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QUV Accelerated Weathering Test – August 1999

Aims

To test the durability of Solux radiation control coating Insultec 1.

Plates Tested

Plate 1: Insultec on fibre cement board at coverage rate 2.5 m²/ltr. Primer CWS.
Plate 2: Insultec on fibre cement board at coverage rate 2.5 m²/ltr. Primer CWS.
Plate 3: Insultec on fibre cement board at coverage rate 2.5 m²/ltr. Primer CWS.

Method

Test Conditions: 4 hours at 64⁰C.
4 hours humidity at 45⁰C

Total Test Time: Plate 1 removed at 2,010 QUV hours
Plate 2 removed at 1,048 QUV hours
Plate 3 removed at 743 QUV hours

Procedure

The plates were placed in the QUV machine at 32,752 hours and examined at 68, 743, 1048 and 2,010 QUV hours. Plate 3 was removed after 743 QUV hours, Plate 2 was removed after 1,048 QUV hours. Plate 1 was removed after 2,010 QUV hours.

Results

Inspection at 68 QUV hours

Plate 1: No apparent change
Plate 2: No apparent change
Plate 3: No apparent change

Inspection at 743 QUV hours:

Plate 1: A very slight colour change observed when plate held up to light. The coating had begun to lose its sheen and had become slightly matt in appearance.
Plate 2: A very slight colour change observed when plate held up to light. The coating had begun to lose its sheen and had become slightly matt in appearance.
Plate 3: A very slight colour change observed when plate held up to light. The coating had begun to lose its sheen and had become slightly matt in appearance. Removed from machine.

Plate 3 removed @ 33,495 hours (743 QUV hours)

Inspection at 1,048 QUV hours (equivalent to \cong 5 years natural weathering):

Plate 1: Slight increase in the affect noted above.
Plate 2: Slight increase in the affect noted above.
Removed from machine

Plate 2 removed @ 33,800 hours (1,048 QUV hours).

Inspection at 2,010 QUV hours (equivalent to \cong 10 years natural weathering):

Plate 1: Increase in the affect noted above. The coating had become whiter in colour and matt in appearance. **Remove from machine.**

Plate 1 removed @ 34,762 hours (2,010 QUV hours).

Conclusion

Insultec showed slight discolouration and lost of sheen.

Insultec performed very well and did not show any signs of failure in terms of durability.
