
T3: Oxidation or appearance changes of metallic minerals that penetrate the slate and risk forming holes.

Sulphur Dioxide Exposure

This test examines the ability of the slate to resist atmospheric pollutants. The slate samples are placed in a hermetically sealed container for up to three weeks and subjected to a standardised mechanical scraping test to measure any softness caused by the chemical disintegration of any carbonate content. Results are shown as 51 (no change), 52 (the slate must be split at least 5% thicker) or 53 (slates must be at least 8mm).

Slates containing more than 20% carbonate content are not suitable for roofing or external cladding.

Water Absorption

Excessive water absorption will result in natural slate being vulnerable to frost damage. If the slate absorbs 0.6% or less of its mass in water, it is classified as A1, the highest grade, and needs no further testing. If the absorption is greater than 0.6% it is classified as A2 and must be subjected to a separate freeze-thaw test, showing no deterioration in mechanical strength.