Accelerated Weathering Test

Decoral LAB
Research and Development

WALLSKY

series

MRK-010-0042

TEST DI INVECCHIAMENTO ACCELERATO:

Invecchiamento accelerato

Tutti i campioni vengono sottoposti all'irraggiamento di lampade allo xenon ed a cicli umido/secco mediante speciali apparecchiature (Q-Sun, SolarBox).Tali apparecchiature vengono utilizzate in conformità agli standard internazionali imposti dalla norma ISO 11341 rispettando le seguenti impostazioni:

- intensità luminosa, 550±20W/m^2 (290-800 nm)
- temperatura del pannello nero, 65 ± 5°C
- ciclo umido 18 minuti
- ciclo secco 102 minuti

Alla fine dei test, che normalmente hanno una durata minima di 1000 ore, viene valutata la variazione di brillantezza (EN ISO 2813, con angolo di incidenza 60°) ed il cambiamento di colore ΔE (metodo CIELAB ISO 7724/3) rispetto ai valori di partenza. Questo permette di stabilire, in maniera parametrizzata, l'invecchiamento delle varie superfici testate. La corretta conduzione dei test viene verificata attraverso l'utilizzo di campioni in bianco ad invecchiamento noto.

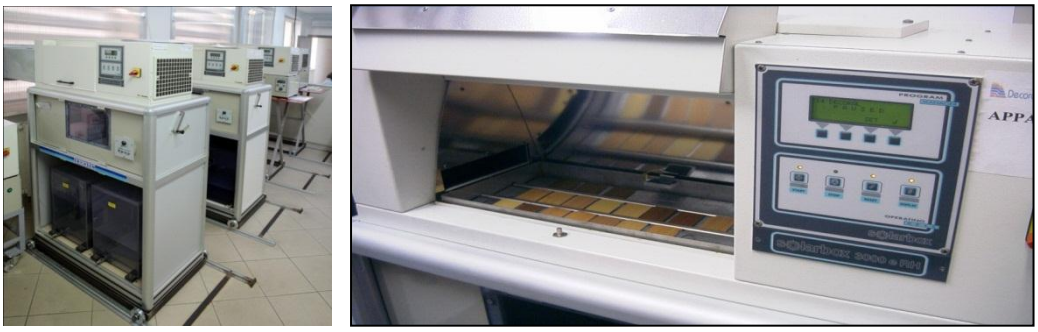

Figure: apparecchiature per l'invecchiamento accelerato.
Pictures: equipment for the Accelerated Weathering Test

Accelerated Weathering Test

All samples are exposed to radiation of Xenon lamps and to wet/dry cycles by special equipment (Q-Sun, SOLARBOX). Such equipment is used in accordance with international standards imposed by norm ISO 11341, i.e. complying with the following settings:

- light intensity, 550 ± 20 W / m^2 (290-800 nm)
- black panel temperature, 65 ± 5 ° C
- wet cycle 18 minutes
- dry cycle 102 minutes.

At the end of the test, whose minimum duration is 1000 hours, Residual Gloss (EN ISO 2813, with an angle of incidence 60°) and Colour Variation ΔE (CIELAB method - ISO 7724 / 3) are measured comparing pre-test values. In this way it is possible to evaluate the aging of surfaces using standard indexes. The accuracy of the test is verified through the use of samples in white, whose aging behaviour is know.

ID Test Report	PROD. VERNIC	COD. FILM	PROG. N°	IMMAGINI
TR-IA-122-2012	wallsky-006	solo base	122	
TR-IA-123-2012	wallsky-007	solo base	123	
TR-IA-126-2012	wallsky-010	solo base	126	
TR-IA-121-2012	wallsky-008	solo base	121	
TR-IA-124-2012	wallsky-005	solo base	124	
TR-IA-125-2012	wallsky-009	solo base	125	

Test Report: Accelerated Weathering Test

Decoral LAB Research and Development

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Laboratory Test

No. 321

Device: QSun 3000

Total duration: 1152h

LAB. ID NUMBER: 26305
POWDER COATING: wallsky-007
HEAT TRANSFER FILM: solo base
colour variation (ΔE): **5,25**
residual gloss: **89%**

Technical Remarks

Excellent residual gloss and very low colour variation (ΔE), after 1152 hours on decorated sample. (± RAL 2003)

Technical Opinion:

Suitable for OUTDOOR USE

Test was carried on samples prepared according to technical specifications supplied by raw materials manufacturers. However, the resistance against accelerated weathering test is only one of the conditions necessary for the evaluation of the resistance of the finished product. For a final assessment see further analysis on natural exposure in Florida.

