

Sioo Wood Protection – a new wood modification for the UK

All too often the appearance of new timber clad buildings is ruined by uneven weathering. It is quite common to see buildings where the shaded areas are still un-weathered whereas the exposed areas have already changed to the silvery-grey colour associated with exposed wood. For this reason, pictures of timber clad buildings are always taken immediately after construction and not after a year or two! Aesthetics is hugely important in the built environment and this patchy weathering puts people off from specifying timber as a cladding material.

A new product in the UK is the Swedish wood surface modification system SiOO:X from Sioo Wood Protection AB. This product reacts with the wood to produce a pleasing even grey surface within a few months of application. Very importantly, this accelerated weathering takes place through a chemical reaction of the SiOO:X system with the top few millimetres of the wood surface and so it is a permanent change. Because the greying takes place due to the chemical reaction, a completely even appearance is obtained, since it is not reliant upon exposure to sunlight for the reaction to take place.

The SiOO:X Wood Protection System uses silicate technology in a two part water-based system. The first stage of the treatment uses a mineral silica solution that is able to penetrate the surface of the wood very efficiently. After the first treatment stage, a silane-based emulsion is applied, which cures by cross-linking to form a flexible silica network and provides a water-proof barrier preventing leaching of the mineral silicate. Over time, the mineral silicate cures by reacting with atmospheric carbon dioxide to precipitate an insoluble silica network within the wood structure.

The product has been used extensively for cladding and decking protection and has also been used to protect the decks of sailing boats. The SiOO:X system is used as a surface protection system, which is suitable for Use Classes 1, 2, 3.1 and 3.2 according to EN 335 Part 2 (see table). If additional protection is thought necessary for Use Class 3.2 applications, then the SiOO:X Wood Protection System can be applied to preservative treated wood and to thermally treated wood. When used in interior applications SiOO:X has the huge advantage of being VOC-free, since it is water-based and uses silicate technology. Disposal at end of life is not a problem, since the product is non-toxic.

Use Classes according to EN 335 Part 2.

Use Class	General Exposure Condition
1	Interior, covered
2	Interior, or covered
3.1	Exterior above ground, protected
3.2	Exterior above ground, unprotected
4.1	Exterior in ground contact and/or fresh water
4.2	Exterior in ground (severe) and/or fresh water
5	In salt water

For further details and information on the SiOO:X Wood Protection System please refer to the UK website www.sioox.org.uk

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