Test Report: Accelerated Weathering Test

Decoral LAB Research and Development

124

Laboratory Test

No. 321

Device: QSun 3000

Total duration: 1152h

LAB. ID NUMBER: 26306
POWDER COATING: wallsky-005
HEAT TRANSFER FILM: solo base
colour variation (ΔE): **0,32**
residual gloss: **72%**

Technical Remarks

Excellent residual gloss and very low colour variation (ΔE), after 1152 hours on decorated sample. (± RAL 9016)

Technical Opinion:

Suitable for OUTDOOR USE

Test was carried on samples prepared according to technical specifications supplied by raw materials manufacturers. However, the resistance against accelerated weathering test is only one of the conditions necessary for the evaluation of the resistance of the finished product. For a final assessment see further analysis on natural exposure in Florida.

Test Report: Accelerated Weathering Test

Decoral LAB Research and Development

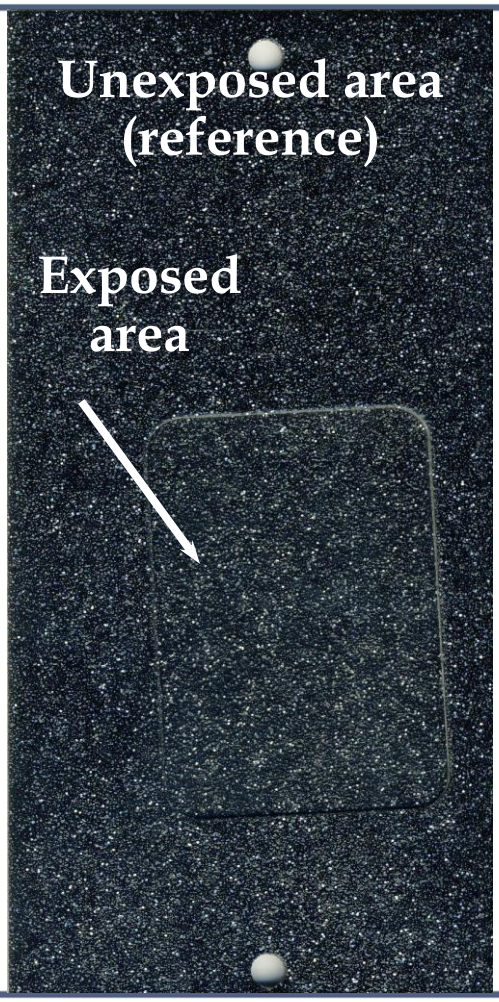
125

Laboratory Test

No. 321

Device: QSun 3000

Total duration: 1152h



LAB. ID NUMBER: 26307
POWDER COATING: wallsky-009
HEAT TRANSFER FILM: solo base
colour variation (ΔE): **1,39**
residual gloss: **82%**

Technical Remarks

Excellent residual gloss and very low colour variation (ΔE), after 1152 hours on decorated sample. (± RAL 9005)

Technical Opinion:

Suitable for OUTDOOR USE

Test was carried on samples prepared according to technical specifications supplied by raw materials manufacturers. However, the resistance against accelerated weathering test is only one of the conditions necessary for the evaluation of the resistance of the finished product. For a final assessment see further analysis on natural exposure in Florida.

Test Report: Accelerated Weathering Test

Decoral LAB Research and Development

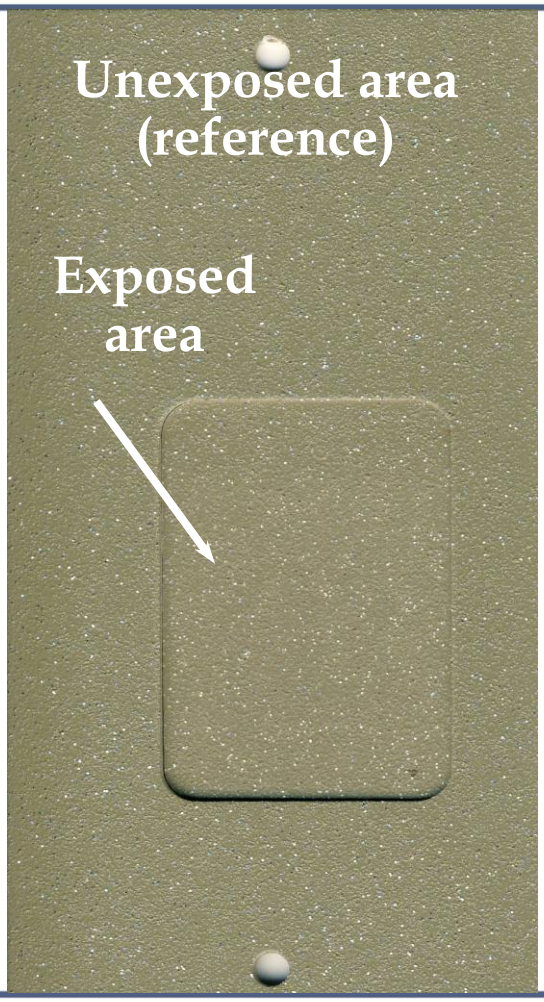
126

Laboratory Test

No. 321

Device: QSun 3000

Total duration: 1152h



LAB. ID NUMBER: 26308
POWDER COATING: wallsky-010
HEAT TRANSFER FILM: solo base
colour variation (ΔE): **0,76**
residual gloss: **63%**

Technical Remarks

Excellent residual gloss and very low colour variation (ΔE), after 1152 hours on decorated sample. (± RAL 1020)

Technical Opinion:

Suitable for OUTDOOR USE

Test was carried on samples prepared according to technical specifications supplied by raw materials manufacturers. However, the resistance against accelerated weathering test is only one of the conditions necessary for the evaluation of the resistance of the finished product. For a final assessment see further analysis on natural exposure in Florida.

Test Report: Accelerated Weathering Test

Decoral LAB Research and Development

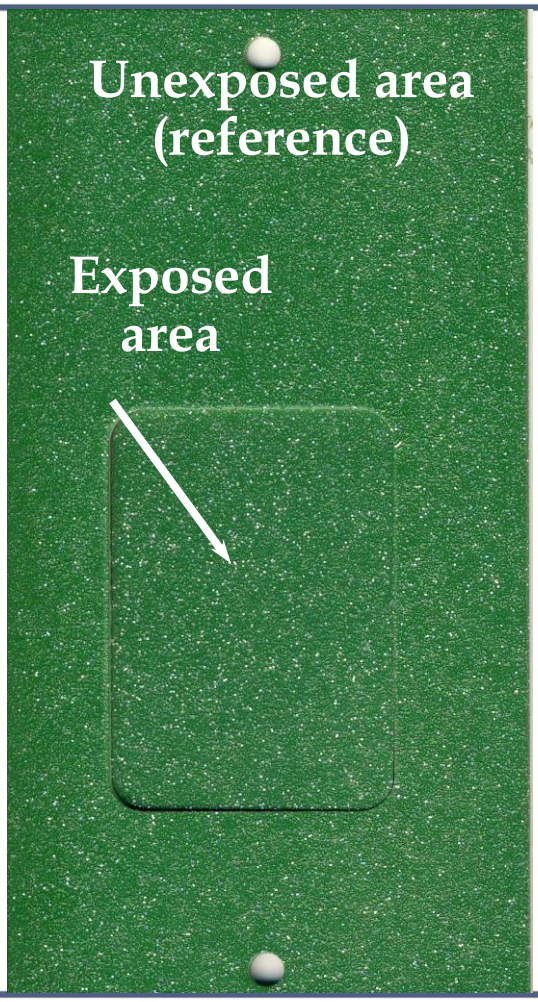
121

Laboratory Test

No. 321

Device: QSun 3000

Total duration: 1152h



LAB. ID NUMBER: 26303
POWDER COATING: wallsky-008
HEAT TRANSFER FILM: solo base
colour variation (ΔE): **2,39**
residual gloss: **85%**

Technical Remarks

Excellent residual gloss and very low colour variation (ΔE), after 1152 hours on decorated sample. (± RAL 6001)

Technical Opinion:

Suitable for OUTDOOR USE

Test was carried on samples prepared according to technical specifications supplied by raw materials manufacturers. However, the resistance against accelerated weathering test is only one of the conditions necessary for the evaluation of the resistance of the finished product. For a final assessment see further analysis on natural exposure in Florida.

Test Report: Accelerated Weathering Test

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Laboratory Test	No. 321	Device: QSun 3000	Total duration: 1152h

LAB. ID NUMBER: 26304
POWDER COATING: wallsky-006
HEAT TRANSFER FILM: solo base
colour variation (ΔE): **2,64**
residual gloss: **85%**

Technical Remarks

Excellent residual gloss and very low colour variation (ΔE), after 1152 hours on decorated sample. (± RAL 1018)

Technical Opinion:

Suitable for OUTDOOR USE

Test was carried on samples prepared according to technical specifications supplied by raw materials manufacturers. However, the resistance against accelerated weathering test is only one of the conditions necessary for the evaluation of the resistance of the finished product. For a final assessment see further analysis on natural exposure in Florida.